

## ECHI INDICATOR DEVELOPMENT AND DOCUMENTATION

Joint Action for ECHIM Final Report Part II

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# ECHI INDICATOR DEVELOPMENT AND DOCUMENTATION

Joint Action for ECHIM Final Report Part II

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## TABLE OF CONTENTS

<b>ACKNOWLEDGEMENTS .....</b>	<b>4</b>
<b>INTRODUCTION .....</b>	<b>13</b>
<b>PART I: THE ECHI SHORTLIST 2012 VERSION AND THE UNDERLYING WORK AND PROCEDURES .....</b>	<b>14</b>
<b>1. THE ECHI SHORTLIST 2012 VERSION .....</b>	<b>14</b>
1.1. The ECHI shortlist as a core indicator set for the EU .....	14
1.2. Main characteristics of the 2012 version of the ECHI shortlist .....	14
1.3. Required work pending on indicators in the work-in-progress and development sections .....	18
<b>2. ECHI INDICATOR DOCUMENTATION: WHAT IS IT AND WHAT WAS DONE DURING THE JOINT ACTION FOR ECHIM? .....</b>	<b>19</b>
2.1. The various elements of the ECHI indicator documentation .....	19
2.2. ECHI indicator documentation sheets .....	20
2.3. ECHI operational indicators .....	22
2.4. ECHI remarks on comparability .....	23
<b>3. MANAGEMENT OF ECHI SHORTLIST VERSIONS .....</b>	<b>25</b>
3.1. Procedure for updating the ECHI shortlist .....	25
3.2. Application of the procedure during the Joint Action for ECHIM .....	28
3.3. Outcomes of the updating procedure: considerations and decisions underlying the 2012 version of the ECHI shortlist .....	28
3.4. Recommendations for future management of ECHI shortlist versions .....	29
<b>4. CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE WORK ON INDICATOR DOCUMENTATION .....</b>	<b>30</b>
4.1. Conclusions .....	30
4.2. Work ahead .....	30
4.3. Recommendations for the European Commission relating to future ECHI indicator work .....	31
<b>5. REFERENCES .....</b>	<b>33</b>
<b>PART II. ECHI INDICATOR DOCUMENTATION .....</b>	<b>34</b>
<b>1. POPULATION BY SEX/AGE .....</b>	<b>34</b>
1.1. Documentation sheet .....	34
1.2. Operational indicators .....	35
1.3. Remarks on comparability .....	36
<b>2. BIRTH RATE, CRUDE .....</b>	<b>37</b>
2.1. Documentation sheet .....	37
2.2. Operational indicators .....	37
2.3. Remarks on comparability .....	38
<b>3. MOTHER'S AGE DISTRIBUTION .....</b>	<b>39</b>
3.1. Documentation sheet .....	39
3.2. Operational indicators .....	40
3.3. Remarks on comparability .....	40
<b>4. TOTAL FERTILITY RATE .....</b>	<b>41</b>
4.1. Documentation sheet .....	41
4.2. Operational indicators .....	41
4.3. Remarks on comparability .....	42
<b>5. POPULATION PROJECTIONS .....</b>	<b>43</b>
5.1. Documentation sheet .....	43
5.2. Operational indicators .....	44
5.3. Remarks on comparability .....	44
<b>6. POPULATION BY EDUCATION .....</b>	<b>45</b>
6.1. Documentation sheet .....	45
6.2. Operational indicators .....	47
6.3. Remarks on comparability .....	48

<b>7.</b>	<b>POPULATION BY OCCUPATION .....</b>	<b>49</b>
7.1.	Documentation sheet .....	49
7.2.	Operational indicators.....	50
7.3.	Remarks on comparability .....	51
<b>8.</b>	<b>TOTAL UNEMPLOYMENT .....</b>	<b>52</b>
8.1.	Documentation sheet .....	52
8.2.	Operational indicators.....	53
8.3.	Remarks on comparability .....	54
<b>9.</b>	<b>POPULATION BELOW POVERTY LINE AND INCOME INEQUALITY.....</b>	<b>55</b>
9.1.	Documentation sheet .....	55
9.2.	Operational indicators.....	56
9.3.	Remarks on comparability .....	57
<b>10.</b>	<b>LIFE EXPECTANCY.....</b>	<b>58</b>
10.1.	Documentation sheet .....	58
10.2.	Operational indicators.....	59
10.3.	Remarks on comparability .....	59
<b>11.</b>	<b>INFANT MORTALITY .....</b>	<b>60</b>
11.1.	Documentation sheet .....	60
11.2.	Operational indicators.....	61
11.3.	Remarks on comparability .....	62
<b>12.</b>	<b>PERINATAL MORTALITY.....</b>	<b>63</b>
12.1.	Documentation sheet .....	63
12.2.	Operational indicators.....	64
12.3.	Remarks on comparability .....	64
<b>13.</b>	<b>DISEASE-SPECIFIC MORTALITY .....</b>	<b>65</b>
13.1.	Documentation sheet .....	65
13.2.	Operational indicators.....	67
13.3.	Remarks on comparability .....	71
<b>14.</b>	<b>DRUG-RELATED DEATHS .....</b>	<b>72</b>
14.1.	Documentation sheet .....	72
14.2.	Operational indicators.....	73
14.3.	Remarks on comparability .....	74
<b>15.</b>	<b>SMOKING-RELATED DEATHS.....</b>	<b>75</b>
15.1.	Documentation sheet .....	75
15.2.	Operational indicators.....	77
<b>16.</b>	<b>ALCOHOL-RELATED DEATHS .....</b>	<b>78</b>
16.1.	Documentation sheet .....	78
16.2.	Operational indicators.....	86
<b>17.</b>	<b>EXCESS MORTALITY BY EXTREME TEMPERATURES.....</b>	<b>87</b>
17.1.	Documentation sheet .....	87
<b>18.</b>	<b>SELECTED COMMUNICABLE DISEASES .....</b>	<b>88</b>
18.1.	Documentation sheet .....	88
18.2.	Operational indicators.....	89
18.3.	Remarks on comparability .....	91
<b>19.</b>	<b>HIV/AIDS.....</b>	<b>92</b>
19.1.	Documentation sheet .....	92
19.2.	Operational indicators.....	93
19.3.	Remarks on comparability .....	94
<b>20.</b>	<b>CANCER INCIDENCE .....</b>	<b>95</b>
20.1.	Documentation sheet .....	95
20.2.	Operational indicators.....	96
20.3.	Remarks on comparability .....	99

<b>21A. DIABETES, SELF-REPORTED PREVALENCE .....</b>	<b>100</b>
21a.1. Documentation sheet .....	100
21a.2. Operational indicators.....	101
<b>21B. DIABETES, REGISTER-BASED PREVALENCE.....</b>	<b>102</b>
21b.1. Documentation sheet .....	102
21b.2. Operational indicators.....	103
<b>22. DEMENTIA .....</b>	<b>104</b>
22.1. Documentation sheet .....	104
22.2. Operational indicators.....	105
<b>23A. DEPRESSION, SELF-REPORTED PREVALENCE.....</b>	<b>106</b>
23a.1. Documentation sheet .....	106
23a.2. Operational indicators.....	107
<b>23B. DEPRESSION, REGISTER-BASED PREVALENCE .....</b>	<b>108</b>
23b.1. Documentation sheet .....	108
23b.2. Operational indicators.....	109
<b>24. ACUTE MYOCARDIAL INFARCTION (AMI) .....</b>	<b>110</b>
24.1. Documentation sheet .....	110
24.2. Operational indicators.....	111
<b>25. STROKE .....</b>	<b>112</b>
25.1. Documentation sheet .....	112
25.2. Operational indicators.....	113
<b>26A. ASTHMA, SELF-REPORTED PREVALENCE.....</b>	<b>113</b>
26a.1. Documentation sheet .....	113
26a.2. Operational indicators.....	114
<b>26B. ASTHMA, REGISTER-BASED PREVALENCE .....</b>	<b>115</b>
26b.1. Documentation sheet .....	115
26b.2. Operational indicators.....	116
<b>27A. COPD, SELF-REPORTED PREVALENCE .....</b>	<b>117</b>
27a.1. Documentation sheet .....	117
27a.2. Operational indicators.....	118
<b>27B. COPD, REGISTER BASED PREVALENCE .....</b>	<b>119</b>
27b.1. Documentation sheet .....	119
27b.2. Operational indicators.....	120
<b>28. (LOW) BIRTH WEIGHT.....</b>	<b>121</b>
28.1. Documentation sheet .....	121
28.2. Operational indicators.....	122
28.3. Remarks on comparability .....	123
<b>29A. INJURIES: HOME, LEISURE, SCHOOL, SELF-REPORTED INCIDENCE .....</b>	<b>124</b>
29a.1. Documentation sheet .....	124
29a.2. Operational indicators.....	125
<b>29B. INJURIES: HOME, LEISURE, SCHOOL, REGISTER-BASED INCIDENCE.....</b>	<b>127</b>
29b.1. Documentation sheet .....	127
29b.2. Operational indicators.....	128
<b>30A. INJURIES: ROAD TRAFFIC, SELF-REPORTED INCIDENCE .....</b>	<b>129</b>
30a.1. Documentation sheet .....	129
30a.2. Operational indicators.....	130
<b>30B. INJURIES: ROAD TRAFFIC, REGISTER-BASED INCIDENCE.....</b>	<b>132</b>
30b.1. Documentation sheet .....	132
30b.2. Operational indicators.....	133



<b>31. INJURIES: WORKPLACE .....</b>	<b>133</b>
31.1. Documentation sheet .....	133
31.2. Operational indicators.....	135
31.3. Remarks on comparability .....	135
<b>32. SUICIDE ATTEMPT .....</b>	<b>136</b>
32.1. Documentation sheet .....	136
<b>33. SELF-PERCEIVED HEALTH .....</b>	<b>137</b>
33.1. Documentation sheet .....	137
33.2. Operational indicators.....	138
33.3. Remarks on comparability .....	139
<b>34. SELF-REPORTED CHRONIC MORBIDITY.....</b>	<b>140</b>
34.1. Documentation sheet .....	140
34.2. Operational indicators.....	142
34.3. Remarks on comparability .....	143
<b>35. LONG-TERM ACTIVITY LIMITATIONS.....</b>	<b>144</b>
35.1. Documentation sheet .....	144
35.2.Operational indicators.....	146
35.3. Remarks on comparability .....	146
<b>36. PHYSICAL AND SENSORY FUNCTIONAL LIMITATIONS .....</b>	<b>148</b>
36.1. Documentation sheet .....	148
36.2. Operational indicators.....	149
<b>37. GENERAL MUSCULOSKELETAL PAIN.....</b>	<b>150</b>
37.1. Documentation sheet .....	150
<b>38. PSYCHOLOGICAL DISTRESS .....</b>	<b>152</b>
38.1. Documentation sheet .....	152
<b>39. PSYCHOLOGICAL WELL-BEING .....</b>	<b>153</b>
39.1. Documentation sheet .....	153
<b>40. HEALTH EXPECTANCY: HEALTHY LIFE YEARS (HLY) .....</b>	<b>154</b>
40.1. Documentation sheet .....	154
40.2. Operational indicators.....	156
40.3. Remarks on comparability .....	156
<b>41. HEALTH EXPECTANCY, OTHERS.....</b>	<b>158</b>
41.1. Documentation sheet .....	158
41.2. Operational indicators.....	159
41.3. Remarks on comparability .....	160
<b>42. BODY MASS INDEX.....</b>	<b>161</b>
42.1. Documentation sheet .....	161
42.2. Operational indicators.....	162
<b>43. BLOOD PRESSURE.....</b>	<b>163</b>
43.1. Documentation sheet .....	163
43.2. Operational indicators.....	164
<b>44. REGULAR SMOKERS.....</b>	<b>165</b>
44.1. Documentation sheet .....	165
44.2. Operational indicators.....	166
<b>45. PREGNANT WOMEN SMOKING .....</b>	<b>167</b>
45.1. Documentation sheet .....	167
<b>46. TOTAL ALCOHOL CONSUMPTION .....</b>	<b>168</b>
46.1. Documentation sheet .....	168
46.2. Operational indicators.....	169
46.3. Remarks on comparability .....	170

<b>47. HAZARDOUS ALCOHOL CONSUMPTION .....</b>	<b>171</b>
47.1 Documentation sheet .....	171
<b>48. USE OF ILLICIT DRUGS .....</b>	<b>172</b>
48.1. Documentation sheet .....	172
48.2. Operational indicators.....	173
48.3. Remarks on comparability .....	174
<b>49. CONSUMPTION OF FRUIT .....</b>	<b>174</b>
49.1. Documentation sheet .....	174
49.2. Operational indicators.....	175
<b>50. CONSUMPTION OF VEGETABLES .....</b>	<b>176</b>
50.1. Documentation sheet .....	176
50.2. Operational indicators.....	177
<b>51. BREAST FEEDING.....</b>	<b>178</b>
51.1 Documentation sheet .....	178
51.2. Operational indicators.....	179
<b>52. PHYSICAL ACTIVITY .....</b>	<b>180</b>
52.1. Documentation sheet .....	180
<b>53. WORK RELATED HEALTH RISKS .....</b>	<b>181</b>
53.1 Documentation sheet .....	181
53.2. Operational indicators.....	182
<b>54. SOCIAL SUPPORT .....</b>	<b>184</b>
54.1 Documentation sheet .....	184
54.2. Operational indicators.....	185
<b>55. PM10 (PARTICULATE MATTER) EXPOSURE .....</b>	<b>186</b>
55.1. Documentation sheet .....	186
55.2 Operational indicators.....	187
55.3 Remarks on comparability .....	187
<b>56. VACCINATION COVERAGE IN CHILDREN .....</b>	<b>188</b>
56.1. Documentation sheet .....	188
56.2. Operational indicators.....	189
56.3 Remarks on comparability .....	189
<b>57. INFLUENZA VACCINATION RATE IN ELDERLY .....</b>	<b>190</b>
57.1 Documentation sheet .....	190
57.2 Operational indicators.....	191
<b>58. BREAST CANCER SCREENING.....</b>	<b>191</b>
58.1. Documentation sheet .....	191
58.2. Operational indicators.....	193
<b>59. CERVICAL CANCER SCREENING .....</b>	<b>193</b>
59.1. Documentation sheet .....	193
59.2 Operational indicators.....	195
<b>60. COLON CANCER SCREENING .....</b>	<b>195</b>
60.1 Documentation sheet .....	195
60.2 Operational indicators.....	196
<b>61. TIMING OF FIRST ANTENATAL VISIT AMONG PREGNANT WOMEN .....</b>	<b>197</b>
61.1. Documentation sheet .....	197
<b>62. HOSPITAL BEDS .....</b>	<b>198</b>
62.1. Documentation sheet .....	198
62.2. Operational indicators.....	199
62.3. Remarks on comparability .....	200

<b>63. PRACTISING PHYSICIANS .....</b>	<b>201</b>
63.1 Documentation sheet .....	201
63.2 Operational indicators.....	202
63.3 Remarks on comparability .....	203
<b>64. PRACTISING NURSES.....</b>	<b>204</b>
64.1 Documentation sheet .....	204
64.2 Operational indicators.....	205
64.3 Remarks on comparability .....	206
<b>65. MOBILITY OF PROFESSIONALS.....</b>	<b>207</b>
65.1. Documentation sheet .....	207
<b>66. MEDICAL TECHNOLOGIES: MRI UNITS AND CT SCANS .....</b>	<b>209</b>
66.1. Documentation sheet .....	209
66.2. Operational indicators.....	210
66.3. Remarks on comparability .....	210
<b>67. HOSPITAL IN-PATIENT DISCHARGES, SELECTED DIAGNOSES.....</b>	<b>211</b>
67.1. Documentation sheet .....	211
67.2. Operational indicators.....	213
67.3. Remarks on comparability .....	218
<b>68. HOSPITAL DAY-CASES, SELECTED DIAGNOSES .....</b>	<b>219</b>
68.1. Documentation sheet .....	219
68.2. Operational indicators.....	221
68.3 Remarks on comparability .....	226
<b>69. HOSPITAL DAY-CASES AS PERCENTAGE OF TOTAL PATIENT POPULATION (IN-PATIENTS &amp; DAY-CASES), SELECTED DIAGNOSES .....</b>	<b>228</b>
69.1. Documentation sheet .....	228
69.2. Operational indicators.....	229
69.3. Remarks on comparability .....	237
<b>70. AVERAGE LENGTH OF STAY (ALOS), LIMITED DIAGNOSES.....</b>	<b>238</b>
70.1. Documentation sheet .....	238
70.2. Operational indicators.....	240
70.3 Remarks on comparability .....	245
<b>71. GENERAL PRACTITIONER (GP) UTILISATION.....</b>	<b>246</b>
71.1 Documentation sheet .....	246
71.2 Operational indicators.....	247
<b>72. SELECTED OUTPATIENT VISITS .....</b>	<b>248</b>
72.1. Documentation sheet .....	248
72. 2 Operational indicators.....	250
<b>73. SELECTED SURGERIES.....</b>	<b>251</b>
73.1. Documentation sheet .....	251
73.2. Operational indicators.....	253
73.3 Remarks on comparability .....	254
<b>74. MEDICINE USE, SELECTED GROUPS .....</b>	<b>255</b>
74.1 Documentation sheet .....	255
74.2. Operational indicators.....	257
<b>75. PATIENT MOBILITY.....</b>	<b>258</b>
75.1 Documentation sheet .....	258
75.2. Operational indicators.....	259
<b>76. INSURANCE COVERAGE.....</b>	<b>260</b>
76.1. Documentation sheet .....	260
76.2. Operational indicators.....	261
76.3 Remarks on comparability .....	261

<b>77. EXPENDITURES ON HEALTH CARE .....</b>	<b>262</b>
77.1. Documentation sheet .....	262
77.2. Operational indicators.....	264
77.3. Remarks on comparability .....	264
<b>78. SURVIVAL RATES CANCER .....</b>	<b>266</b>
78.1. Documentation sheet .....	266
78.2. Operational indicators.....	267
78.3. Remarks on comparability .....	269
<b>79. 30-DAY IN-HOSPITAL CASE-FATALITY OF AMI AND STROKE.....</b>	<b>270</b>
79.1. Documentation sheet .....	270
79.2. Operational indicators.....	271
79.3. Remarks on comparability .....	272
<b>80. EQUITY OF ACCESS TO HEALTH CARE SERVICES.....</b>	<b>273</b>
80.1. Documentation sheet .....	273
80.2. Operational indicators.....	274
80.3. Remarks on comparability .....	275
<b>81. WAITING TIMES FOR ELECTIVE SURGERIES .....</b>	<b>276</b>
81.1. Documentation sheet .....	276
<b>82. SURGICAL WOUND INFECTIONS.....</b>	<b>277</b>
82.1. Documentation sheet .....	277
<b>83. CANCER TREATMENT DELAY .....</b>	<b>279</b>
83.1. Documentation sheet .....	279
<b>84. DIABETES CONTROL.....</b>	<b>280</b>
84.1. Documentation sheet .....	280
<b>85. POLICIES ON ETS EXPOSURE (ENVIRONMENTAL TOBACCO SMOKE).....</b>	<b>282</b>
85.1. Documentation sheet .....	282
85.2. Operational indicators.....	283
85.3. Remarks on comparability .....	283
<b>86. POLICIES ON HEALTHY NUTRITION .....</b>	<b>284</b>
86.1. Documentation sheet .....	284
<b>87. POLICIES AND PRACTICES ON HEALTHY LIFESTYLES .....</b>	<b>284</b>
87.1. Documentation sheet .....	284
<b>88. INTEGRATED PROGRAMMES IN SETTINGS, INCLUDING WORKPLACES, SCHOOLS, HOSPITALS.....</b>	<b>286</b>
88.1. Documentation sheet .....	286



## INTRODUCTION

The European Community Health Indicators (ECHI) initiative started in 1998 as a project responding to the European Commission's call to establish a set of public health indicators for the EU. The first version of the ECHI shortlist, which would serve as the core of a European public health monitoring system, was approved by the Commission and the EU Member States in 2005. Since then, the indicators in the ECHI shortlist have been regularly improved and updated. In 2008, the European Commission and the EU Member States began implementation of the indicators, i.e. they were put into practice.

The ECHI work has been coordinated through a series of four DG SANCO funded projects: ECHI-I, ECHI-II, ECHIM (the M stands for Monitoring) and the Joint Action for ECHIM. In addition to the various project partners, ECHI relies on close collaboration with the EU Member States, the European Commission (in particular DG SANCO and Eurostat), WHO Regional Office for Europe, and OECD. The goals and achievements of ECHI-I, ECHI-II and ECHIM have been described in detail elsewhere (1, 2, 3).

This report is the second volume of a series of three reports that describe the results and achievements of the fourth ECHI(M) project, the Joint Action for ECHIM. The first report contains all the procedural information on the Joint Action as well as information on the implementation of the ECHI indicators in the EU Member States (4). The third report reflects new data developments for the ECHI indicators, including the outcomes of the Joint Action data collection pilot (5).

The aim of this report is to be a 'cookbook' for the ECHI shortlist indicators. It contains all technical indicator documentation, including the processes needed to keep the ECHI shortlist up to date. The main target audience for this report is those who are actually working with the indicators at the EU or Member State level, computing the indicators and/or making the indicators available as an evidence base for policy makers.

The contents of this report are largely based on the outcomes of Work Packages 1 and 2 of the Joint Action for ECHIM, which were conducted by all Joint Action partners under the lead of the Dutch National Institute for Public Health and the Environment (RIVM).

# PART I: THE ECHI SHORTLIST 2012 VERSION AND THE UNDERLYING WORK AND PROCEDURES

## 1. THE ECHI SHORTLIST 2012 VERSION

### 1.1. The ECHI shortlist as a core indicator set for the EU

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The ECHI shortlist was first introduced in 2005 as the core set of public health indicators for use throughout the EU. The selection of indicators for the shortlist was the result of a careful procedure. Concrete criteria were formulated for guiding the selection of indicators (see textbox 1). Significant input was derived from EU-funded health information projects, and the results were discussed and approved in a series of meetings involving Member States' representatives (1).

Textbox 1: the criteria applied for the selection of the ECHI shortlist indicators

- The list should cover the entire public health field, following the commonly applied structure of the well-known Lalonde model: health status, determinants of health, health interventions/ health services, and socio-economic and demographic factors.
- The indicators should serve the user's needs, meaning that they should support potential policy action, both at the EU and Member State level.
- Existing indicator systems, such as the indicators used in the WHO Health For All database and OECD Health Data, should be used as much as possible, but there is room for innovation.
- Use the viewpoint of the general public health official ('cockpit') as frame of reference.
- Focus on the large public health problems, including health inequalities.
- Focus on the best possibilities for effective policy action.

The shortlist was designed to be basically stable, but it was agreed to allow limited changes to accommodate new scientific insights, new developments related to data collections (e.g. European Health Interview Survey (EHIS)) or new policy needs. The 2005 version of the ECHI shortlist contained 82 indicators (1). In 2008, the shortlist was updated, resulting in an increase to 88 indicators (2). One of the goals of the Joint Action for ECHIM was to deliver an updated version of the ECHI shortlist. This new version of the shortlist is elaborated below. For the updating procedure applied and a detailed explanation of the choices made during this process, see chapter 3.

### 1.2. Main characteristics of the 2012 version of the ECHI shortlist

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During the Joint Action for ECHIM, significant progress was made to elaborate the operationalization of indicators, and this was processed in the indicator documentation. As a result, there was a more detailed overview of data quality and data availability than during the previous project phase (2). The 2008 version of the shortlist consisted of two sections: an implementation and a development section. The former contained the indicators that were deemed (nearly) ready for implementation and the latter the indicators that still needed considerable developmental work. Improved insights into the level of 'implementation readiness' of the indicators, combined with a greater focus on actual implementation of the indicators under the Joint Action, as compared to the previous project phases, resulted in the decision to use three sections in the 2012 version of the ECHI shortlist rather than two. These three sections are:

- Implementation section
- Work-in-progress section
- Development section

Indicators in the implementation section can readily be used to support policy making as they are part of regular international data collections and data are available for a majority of Member States; they are ready for implementation at a (inter)national level. Indicators in the work-in-progress section technically are (nearly) ready for incorporation in regular international data collections, but there may not yet be concrete plans for this to occur. The development section contains

those indicator topics that are not yet ready for incorporation into international regular data collections (and thus for implementation) due to considerable methodological and/or data availability problems. The next paragraph (paragraph 1.3) contains additional information on the pending work with regard to preparing the indicators for implementation.

Textbox 2 summarizes the main characteristics of the 2012 version of the ECHI shortlist. Table 1 contains an overview of the indicators in the 2012 version of the ECHI shortlist and their data sources, as well as the division of the indicators over the three sections.

Textbox 2: The main characteristics of the 2012 version of the ECHI shortlist

- The 2012 version of the shortlist contains 94 indicators in total. These are the same 88 indicators as in the 2008 version of the shortlist, but for six of these, both a self-reported and a register-based indicator variant have been defined. This implies that no existing indicators were deleted and no new indicators were added compared to the 2008 version.
- While the 2008 version had two sections, the 2012 version has three, namely:
  - Implementation section
  - Work-in-progress section
  - Development section
- There are 67 indicators in the implementation section, 14 in the work-in-progress section and 13 in the development section.
- For about 25 shortlist indicators, the European Health Interview Survey (EHIS) is the preferred (interim) source. At the time of ending the Joint Action for ECHIM, the questionnaire for the envisaged 2014 EHIS data collection round was not yet finalized. This implies that changes in the definitions, calculations and status (implementation, work-in-progress or development section) of these indicators may still occur.

Table 1: Overview of the 2012 ECHI shortlist

<b>ECHI shortlist indicators</b>	<b>Data source</b>	<b>Status indicator in 2012 version shortlist</b>	<b>Reference: status indicator in 2008 version shortlist</b>
1. Population by sex/age	Eurostat	Implementation section	Implementation section
2. Birth rate, crude	Eurostat	Implementation section	Implementation section
3. Mother's age distribution	Eurostat	Implementation section	Implementation section
4. Total fertility rate	Eurostat	Implementation section	Implementation section
5. Population projections	Eurostat	Implementation section	Implementation section
6. Population by education	Eurostat (LFS)	Implementation section	Implementation section
7. Population by occupation	Eurostat (LFS)	Implementation section	Implementation section
8. Total unemployment	Eurostat (LFS)	Implementation section	Implementation section
9. Population below poverty line and income inequality	Eurostat (EU-SILC)	Implementation section	Implementation section
10. Life expectancy	Eurostat	Implementation section	Implementation section
11. Infant mortality	Eurostat	Implementation section	Implementation section
12. Perinatal mortality	WHO-HFA	Implementation section	Implementation section
13. Disease-specific mortality; Eurostat, 65 causes	Eurostat (and CISID for AIDS-related mortality)	Implementation section	Implementation section
14. Drug-related deaths	EMCDDA	Implementation section	Implementation section
15. Smoking-related deaths	n.a.	Work-in-progress section	Implementation section
16. Alcohol-related deaths	n.a.	Work-in-progress section	Implementation section
17. Excess mortality by extreme temperatures (formerly 'by heat waves')	n.a.	Development section	Development section



<b>ECHI shortlist indicators</b>	<b>Data source</b>	<b>Status indicator in 2012 version shortlist</b>	<b>Reference: status indicator in 2008 version shortlist</b>
18. Selected communicable diseases	ECDC	Implementation section	Implementation section
19. HIV/AIDS	EURO-HIV/CISID	Implementation section	Implementation section
20. Cancer incidence	Globocan	Implementation section	Implementation section
21. (A) Diabetes, self-reported prevalence	Eurostat (EHIS)	Implementation section	Implementation section*
21. (B) Diabetes, register-based prevalence	n.a.	Work-in-progress section	
22. Dementia	n.a.	Work-in-progress section	Implementation section
23. (A) Depression, self-reported prevalence	Eurostat (EHIS)	Implementation section	Implementation section*
23. (B) Depression, register-based prevalence	n.a.	Work-in-progress section	
24. AMI	n.a.	Work-in-progress section	Implementation section
25. Stroke	n.a.	Work-in-progress section	Implementation section
26. (A) Asthma, self-reported prevalence	Eurostat (EHIS)	Implementation section	Implementation section*
26. (B) Asthma, register-based prevalence	n.a.	Work-in-progress section	
27. (A) COPD, self-reported prevalence	Eurostat (EHIS)	Implementation section	Implementation section*
27. (B) COPD, register-based prevalence	n.a.	Work-in-progress section	
28. (Low) birth weight	WHO-HFA	Implementation section	Implementation section
29. (A) Injuries: home/leisure, violence, self-reported incidence	Eurostat (EHIS)	Implementation section	Implementation section*
29. (B) Injuries: home/leisure, violence, register-based incidence	IDB	Implementation section	
30. (A) Injuries: road traffic, self-reported incidence	Eurostat (EHIS)	Implementation section	Implementation section*
30. (B) Injuries: road traffic, register-based incidence	UN ECE	Implementation section	
31. Injuries: workplace	Eurostat (ESAW)	Implementation section	Implementation section
32. Suicide attempt	n.a.	Development section	Development section
33. Self-perceived health	Eurostat (EU-SILC)	Implementation section	Implementation section
34. Self-reported chronic morbidity	Eurostat (EU-SILC)	Implementation section	Implementation section
35. Long-term activity limitations	Eurostat (EU-SILC)	Implementation section	Implementation section
36. Physical and sensory functional limitations	Eurostat (EHIS)	Implementation section	Implementation section
37. General musculoskeletal pain	n.a.	Development section	Development section
38. Psychological distress	n.a.	Development section	Implementation section
39. Psychological well-being	n.a.	Development section	Development section
40. Health expectancy: Healthy Life Years (HLY)	Eurostat	Implementation section	Implementation section

<b>ECHI shortlist indicators</b>	<b>Data source</b>	<b>Status indicator in 2012 version shortlist</b>	<b>Reference: status indicator in 2008 version shortlist</b>
41. Health expectancy, others	EHEMU/EHLEIS project	Work-in-progress section	Implementation section
42. Body mass index	Eurostat (EHIS)	Implementation section	Implementation section
43. Blood pressure	Eurostat (EHIS)	Implementation section	Implementation section
44. Regular smokers	Eurostat (EHIS)	Implementation section	Implementation section
45. Pregnant women smoking	n.a.	Work-in-progress section	Implementation section
46. Total alcohol consumption	WHO (GISAH)	Implementation section	Implementation section
47. Hazardous alcohol consumption	Eurostat (EHIS)	Implementation section	Implementation section
48. Use of illicit drugs	EMCDDA	Implementation section	Implementation section
49. Consumption of fruit	Eurostat (EHIS)	Implementation section	Implementation section
50. Consumption of vegetables	Eurostat (EHIS)	Implementation section	Implementation section
51. Breastfeeding	WHO-HFA	Work-in-progress section	Implementation section
52. Physical activity	Eurostat (EHIS)	Implementation section	Implementation section
53. Work-related health risks	EUROFOUND	Implementation section	Development section
54. Social support	Eurostat (EHIS)	Implementation section	Implementation section
55. PM10 (particulate matter) exposure	Eurostat	Implementation section	Implementation section
56. Vaccination coverage in children	WHO-HFA	Implementation section	Implementation section
57. Influenza vaccination rate in elderly	Eurostat (EHIS)	Implementation section	Implementation section
58. Breast cancer screening	Eurostat (EHIS)	Implementation section	Implementation section
59. Cervical cancer screening	Eurostat (EHIS)	Implementation section	Implementation section
60. Colon cancer screening	Eurostat (EHIS)	Implementation section	Development section
61. Timing of first antenatal visits among pregnant women	n.a.	Work-in-progress section	Development section
62. Hospital beds	Eurostat	Implementation section	Implementation section
63. Practising physicians	Eurostat	Implementation section	Implementation section
64. Practising nurses	Eurostat	Implementation section	Implementation section
65. Mobility of professionals	n.a.	Development section	Development section
66. Medical technologies: MRI units and CT scans	Eurostat	Implementation section	Implementation section
67. Hospital in-patient discharges, limited diagnoses	Eurostat	Implementation section	Implementation section
68. Hospital day-cases, limited diagnoses	Eurostat	Implementation section	Implementation section
69. Hospital day-cases as percentage of total patient population (in-patients & day-cases), selected diagnoses	Eurostat (necessary discharge data available but ratio is not centrally computed yet)	Implementation section	Implementation section
70. Average length of stay (ALOS), limited diagnoses	Eurostat	Implementation section	Implementation section
71. General practitioner (GP) utilisation	Eurostat (EHIS)	Implementation section	Implementation section

<b>ECHI shortlist indicators</b>	<b>Data source</b>	<b>Status indicator in 2012 version shortlist</b>	<b>Reference: status indicator in 2008 version shortlist</b>
72. Selected outpatient visits	Eurostat (EHIS)	Implementation section	Implementation section
73. Surgeries: PTCA, hip, cataract	Eurostat	Implementation section	Implementation section
74. Medicine use, selected groups	Eurostat (EHIS)	Implementation section	Implementation section
75. Patient mobility	Eurostat is regularly collecting data on patient mobility but is not yet publishing these.	Work-in-progress section	Development section
76. Insurance coverage	OECD	Implementation section	Implementation section
77. Expenditures on health	Eurostat	Implementation section	Implementation section
78. Survival rates cancer	EUROCARE	Implementation section	Implementation section
79. 30-day in-hospital case-fatality AMI and stroke	OECD	Implementation section	Implementation section
80. Equity of access to health care services	Eurostat (EU-SILC)	Implementation section	Implementation section
81. Waiting times for elective surgeries	n.a.	Development section	Implementation section
82. Surgical wound infections	n.a.	Development section	Implementation section
83. Cancer treatment delay	n.a.	Development section	Implementation section
84. Diabetes control	n.a.	Development section	Implementation section
85. Policies on ETS exposure (Environmental Tobacco Smoke)	WHO-Euro tobacco control (computation of indicator not done centrally yet)	Implementation section	Implementation section
86. Policies on healthy nutrition	n.a.	Development section	Development section
87. Policies and practices on healthy lifestyles	n.a.	Development section	Development section
88. Integrated programmes in settings, including workplace, schools, hospital	n.a.	Development section	Development section

\* In the 2008 version of the ECHI shortlist, separate A- and B-operationalization did not exist yet for these indicators

### 1.3. Required work pending on indicators in the work-in-progress and development sections

ECHI shortlist indicators in the work-in-progress section or development section are not yet ready for implementation due to methodological problems and/or problems related to data availability. Developmental work for the indicators in the work-in-progress section has already been performed, or is being performed. However, the indicators are not yet completely ready for incorporation into regular international data collections. It is also possible that an indicator is adequately developed and could be incorporated into regular data collections, but there is no possibility to effectuate incorporation. Indicators in the development section still need substantial methodological work and/or work related to improving data availability before implementation. It is noted that current activities do not exist for all indicators in the work-in-progress section. In some instances, developmental work has been performed by projects or initiatives that have now ended. To further these indicators, new activities are necessary, e.g. further developmental work or a detailed assessment of data availability in Member States.

The pending problems of the indicators in the work-in-progress and development sections are quite diverse and the status of development differs per indicator. In the work-in-progress section, for example, some indicator definitions are

well developed but the indicators still need to be incorporated into regular international data collections. This applies to ECHI indicators 15. Smoking-related deaths, 16. Alcohol-related deaths and 41. Health expectancy, others. For other indicators, harmonized data collection methods still need to be developed. This applies to the morbidity estimates: indicators 21. (B) Diabetes, register-based prevalence, 22. Dementia, 23. (B) Depression, register-based prevalence, 26. (B) Asthma, register-based prevalence, and 27. (B) COPD, register-based prevalence. For these indicators, Eurostat is currently developing a data collection methodology based on the outcomes of data collection pilots in several Member States. For other indicators in the work-in-progress section, issues that are more fundamental still need to be resolved, such as deciding on the definition of the indicator and on the preferred data source. For example, this applies to indicators 45. Pregnant women smoking and 61. Timing of first antenatal visit among pregnant women.

An example of a pending problem in the development section is that for some indicators, basic conceptual work related to the definitions is still necessary; what exactly do we want to measure and how can this be done best? This applies to indicators 86. Policies on healthy nutrition, 87. Policies and practices on healthy lifestyles, and 88. Integrated programmes in settings, including workplace, schools, hospital. For other indicators in the development section, there are no suitable EU-wide, sustainable data sources in place, and there are no concrete prospects for such sources in the future. For example, this applies to the indicators 32. Suicide attempt, 37. General musculoskeletal pain, 38. Psychological distress, and 39. Psychological well-being.

It is emphasised that although indicators are placed in the implementation section of the ECHI shortlist, this does not mean that these indicators and the related documentation do not require more work. It is true, however, that these indicators are adequately operationalized and incorporated into regular data collections. Hence, work needed on these indicators is different than the work needed on the indicators in the work-in-progress and development sections described above. Work needed on indicators in the implementation section is mainly related to improving harmonization of the underlying existing international data collections in the Member States. To achieve this, close collaboration is needed with the supra- and international organisations to which the Member States deliver the data, e.g. Eurostat, WHO Europe and OECD. Recommendations for future work on the indicators and their documentation are elaborated in chapter 4.

## **2. ECHI INDICATOR DOCUMENTATION: WHAT IS IT AND WHAT WAS DONE DURING THE JOINT ACTION FOR ECHIM?**

### **2.1. The various elements of the ECHI indicator documentation**

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Various elements in the ECHI indicator documentation exist. First, there are documentation sheets, which were first developed under the previous project phase (2). Documentation sheets contain all the technical information needed for computing the ECHI indicators. During the Joint Action, the need emerged for a quick overview of the ECHI operational indicators, i.e. an overview of the ECHI indicator definitions including the breakdowns required for the indicators according to sex, age, socio-economic status, and possibly other dimensions. This information can be extracted from the documentation sheets, but to support implementation in the Member States and at the EU level, it would be convenient to have an overview of the operational indicators only, without the more detailed information available in the documentation sheets. Therefore, a list of operational ECHI indicators was developed and maintained during the Joint Action. Finally, to provide support to policy makers and other target audiences making use of ECHI indicator data presentations, structured and tailored information about the (in)comparability of the data underlying the ECHI indicators was compiled in the ECHI remarks on comparability. In the paragraphs below, more information on the various types of ECHI indicator documentation is provided, as well as a description of the work carried out during the Joint Action relating to this documentation.

## 2.2. ECHI indicator documentation sheets

ECHI documentation sheets contain the technical information needed for computing the ECHI indicators, as well as some basic contextual information needed for interpreting the indicators according to a structured format. This format is presented in figure 1. For some of the indicators in the work-in-progress and development sections (for which many methodological and/or data availability problems are still to be solved), a slightly adapted format is being used. In this adapted format, the sections on ‘Calculation’ and ‘Relevant dimensions and subgroups’ are replaced by a section on ‘Key issues and problems’.

Figure 1: Standard template for ECHI indicator documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>A) Shortlist section</b>
	1. Indicator name
<i>Relevant policy areas</i>	Select the relevant application areas from this list: <ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Maternal and perinatal health</li> <li>• Non-communicable diseases (NCD), chronic diseases</li> <li>• Health threats, communicable diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Environmental health</li> <li>• Mental health</li> <li>• Child health (including young adults)</li> <li>• Occupational health</li> <li>• (Planning of) health care resources</li> <li>• Health care costs &amp; utilisation</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	
<i>Calculation</i>	
<i>Relevant dimensions and subgroups</i>	If relevant, describe operationalization of dimensions/subgroups. If the region is a required dimension, use the following operationalization: according to ISARE recommendations and add reference to <a href="http://www.isare.org">www.isare.org</a> in the References section. Use the order and format below (only list the relevant items): <ul style="list-style-type: none"> <li>- Calendar year</li> <li>- Country</li> <li>- Region (according to ISARE recommendations; see data availability)</li> <li>- Sex</li> <li>- Age group (...)</li> <li>- Socio-economic status (...)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Preferred source:
<i>Data availability</i>	Describe briefly the availability of the various dimensions. In general, focus on unavailability to prevent the text from becoming too long.
<i>Data periodicity</i>	
<i>Rationale</i>	
<i>Remarks</i>	Describe here issues directly relevant for the indicator that do not fit within one of the other sections, e.g. that this indicator is also part of another indicator set (structural indicators, SPC), an explanation why a certain choice (for (element of) definition/calculation) was made, an explanation that this is an interim operationalization while waiting for data from a better source (e.g. EHIS, EHES) to become available, etc. <ul style="list-style-type: none"> <li>- Overlap with other indicator set? (SPC, structural indicators, sustainable development indicators).</li> <li>- ...</li> </ul>

<i>References</i>	<p>Only add references that are directly related to topics mentioned in the text of the sections, do not provide general background information. Try to add a link to the data at the most detailed level possible (e.g. in case of Eurostat data add a link to the concerned data set in the Eurostat database).</p> <p>- Health Indicators in the European Regions (ISARE) project: <a href="http://www.isare.org">http://www.isare.org</a></p>
<i>Work to do</i>	

During the Joint Action for ECHIM, the documentation sheets for all 88 indicators in the ECHI shortlist were updated at least once. To the extent possible, choices for specific definitions, calculations and preferred data sources were made. To reach this goal, a start had been made under the previous two ECHI(M) project phases with mapping (meta-)data available at European level. This work continued and intensified during the Joint Action. Next, the ECHI experts came to a preferred operationalization by weighing the pros and cons of the various options for each indicator. Eurostat, as the EU's statistical office, was the default, preferred source. If Eurostat had no data for a specific indicator, or data that were deemed not suitable for ECHI purposes by the ECHI experts, other sources were used; preferably sustainable, non-project-based initiatives. ECHI and Eurostat staff closely collaborated during this phase, and feedback from other experts was sought as well, e.g. from EMCDDA, ECDC, OECD, WHO Europe and multiple EU-funded projects and Joint Actions, such the EUROCISS, EUROCHIP, EUBIROD and IDB projects and the Joint Action EHLEIS on Healthy Life Years.

In addition to methodological criteria, such as validity and reliability, other important criteria applied in this selection phase were that the operationalization should be suitable for measuring time trends and performing international benchmarks. Data availability also was an important criterion; in general the ECHIM experts were inclined to use what was available, provided that there were no significant quality problems, since by actually using the data and pointing out imperfections, improvements could be stimulated.

The work on the documentation sheets was coordinated at the WP1 secretariat (RIVM). Important developments, such as new versions of methodological guidelines or publication of new data, were processed in the sheets on a continuous basis. Updated sheets were published at the ECHIM products website, [www.healthindicators.eu](http://www.healthindicators.eu). Unfortunately, it was not possible to maintain this website after the end of the Joint Action; all indicator documentation has been handed over to the Finnish ECHIM secretariat for incorporation into the [echim.org](http://echim.org) website, and to the European Commission. During the course of the Joint Action, the Commission began publishing the documentation sheets in the HEIDI data tool, an interactive tool for data for ECHI and other EU Health Indicators (6). It is recommended that the Commission continues to publish the latest versions of the documentation sheets in the HEIDI data tool (also see chapter 4).

All the latest versions of the individual documentation sheets for the 88 shortlist indicators available in May 2012 can be found in part II of this report. Some explanation related to the indicator documentation sheets for which EHIS is the preferred (interim) source is necessary; these documentation sheets are based on the questionnaire used in EHIS wave I. In preparation for EHIS wave II, which is planned for 2014, the questionnaire will be revised. This may have consequences for the indicator operationalization as described in the documentation sheets. At the time this final report was drafted, the revision process was not yet finalized. To inform documentation sheet users of the possible changes in indicator definition, calculation and status due to the revision, the information presented in textbox 3 was added in April/May 2012 to all concerned documentation sheets. In part II of this report this 'disclaimer' is not repeated with each concerned documentation sheet, but a shortened version is used, referring to the full text presented below in textbox 3.

**April 2012**

**Additional information for indicators for which EHIS is preferred (interim) source**

This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave I. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. The ECHIM Core Group recommends that the consequences of this revision, once finalized, will be processed in the documentation sheets for the affected ECHI indicators. Subsequent changes in the documentation sheets will relate to the indicators' definition and calculation.

Most of the ECHI shortlist indicators, for which EHIS data have been appointed as preferred (interim) source, have been placed in the implementation section of the 2012 version of the shortlist. This does not apply to indicators 37. General musculoskeletal pain, 38. Psychological distress and 39. Psychological well-being, however. These indicators are placed in the development section. The reason for this is that in preliminary versions of the revised EHIS questionnaire the questions underlying these indicators were removed. Hence, EHIS wave II will not result in data for these indicators.

The outcomes of the assessment of the results of EHIS wave II may have consequences for assigned status of the ECHI indicators (implementation section, work-in-progress section, development section). This relates for example to the performance of the new instruments applied in wave II for alcohol use, physical activity and mental health; if they do not perform adequately, shifting the related indicators to the work-in-progress section needs to be considered. Like the changes in definitions and calculations due to the revised questionnaire, such changes in indicator status also need to be processed in the relevant documentation sheets.

### 2.3. ECHI operational indicators

Operational indicators reflect the precise definitions of the breakdowns required for the indicators according to sex, age, socio-economic status, and other possible dimensions. As such, the list of operational indicators provides a quick summary per indicator of the definitions/breakdowns to be used for ECHI indicator data presentations. The operational indicators are in line with the information provided in the indicators' documentation sheets.

Table 2 presents an example of the operational indicators for one of the ECHI shortlist indicators. The number of operational indicators per shortlist indicator is quite varied; it ranges from 1 or 2 to approximately 80 operational indicators. In general, though, the point of departure for ECHI indicators, in line with the general public health perspective of the shortlist, is to limit the number of requested breakdowns. For example, ECHI uses a default breakdown of age groups 0-64 and 65+, while for specific analyses more detailed age-disaggregation may be needed. On the other hand, the number of operational indicators for some ECHI indicators may be (even) longer than the list elaborated, because no operational indicators were defined for breakdowns for which no data are available. This applies e.g. to the breakdown according to socio-economic status for indicators that are not based on self-reported (HIS) data.

In the beginning of the Joint Action for ECHIM, a list of operational indicators for all ECHI shortlist indicators in the then implementation section (i.e. the implementation section of the 2008 version of the ECHI shortlist) was compiled and published on the ECHIM products website, [www.healthindicators.eu](http://www.healthindicators.eu). Both a full list and separate overviews of operational indicators per individual shortlist indicator were made available. The operational indicators were regularly updated to reflect changes in the indicator operationalization that occurred in the course of the Joint Action. Unfortunately, as already explained in *chapter 2.2*, it was not possible to maintain the [healthindicators.eu](http://healthindicators.eu) website after the Joint Action ended. Therefore also the operational indicators have been handed over the Finnish ECHIM secretariat for incorporation into the [echim.org](http://echim.org) website and to the European Commission. It is recommended that the Commission ensures that the operational indicators will be kept up to date (also see chapter 4).

In part II of this report, the operational indicators have been made available per indicator, together with the accompanying documentation sheet and, if relevant, remarks on comparability. Operational indicators were defined for the majority of

the 88 shortlist indicators; only for the indicators in the development section and some indicators in the work-in-progress section it was not possible yet to define operational indicators due to pending work on definition and calculation.

Table 2: Example of the operational indicators for one of the ECHI shortlist indicators (33. Self-perceived health)

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
22401	Health status	33. Self-perceived health	Eurostat (EU-SILC)	Proportion of persons who assess their health to be very good or good
22402				Proportion of men who assess their health to be very good or good
22403				Proportion of women who assess their health to be very good or good
22404				Proportion of persons aged 15-64 who assess their health to be good or very good
22405				Proportion of persons aged 65+ who assess their health to be good or very good
22406				Proportion of people whose highest completed level of education is ISCED class 0 or 1, who assess their health to be good or very good
22407				Proportion of people whose highest completed level of education is ISCED class 2, who assess their health to be good or very good
22408				Proportion of people whose highest completed level of education is ISCED class 3 or 4, who assess their health to be good or very good
22409				Proportion of people whose highest completed level of education is ISCED class 5 or 6, who assess their health to be good or very good

## 2.4. ECHI remarks on comparability

### 2.4.1. What is the purpose of ECHI remarks on comparability?

The major aim of the ECHI indicators is to support the development and evaluation of public health policy by providing a solid evidence base. Of course, at the core of this evidence base are data presentations (tables, graphs). Data presentations for ECHI indicators are already available in the HEIDI data tool of the European Commission, and in various national public health reporting systems (6, 4).

However, in addition to the actual data presentations, contextual information is necessary to provide a solid evidence base for practical use. Here, two major types of contextual information can be discerned:

- Meta-information: the source of the data, the quality/validity of the data, the extent that the data are comparable between countries and over time, etc.
- Broad contextual information: burden of disease, illness costs, health inequalities, explanations of trends, relations with other public health topics (e.g. the relation between a disease and its determinants), the (possible) influence of policies, best-practice policy examples, etc.

Meta-information about the comparability of the data underlying the ECHI indicators generally is available in the original sources of the data (databases such as Eurostat and WHO-HFA). However, it is often difficult to find this information if one is not familiar with the databases. Moreover, the language used in these databases is often quite scientific (aimed at statisticians/epidemiologists). Therefore, in the framework of Work Package 2 of the Joint Action for ECHIM 'remarks on comparability' have been produced. These remarks are aimed at supporting policy makers who use ECHI data presentations by providing focused, structured information on the (in)comparability of the data between countries and over time. The remarks are not meant to give complete background information about the indicator, but rather to provide a quick overview of the main comparability issues. Users who want to know more details are referred to additional information.



Originally, the plan was to make broader contextual information regarding the ECHI indicators available in EUPHIX, the European Union Public Health Information and Knowledge System. EUPHIX was developed as a prototype of a web-based, comprehensive European public health reporting system (7). For various reasons the European Commission decided not to develop the prototype into a fully functioning system. Instead, the Commission created HEIDI (Health in Europe: Information and Data Interface); a comprehensive wiki on public health topics (8). Public health experts are expected to edit the contents of HEIDI. On May 3rd 2012, after having a beta-version online for a couple of years, the Commission launched the official version of HEIDI. It remains to be seen how this initiative will develop in the future. In any case, in the version of HEIDI launched in May 2012, the integration of the ECHI structure and ECHI data in the HEIDI data tool is far from optimal.

In the framework of the implementation of the ECHI indicators in the Netherlands, a number of International Policy Overviews have been produced (9). These overviews focus on evidence for effective policy measures applied in practice in EU countries for major public health topics such as tobacco use, mental health and depression, and obesity. This is another example of how contextual information for ECHI indicators can be provided, creating a practical tool for evidence-informed policy making.

#### *2.4.2. Drafting ECHI remarks on comparability*

ECHI remarks on comparability are structured according to a fixed format, addressing comparability between countries and over time (see figure 2). In the framework of Work Package (WP) 2 of the Joint Action for ECHIM, remarks on comparability were produced for 43 shortlist indicators. These are the indicators for which data are readily available in the international databases. No remarks on comparability were produced for the ECHI indicators for which the European Health Interview Survey (EHIS) is the preferred (interim) source and indicators that were part of the Joint Action pilot data collection. For a detailed description of this pilot, see the Joint Action final report 3 on new data developments for the ECHI indicators (5).

Information on comparability was extracted from the meta-data in the original databases, and, when possible and relevant, supplemented with additional information from articles, reports, etc. References to the sources used for compiling the information as well as references to more in-depth information are provided under 'further reading' in the template.

As mentioned above, the remarks address comparability between countries and comparability over time. Nevertheless, differences often exist between data from international sources and national estimates. To explain this, a general statement on this phenomenon was added to the remarks on comparability (see textbox 4).

Textbox 4. Statement on the differences between data from international and national data sources

#### **General note on comparability with national data**

The figures presented in the HEIDI data tool might be different from those presented by national data providers. Reasons for these differences are variations in calculation methods and the time-lag between national data collection and delivery to international databases. Therefore, data from national sources is often more recent than international ones. Furthermore, figures can differ depending on the reference population (e.g. World standard population, EU standard population) used for age-standardisation to account for the variable age structure in specific countries.

Staff members of the WP 2 secretariat, i.e. members of the ECHIM team of the Dutch Institute for Public Health and the Environment (RIVM), drafted the remarks on comparability. Regarding review, the aim was to have two reviewers per indicator; one expert from the original data source (e.g. Eurostat, EMCDDA, OECD), and one ECHIM core group member or other expert with specific expertise related to the topic in question. It was not always feasible to find two reviewers; however, all remarks were reviewed by at least one expert.

Figure 2: format ECHI remarks on comparability

<p><b>ECHI indicator number and name</b></p> <p><b>Remarks on comparability</b> Version [date]</p>
<p>Comparability between countries</p>
<p>Comparability over time</p>
<p>Further reading</p>

### 3. MANAGEMENT OF ECHI SHORTLIST VERSIONS

#### 3.1. Procedure for updating the ECHI shortlist

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Based on the 2008 experience of updating the shortlist (2), developing a less complex and time consuming updating procedure was one of the goals of the Joint Action for ECHIM. This new procedure was developed in 2010-2011, together with the Member State representatives of the ECHIM Extended Core Group<sup>1</sup>. Application of this new procedure resulted in the 2012 version of the ECHI shortlist (see chapter 1).

Clear criteria for additions or removals of indicators to/from the shortlist are at the core of the new updating procedure. These are based on the criteria used for selecting the indicators for the original version of the shortlist (see textbox 1). Furthermore, the strong focus of the Joint Action on implementing the indicators is reflected in the criteria as well. This is demonstrated by the stricter criteria for eligibility for the current implementation section; only indicators that can readily be used are placed in this section (see chapter 2). Defining such clear criteria made it possible for the ECHIM secretariat in charge of indicator development to have a more important role than during the previous updating round. The secretariat could prepare substantiated proposals, carefully comparing the suggestions for alterations to the shortlist received from the Member States with the criteria.

From a procedural perspective, compared to the 2008 shortlist update, there was a stronger focus on the involvement of Member State representatives than on health information experts. This shift is logical considering the current status of the ECHI work, moving from indicator development to actual indicator implementation at the Member State level. This certainly does not mean that health information experts are not important for ECHIM. Their expertise has been used in another way, however, namely by advising on the fine-tuning of the definitions and calculations of the existing indicators in the shortlist. As such, their input has been of great value for the ECHI indicator documentation, and has contributed to the ECHI shortlist 2012 version in an indirect way.

For some of the indicators in the ECHI shortlist, much work still needs to be done before they are ready for implementation, either because of problems with methodology or data availability, or a combination of both. The ECHIM Core Group and Extended Core Group discussed whether these indicators should be removed from the ECHI shortlist and placed on a separate list. This list would then serve as input for the health information research and development agenda at the EU level. It was decided not to make a separate list, and hence to keep all the existing indicators in the shortlist. The main

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<sup>1</sup> The ECHIM Core Group consists of the Joint Action for ECHIM associated and collaborative partners. The Extended Core Group additionally includes representatives of all EU Member States who are not represented as associated or collaborative partners in the Joint Action, as well as from other countries.

reasons for this decision were:

- The original selection was carefully made, using the input of many experts, and there is broad support for this selection.
- For enhancing the implementation of the ECHI indicators in the EU Member States it is important that the ECHI shortlist is a recognizable brand, and hence the stability of the list is critical.
- Moving some indicators from the shortlist to another list may result in diminished attention for the indicators on the separate list, and this would not be beneficial for motivating the necessary research and development work for these indicators.
- Having two lists is conceptually complicated and it is difficult to set hard criteria for removing an indicator from the shortlist.

The full updating procedure as developed during the Joint Action is presented below in textbox 5.

Textbox 5: Procedure for updating the ECHI shortlist, 2012 version

### **Updating procedure for the ECHI shortlist**

Final version established at the ECHIM Core Group meeting, September 2011 in Rome

#### **Rationale**

In order to facilitate the sustainable implementation of the ECHI indicator system in the EU, the ECHI shortlist should, in principle, remain as stable as possible. Moreover, the selection of indicators for the shortlist has been well-considered by many experts and received broad consensus and support, and a stable shortlist contributes to making ECHI a robust and recognizable brand. Nevertheless, to make sure that the ECHI shortlist is up-to-date in terms of scientific insights and policy needs, and realistic in terms of actual implementation, it is necessary to update the shortlist from time to time. This document proposes a structured procedure for updating the ECHI shortlist, to be carried out at regular intervals. It is emphasized that the basic point of departure for the shortlist updates should be to restrict the changes to those issues that are considered absolutely necessary.

N.B.: the guidelines described below only apply to decisions regarding whether indicator topics should be added to/removed from the ECHI shortlist, or whether their status (which shortlist section do they belong to) should change. They do not apply to issues related to the specific operationalization of already selected indicator topics; such decisions can be taken by the ECHI Core Group (or a comparable body in the future) without the application of a formal procedure as described here.

#### **From two to three sections**

The 2008 version of the ECHI shortlist had two sections: an 'implementation section' and a 'development section'. They were meant to reflect the degree of 'readiness for use' of the indicators. One of the main results of the current Joint Action is the more precise definition and documentation of the indicators. This, together with the stronger focus on implementation, has prompted the adoption of more explicit and stricter criteria for the eligibility of indicators in the different sections of the shortlist. It also led to the decision to split the old 'development section' into two, in order to discriminate between those indicators which are rather close to full implementation and those for which major methodological or data problems remain.

The resulting three sections are:

- Implementation section
- Work-in-progress section
- Development section

The names of these sections reflect the level of 'implementation-readiness' of the indicators within the different sections (see the eligibility criteria below).

### **Eligibility criteria for the three sections of the ECHI shortlist**

#### *Eligibility criteria for the implementation section:*

There is consensus on the indicator definition and calculation, and data are adequately available in international databases → the indicator can be used to support policy making, it is ready for implementation at (inter)national level

#### *Eligibility criteria for the work-in-progress section:*

There is consensus on the indicator definition and calculation, or considerable developmental work has already been carried out (i.e. consensus can be reached within a limited amount of time), but the indicator is not yet incorporated in regular international data collections. There is an overview of national data availability and data are available in a reasonable number of countries → Technically, the indicator is (nearly) ready for incorporation in regular international data collections, but there may not yet be concrete plans for this.

#### *Eligibility for the development section:*

This section contains those indicator topics that are not ready yet for incorporation in international regular data collections (and thus for implementation) due to considerable methodological and/or data availability problems.

### **Possible adaptations to the ECHI shortlist and criteria**

Three basic kinds of adaptations are possible:

- 1) Additions of new indicators to the shortlist
- 2) Deletions of existing indicators from the shortlist
- 3) Transfers between the different sections of the shortlist

Criteria:

- 1) For additions:
  - The indicator should have clear policy relevance. This implies that it should be related to one of the major public health issues in Europe, and the importance of the issue should be reflected by its appearance in leading policy documents. A public health issue is a policy relevant issue when it is linked to a high burden of disease, clear possibilities for prevention, and/or clear possibilities for reducing health inequalities.
  - The indicator should not disturb the balance of the ECHI shortlist, i.e. there should not be too many (overlapping) indicators for similar topics, and not too many indicators for 'minor' or contextual topics in the shortlist.
  - The indicator should fit the general goals and concepts underlying the ECHI shortlist:
    - The shortlist should provide a 'snapshot' of public health from the point of view of the public health generalist.
    - Indicators in the shortlist should be suitable for:
      - a) reflecting time trends, and
      - b) providing a benchmark for international (EU) comparisons.
- 3) For deletions:
  - The indicator is related to a topic that is no longer policy relevant.
- 4) For transfers between the different sections of the shortlist:

See the eligibility criteria above.

### **Procedure to apply**

- Check whether the criteria as defined for the previous updating round are still adequate given the current situation; adapt (slightly) if necessary in consultation with The ECHIM Extended Core Group members, or the members of a comparable body (i.e. a body consisting of Member State representatives, Commission officials (at least DG SANCO and Eurostat), and representatives of WHO regional office for Europe and OECD).
- The ECHIM Extended Core Group members (or members of a comparable body) are requested to make suggestions for updating the ECHI shortlist applying the predefined criteria.
- Develop a substantiated proposal for the new version of the ECHI shortlist through collecting, summarizing and reflecting on the input of the Extended Core Group members. This should be done by a group of people ('secretariat') with adequate knowledge of the (history of the) ECHI work and of indicator development/public health monitoring/epidemiology. The predefined criteria should be leading here.
- The thus elaborated proposal, together with the underlying reflections, is to be discussed during an ECHIM Extended Core Group meeting (or a meeting of a comparable body).
- The 'secretariat' integrates the outcomes of the discussions during the ECHIM Extended Core Group meeting with the earlier summary of comments and suggestions (see 2nd and 3rd bullet). Based on this summary, a final proposal for the new version of the ECHI shortlist is drafted.
- This final proposal for the new version of the ECHI shortlist is to be approved by the ECHIM Extended Core Group (or a comparable body), preferably during a meeting, but this could also be done through e-mail, in case there is no opportunity for a meeting.
- After approval, it is recommended that the new version of the ECHI shortlist is sent for information to:
  - 1) Head of Unit SANCO C2: Health information
  - 2) the Expert Group on Health Information (former HIC/NCA)
  - 3) Head of Eurostat Unit F5: Education, health and social protection
  - 4) Head of Health Information WHO regional office for Europe
  - 5) OECD contact person for health information

### 3.2. Application of the procedure during the Joint Action for ECHIM

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The procedure described in textbox 5 was applied during the Joint Action for ECHIM. This has resulted in the following outcomes/time line:

- The ECHIM Extended Core Group members were requested to make suggestions for updating the ECHI shortlist applying the above-described criteria (end 2010 – beginning 2011).
- Their input was collected, summarized and reflected upon by the Working Package (WP) 1 secretariat (RIVM). This resulted in a substantiated proposal for the 2012 version of the ECHI shortlist.
- This proposal, together with the underlying reflections, was discussed during the ECHIM Extended Core Group meeting in March 2011 in Luxembourg.
- The WP1 secretariat integrated the outcomes of the discussions during and after the ECHIM Extended Core Group meeting with the earlier summary of comments and suggestions (see first and second bullet). Based on this summary, a new version of the ECHI shortlist 2012 was drafted.
- This new proposal for the ECHI shortlist 2012 was discussed and tentatively approved during the ECHIM Core Group meeting of September 2011 in Rome.

The tentative nature of the approval is due to the fact that the technical documentation for approximately 25 indicators using EHIS as a (interim) source could not be finalized due to the on-going revision of the EHIS questionnaire. Only when the revision of the EHIS questionnaire has been completed will it be possible to determine the exact status of all indicators, and to definitively establish the new version of the shortlist. Unfortunately, the revision will not be finalized before the end of the Joint Action for ECHIM.

Once the consequences of the EHIS revision have been processed in the ECHI indicator documentation, the final version of the ECHI shortlist 2012 needs to be elaborated. Then approval for this final version must be sought from the ECHIM Extended Core Group (or a comparable body, if the work can only be finalised after the end of the Joint Action, and the Extended Core Group can no longer be sustained).

It is noted that the outcomes of the assessment of the results of EHIS wave II may also cause changes in the status of ECHI shortlist indicators, which will need to be processed in the ECHI indicator documentation (probably in 2015). For alcohol use and physical activity, for example, new measurement instruments will be used in EHIS wave II, and their performance will need to be assessed to determine whether they result in valid measurements that can be compared across countries.

### 3.3. Outcomes of the updating procedure: considerations and decisions underlying the 2012 version of the ECHI shortlist

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All the 88 indicators that were in the 2008 version of the ECHI shortlist remain on the shortlist. Based on the criteria for deletion, described in the updating procedure (see paragraph 3.1), it was decided that no indicator topic would be deleted completely. Based on input from Member States, however, the name of the indicator ‘Excess mortality by heat waves ‘ is changed to ‘Excess mortality by extreme temperatures’.

There were four proposals for additions:

- Condom use
- Health care-associated infections
- Organ donation rates
- Users satisfaction/experience

Based on (conceptual) overlap with existing indicators, the Work Package 1 secretariat advised not to adopt the proposals for Health care-associated infections and User satisfaction/experience. The secretariat also deemed the lack of concrete suggestions for definitions for all four additions as problematic. Feedback was then sought from all the Member State

representatives in the ECHIM Extended Core Group for all four proposed additions. Reactions were received from only 11 Member States, and none of the four additions had a clear majority supporting the proposal. Given this apparent lack of broad support, the final recommendation from the secretariat was not to adopt the additions. The Core Group endorsed this recommendation during their meeting in September 2011.

As described in chapter 1, it was decided to distinguish three sections in the ECHI shortlist 2012, compared to two sections (implementation and development section) in the 2008 version. The three sections in the ECHI shortlist 2012 are:

- Implementation section
- Work-in-progress section
- Development section

The great majority of the indicators in the implementation section of the 2008 version of the shortlist remain in the implementation section of the 2012 version. Most indicators that were in the 2008 development section are now in the work-in-progress section of the 2012 version, while 13 indicators have been placed in the new development section. However, due to the use of stricter criteria, improvements in indicator documentation sheets and changes in data situation, several indicators have been moved to another section of the shortlist. Amongst the indicators moved from the implementation section to the work-in progress section are some indicators on register-based disease prevalence. For these diseases, the shortlist also contains indicators using self-reported prevalence. These remain in the implementation section, because through EHIS these data are readily available at European level. See table 1 for an overview of the ECHI shortlist 2012.

#### 3.4. Recommendations for future management of ECHI shortlist versions

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Currently, it is not yet clear how coordination of the ECHI process will be organized after the end of the Joint Action. Therefore, it is difficult to envisage how the updating procedure should be applied in the future. For example, the ECHIM Extended Core Group may no longer exist. Nevertheless, the ECHIM Core Group recommends that DG SANCO provides the means for carrying out the procedure according to the basic principles described in paragraph 3.1 at regular intervals. Once every three years would be a reasonable frequency.

Important elements of the ECHI work related to updating the ECHI shortlist are keeping the ECHI indicator documentation up to date, stimulating further work on improving the comparability of the indicators, promoting work on the development section of the shortlist, and promoting further cooperation with WHO Europe and OECD. These aspects are addressed in more detail in chapter 4.

## 4. CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE WORK ON INDICATOR DOCUMENTATION

### 4.1. Conclusions

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During the course of the Joint Action for ECHIM, much has been achieved related to the further development of indicator definitions and the improvement of indicator documentation:

- For as many indicators as possible, a preferred definition, calculation and data source have been selected
- The documentation sheet for all 88 indicators in the shortlist has been thoroughly revised at least once
- Small updates were processed in the documentation sheets on a continuous basis
- A list of operational indicators was compiled and kept up to date
- Structured remarks on comparability were produced for 43 shortlist indicators
- A revised procedure for updating the ECHI shortlist was developed
- The ECHI shortlist was updated, resulting in the 2012 version of the ECHI shortlist

This work was coordinated by the Work Package I secretariat, while the other ECHIM partners and the members of the ECHIM Core Group and the Extended Core Group provided valuable and indispensable input and feedback. The full technical documentation for the ECHI shortlist indicators (latest versions available in May 2012) is provided in part II of this report.

### 4.2. Work ahead

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Though much has been achieved during previous ECHI(M) project phases, as well as during the Joint Action, indicator development and maintaining up-to-date indicator documentation are continuing tasks. After all, data collection methods applied by international data collectors such as Eurostat, WHO Europe and OECD are being adapted regularly (due to e.g. new scientific insights, new data needs as expressed by the Member States), and this may have consequences for the methodology underlying the ECHI indicators. Moreover, stimulation to harmonize efforts by the Member States needs to continue and the outcomes of these efforts should be incorporated in the ECHI indicator documentation.

Furthermore, although a large part of the indicators in the ECHI shortlist have been operationalized, for some of these indicators there are still some (minor) issues to resolve or specific on-going developments to track. This is documented in the work-to-do-sections of the ECHI indicator documentation sheets. Indicators in the work-in-progress and development sections of the shortlist require substantial developmental work as elaborated in paragraph 1.3.

The various activities that must be maintained to keep the ECHI indicators up to date, i.e. to ensure that the ECHI shortlist is a functional tool, lead to the specific recommendations for future indicator work described below in paragraph 4.3.

### 1. Ensure sustainability, quality and efficiency of the ECHI indicator work

How:

- Ensure that overall coordination is performed at an overarching health information level, do not delegate, e.g. to specific disease networks. This will jeopardize the balance of the ECHI shortlist and may endanger the primary goal of the shortlist, i.e. to be a general public health tool.
- Create and sustain a (small) 'central ECHI unit', which can serve as the central secretariat for the work needed on the indicator documentation.
  - Make sure this unit is adequately staffed in terms of FTE and expertise, and that there are adequate links between the unit and other important international health information stakeholders.
  - Such a unit could act as the central coordination point for the implementation of the ECHI shortlist in the Member States, and be responsible for handling the HEIDI data tool (adding data to the database, ensuring data quality). In any case, close cooperation between the unit and those coordinating the implementation process, including those responsible for the HEIDI data tool, should be ensured.
- Maintain the existing ECHI expert network for providing overall guidance ('institutional memory') and specific input for recommendations 2 - 5. Ensure close links between the above-mentioned 'central unit' and the expert network. Find efficient ways to keep the network functional, such as:
  - Establish a closer link between the Expert Group on Health Information (former NCA/HIC) and the ECHI expert network, e.g. by organizing joint or back-to-back meetings.
  - Stimulate connections between the ECHI expert network and the activities that take place in the framework of the development of a single European EU-WHO Health Information System.

### 2. Keep the ECHI indicator documentation up to date and easily accessible

How:

- Keep track of developments in the data sources used for ECHI that have consequences for the ECHI documentation sheets and operational indicators (e.g. new version of technical manuals, updated link to (meta-)information or data, changes in data availability). Process this information in the ECHI indicator documentation.
- In particular the following developments should be monitored, as it is clear that these will have (major) consequences for ECHI indicator documentation:
  - European Health Interview Survey (EHIS)
  - European Health Examination Survey (EHES)
  - Eurostat morbidity statistics
  - OECD Health Care Quality Indicators
- See recommendations 3-5: outcomes of work related to these recommendations need to be processed in the ECHI indicator documentation as well.
- Make the indicator documentation sheets and remarks on comparability accessible on the internet in a sustainable way; 1) in the HEIDI data tool (where they can be accessed as meta-data for the ECHI indicators), and 2) in a second place where they can be accessed more directly.
- Evaluate the usefulness and added value of the remarks on comparability and, based on the outcomes of this evaluation, make a plan for their further development and maintenance.



### **3. Work with the supra/international organizations and the Member States on further harmonization of existing data collections**

How:

- Make sure that there are good connections between the 'ECHI unit' and 1) other important health information stakeholders in Europe (e.g. Eurostat, WHO Europe and OECD), and 2) the people working (on the coordination of) the implementation in the Member States (see recommendation 1).
  - In particular, it is important here to seek coherence with the development of a single European Health Information system by the European Commission and WHO Europe. Given the purpose of the ECHI shortlist (as the core of the EU public health monitoring and reporting system), the role of the ECHI shortlist in this development seems only logical. Moreover, seeking coherence with the harmonization effort that will take place would be efficient in terms of indicator development and documentation work.

### **4. Work on improving implementation-readiness of indicators in the work-in-progress and development section**

How:

- Stimulate research and developmental work for indicator topics in the development and work-in-progress sections by placing the concerned indicator topics in the annual Work Programmes of the Health Programmes (DG SANCO) and/or the Framework Programmes (DG Research).
- Seeking synergy and coherence as much as possible with other indicator initiatives, both within the Commission (e.g. social protection indicators developed under the OMC) and international organizations such as WHO-Euro and OECD.
- Work closely together with Eurostat, WHO Europe and OECD in order to stimulate the uptake of ECHI indicators in regular data collections (for indicators for which this is not yet the case)
- Keeping track of the developments in and outcomes of Commission funded projects, Joint Actions, network, etc.

### **5. Update the ECHI shortlist on a regular basis (e.g. once every 3 years)**

How:

- See the procedure described in paragraph 3.1.

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## PART II. ECHI INDICATOR DOCUMENTATION

### 1. POPULATION BY SEX/AGE

#### 1.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>A) Demographic and socio-economic factors</b> 1. Population by sex/age
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, ageing population</li> <li>• Planning of) health care resources</li> </ul>
<i>Definition</i>	<p>a) Total population by country, broken down by sex and age.</p> <p>b) Old-age-dependency ratio.</p>
<i>Calculation</i>	<p>a) The number of usual resident inhabitants of a given area on 1 January of the year in question (absolute numbers).</p> <p>b) The ratio between the total number of elderly persons of an age when they are generally economically inactive (aged 65 and over) and the number of persons of working age (from 15 to 64).</p>
<i>Relevant dimensions and subgroups</i>	<p>For definition a:</p> <ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> <li>• Sex</li> <li>• Age group (0-14, 15-24, 25-49, 50-64, 65-79 and 80+).</li> </ul> <p>For definition b:</p> <ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: national population censuses or population registers</p> <p>Preferred source: Eurostat (for both definition a and b)</p>
<i>Data availability</i>	<p>Basic demographic data, available for all MSs. National data are available by sex and 1 and 5-years age groups and for the preferred age groups mentioned above under 'relevant dimensions and subgroups'. Regional data are available at NUTS 2 level by sex and age (1 and 5-years age groups, however not by the preferred age groups mentioned above). At NUTS 3 level data are available by sex and broad age groups (less than 15 years, between 15 and 64 years and 65 years and over), but only for 2007 and 2008.</p>
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	<p>Basic demographic data are important by itself and are required for the calculation of many of the other indicators (denominator for rates and ratios). Age structure is also essential for public health planning and scenarios.</p>
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Population data are collected by Eurostat from the National Statistical Offices. National annual estimates of the population can be based on data from the most recent census adjusted by the components of population change produced since the last census, or based on population registers. For 8 EU countries, Iceland, Norway and Liechtenstein, determination of the population size is based on population-register data only. 18 EU countries use census data only. Lithuania and Switzerland use both (see reference 2).</li> <li>• The total population may comprise either all usual residents of the country (de jure population) or all persons present (de facto population) in the country at a given moment in time. Usual residents are those who have lived in their place of usual residence for a continuous period of at least 12 months before the reference date or those who arrived in their place of usual residence during the 12 months before the reference date with the intention of staying there for at least one year. The Eurostat statistics on population refer to the national and regional population at its usual residence.</li> <li>• Eurostat requests from all countries demographic statistics based on the concept of usual resident population. All countries that carry out traditional population censuses count on the basis of the de jure population concept. It can be assumed that population registers also only include residents who usually live in the country (= de jure population). However in practice, countries may encounter problems when attempting to accurately determine the population size according to the de jure concept. For instance births and deaths of residents abroad are not always taken into account, while in a number of cases births and deaths to non-residents in the country itself are included in statistics.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, Population by sex and age on 1. January of each year</a></li> <li>• <a href="#">Eurostat database (tables), old-age-dependency ratio</a></li> <li>• <a href="#">Eurostat: Methodology for the calculation of Eurostat's demographic indicators</a></li> <li>• <a href="#">Eurostat: Demographic statistics: Definitions and methods of collection in 31 European Countries</a></li> <li>• <a href="#">Eurostat: Population: Reference Metadata in Euro SDMX Metadata Structure (ESMS)</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Consider selecting age groups as percentage of total population as additional operationalizations for this indicator.</li> </ul>

## 1.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
10101	Dem & SES	1. Population by sex/age	Eurostat	Population on 1 January , total (absolute numbers).
10102				Population on 1 January, male (absolute numbers).
10103				Population on 1 January, female (absolute numbers).
10104				Population on 1 January, age 0-14 (absolute numbers).
10105				Population on 1 January, age 15-24 (absolute numbers).
10106				Population on 1 January, age 25-49 (absolute numbers).
10107				Population on 1 January, age 50-64 (absolute numbers).
10108				Population on 1 January, age 65-79 (absolute numbers).
10109				Population on 1 January, age 80+ (absolute numbers).
10110				Ratio between the total number of elderly persons of an age when they are generally economically inactive (aged 65 and over) and the number of persons of working age (from 15 to 64).

## 1. Population by sex/age

### Comparability between countries

Eurostat calculates all demographic indicators for all countries using a common methodology. However, there are no international recommendations for demographic statistics and data collection depends on the registration systems used in each country.

Eurostat requests from all countries demographic statistics based on the concept of 'usual resident population'. In accordance with this concept, the following persons are considered to be usual resident population:

- those who have lived in their place of usual residence for a continuous period of at least 12 months before the reference date;
- those who arrived in their place of usual residence during the 12 months before the reference date with the intention of staying there for at least one year.

According to Eurostat Working paper 25 on demographic statistics, countries that produce their population statistics from population registers automatically seem to provide the 'usual resident population', since it must be assumed that population registers include only residents who habitually live in the country. Also countries that carry out population censuses, count on the basis of 'usual resident population', following the United Nations regulations on population censuses. In practice, countries may encounter problems when determining the population size according to the 'usual resident population' concept. Births and deaths of residents who are temporarily abroad are not always taken into account, while in a number of cases births and deaths of non-residents who are temporarily in the country itself are included in statistics. The above applies partly or fully to Austria, Cyprus, France, Germany, Greece, Hungary, Ireland, Italy, Liechtenstein, Poland, Portugal, Spain and United Kingdom (Eurostat Working paper 25).

In 13 of the 31 countries under study, determination of the population size is based on population registers (A, B, DK, FIN, IS, LV, LI, LT, NL, NO, SI, S, CH). For these countries annual figures on population size can be derived directly from the population registers. In 20 countries determination of the population size is based on a census (BG, CY, CZ, EE, F, D, EL, HU, IRL, I, LT, L, MT, PL, P, RO, SK, E, CH, UK). Calculation of up to date annual estimates in these countries requires data on births, deaths and international migration. Almost all countries have good or even excellent statistics on births and deaths, but not all countries are able to produce reliable data on international migration (Eurostat Working paper 25). As a result average population numbers may be (slightly) inaccurate. Furthermore, in some countries (particularly in those affected by war in the 1990's (such as the Balkan countries), quality issues for some calendar years may occur.

Eurostat requests data on population on 1 January. Some countries may use a different reference date: 31 December of the previous year, mid-year (1 July), or another date.

### Comparability over time

Some countries had a change in their data collection and therefore a break in their time series. These break in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. There is a break in trend for the EU-27 average in 1998, for Malta in 2001, for Slovenia in 2008, for Turkey in 2007 due to methodological changes. Until 1997 the EU-27 average did not include the French overseas departments. Up to 2000, population data for Malta (MT) refer to the Maltese population only, while starting from 2001, figures include also foreign residents.

### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

### References and further reading

- [See Eurostat metadata Fertility \(last update 2 March 2010\)](#)
- [See Eurostat metadata Population \(last update 13 January 2010\)](#)
- [Eurostat Working paper and studies 3/2003/E/n° 25 Demographic statistics: Definitions and methods of collection in 31 European Countries](#)
- [Eurostat Working paper and studies 3/2003/F/no 26 Methodology for the calculation of Eurostat's demographic indicators](#)

## 2. BIRTH RATE, CRUDE

### 2.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>A) Demographic and socio-economic factors</b>  2. Birth rate, crude
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Maternal and perinatal health</li> </ul>
<i>Definition</i>	The ratio of the number of births during the year to the average population in that year. The value is expressed per 1000 inhabitants.
<i>Calculation</i>	The crude Birth Rate is calculated as the number of resident live births in a country during a calendar year divided by the average population for the country multiplied by 1000. The average population during a calendar year is generally calculated as the arithmetic mean of the population on 1 January of two consecutive years (it is also referred to as the mean population).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: national population censuses, population registers. Preferred source: Eurostat
<i>Data availability</i>	Data are available for EU-27 and the rest of the countries participating in the Joint Action. No regional data according to ISARE recommendations are available.
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	Basic demographic data. An indicator needed for calculating population growth (together with crude mortality rate).
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Instead of mean population the number of person-years lived by the population in the same period can be used as the denominator.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat metadata on fertility</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat database, crude birth rate</a></li> </ul>
<i>Work to do</i>	-

### 2.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
10201	Dem & SES	2. Birth rate, crude	Eurostat	Live births per 1000 population.

## 2. Birth rate, crude

### Comparability between countries

Eurostat calculates all demographic indicators for all countries using a common methodology. However, there are no international recommendations for demographic statistics and data collection depends on the registration systems used in each country.

In most countries the definition of a live birth matches the WHO definition, i.e., births of children that showed any sign of life (it is the number of births excluding stillbirths). Sometimes further criteria on birth weight and/or length of gestational period are added (e.g. Bulgaria, Czech Republic and Finland). Not all countries register whether the child is born alive or stillborn (Eurostat Working paper 25; Gissler et al., 2010).

Almost all countries consider their registrations of birth as accurate and complete. However, a small number of the countries described their registrations as 'acceptable' or 'fairly good'. (Eurostat Working paper 25). Consequently, the comparability for countries with poorer quality and completeness of their statistics may be less accurate.

Most of the 31 countries under study include children born abroad to own residents in their national statistics and exclude children born within their territories to non-residents (Eurostat working paper 25). But there are some exceptions.

- Austria, Germany, Poland and Northern Ireland exclude both categories, thus underestimating the number of births.
- Cyprus, Greece, Hungary and Spain include both categories, thus overestimating the number of births.
- France, Ireland, Portugal, England and Wales and Scotland base their birth statistics on the births in their own country, thus excluding the births to residents abroad and including the births to non-residents in their own country. This may lead to over- or underestimation of the number of births depending on the number of births to non-residents and to residents abroad.

### Comparability over time

Some countries had a change in their data collection and therefore a break in their time series. These break in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. Breaks in trends occurred for the EU-27 average in 1998, for Malta in 2001, Slovenia in 2008 and Turkey in 2007.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- See Eurostat metadata Fertility (last update 2 March 2010)
- Eurostat Working paper and studies 3/2003/E/n° 25 Demographic statistics: Definitions and methods of collection in 31 European Countries
- Gissler M, Mohangoo AD, Blondel B, Chalmers J, Macfarlane A, Gaizauskiene A, Gatt M, Lack N, Sakkeus L, Zeitlin J; Euro-Peristat Group. Perinatal health monitoring in Europe: results from the EURO-PERISTAT project. *Informatics for Health & Social Care*. March 2010; 35(2): 64–79

### 3. MOTHER'S AGE DISTRIBUTION

#### 3.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>A) Demographic and socio-economic factors</b> 3. Mother's age distribution
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Maternal and perinatal health</li> <li>• Child health (including young adults)</li> </ul>
<i>Definition</i>	Distribution of live births by mother's age at last birthday (NB: age distribution of mothers at delivery would be preferable; see remarks)
<i>Calculation</i>	Percentage of live births in mothers younger than 20 years, and percentage of live births in mothers of 35 years of age and older.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations).</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6), only relevant for mothers aged 35 and over.</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: (In preference order)</p> <ol style="list-style-type: none"> <li>1) National population statistics</li> <li>2) Birth registers and perinatal data bases</li> <li>3) Perinatal surveys</li> </ol> <p>Preferred source: Eurostat.</p>
<i>Data availability</i>	Eurostat: Data available for the EU-27 in the Eurostat database. Regional data available for most Member States (from 1990 onwards, NUTS-II level). Data by socio-economic status (education) is available for CZ, DK, EE, GR, HU, MT, AT, PL, PT, RO, SI, SK, FI, SE and NO for years 2007 and 2008. The ISARE project on regional data has collected data on mother's age (indicators: Number of births by mother's age, and: Percentage of births by maternal age).
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	Both early and late childbearing are associated with higher than average rates of preterm birth, growth restriction and mortality in the perinatal period.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Currently Eurostat data is based on number of live births, i.e. multiple births are counted multiple times, and stillbirths are not counted.</li> <li>• PERISTAT is an EU-funded project on evaluating and monitoring perinatal health in Europe. PERISTAT recommendation, which is scientifically preferable, is to calculate mother's age distribution based on number of mothers (i.e. deliveries). Currently PERISTAT has data only for years 2000 (15 countries) and 2004 (26 countries). Next data round is planned to be for 2010 data.</li> <li>• PERISTAT plans in the next phase to explicitly work on integrating their recommendations into the regular Eurostat data collections.</li> <li>• Eurostat presents total numbers of live births and live births per one year age group of mothers (15-49 years), so percentages as requested by ECHIM need to be calculated from these figures.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, live births by mother's age at last birthday (select live births)</a></li> <li>• <a href="#">Eurostat database, births by age of the mother by NUTS 2 regions (demo_r_d2natag)</a></li> <li>• <a href="#">Eurostat database, live births by mother's age at last birthday and educational attainment (ISCED 1997)</a></li> <li>• <a href="#">Eurostat meta-data on fertility statistics</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• PERISTAT</li> <li>• For PERISTAT project 2000 data please see: the Special Issue of the European Journal for Obstetrics &amp; Gynecology and Reproductive Biology, Volume 111 (2003), Supplement 1, S1-S87</li> <li>• For PERISTAT project 2004 data please see: "European Perinatal Health Report"</li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor Eurostat and PERISTAT developments regarding indicator definition and data collection</li> </ul>



### 3.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
10301	Dem & SES	3. Mother's age distribution	Eurostat	Percentage of live births in mothers younger than 20 years.
10302				Percentage of live births in mothers of 35 years of age and older.
10303				Percentage of live births in mothers of 35 years of age and older, whose highest completed level of education is ISCED class 0, 1 or 2.
10304				Percentage of live births in mothers of 35 years of age and older, whose highest completed level of education is ISCED class 3 or 4.
10305				Percentage of live births in mothers of 35 years of age and older, whose highest completed level of education is ISCED class 5 or 6.

### 3.3. Remarks on comparability

3. Mother's age distribution
<p><b>Comparability between countries</b></p> <p>Eurostat calculates all demographic indicators for all countries using a common methodology. However, there are no international recommendations for demographic statistics and data collection depends on the registration systems used in each country. Two definitions of age may be used for classifying events in a given calendar year by age:</p> <ol style="list-style-type: none"> <li>4) The age reached during the calendar year.</li> <li>5) The age at last birthday (age completed).</li> </ol> <p>Most countries measure fertility both by age completed and age reached during the year. However some countries apply only one of the definitions (Eurostat Working paper 25). This can lead to significant differences. To cope with this, Eurostat uses a conversion method which permits comparability of data according to the different definitions. For young mothers (less than 20 years), the different age definitions give substantially different birth rates and birth distributions. To get more exact statistics on teenage birth rates, the use of age at last birthday is recommended (Gissler et al., 2008).</p> <p>In most countries the definition of a live birth matches the WHO definition, i.e., births of children that showed any sign of life (it is the number of births excluding stillbirths). Sometimes further criteria on birth weight and/or length of gestational period are added (Bulgaria, Czech Republic and Finland). Not all countries register whether the child is born alive or stillborn (Eurostat Working paper 25).</p> <p>Almost all countries consider their registrations of birth as accurate and complete. However, a small number of the countries described their registrations as 'acceptable' or 'fairly good'. (Eurostat Working paper 25). Consequently, the comparability for countries with poorer quality and completeness of their statistics may be less accurate.</p> <p>Currently Eurostat data is based on number of live births, i.e. multiple births are counted multiple times, and stillbirths are not counted. The EU project on perinatal health has recommended that mother's age distributions is based on number of mothers (i.e. deliveries) and includes live births and stillbirths from 22 weeks of gestation (Gissler et al. 2010).</p> <p><b>Comparability over time</b></p> <p>No break in series (trends) are reported, except for EU-27 average in 1998.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <i>chapter 2.4</i> of this report.</p> <p><b>References and further reading</b></p> <ul style="list-style-type: none"> <li>• See Eurostat metadata Fertility (last update 2 March 2010)</li> <li>• See Eurostat metadata Population (last update 13 January 2010)</li> <li>• Eurostat Working paper and studies 3/2003/E/n° 25 Demographic statistics: Definitions and methods of collection in 31 European Countries</li> </ul> <p><b>Literature:</b></p> <ul style="list-style-type: none"> <li>• Gissler M, Hannikainen-Ingman K, Donati S, Jahn A, Oliveira da Silva M, Hemminki E, and the REPROSTAT-group: The feasibility of European reproductive health indicators. The European Journal of Contraception and Reproductive Health Care 13 (4): 376 - 386, 2008.</li> <li>• Gissler M, Mohangoo A, Blondel B, Chalmers J, Macfarlane A, Gaizauskiene A, Gatt M, Lack N, Sakkeus L, Zeitlin J for the EURO-PERISTAT group: Perinatal health monitoring in Europe: results from the EURO-PERISTAT project. Informatics for Social and Health Care 35 (2): 64-79, 2010.</li> </ul>

## 4. TOTAL FERTILITY RATE

### 4.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>A) Demographic and socio-economic factors</b> 4. Total fertility rate
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>Sustainable health care systems</li> <li>Maternal and perinatal health</li> </ul>
<i>Definition of the indicator</i>	The mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the fertility rates by age of a given year.
<i>Calculation of the indicator</i>	Total fertility rate is computed as the mean number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing years (generally defined as 15-49) conforming to the fertility rates by age of a given year. It is computed by adding the fertility rates by age for women in a given year (the number of women at each age is assumed to be the same, i.e. mortality is assumed to be zero during the child-bearing period).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>Calendar year</li> <li>Country</li> <li>Region (according to ISARE recommendations)</li> </ul>
<i>Preferred data type and data source(s)</i>	Preferred data type: <ul style="list-style-type: none"> <li>National population censuses, population registers.</li> </ul> Preferred source: <ul style="list-style-type: none"> <li>Eurostat</li> </ul>
<i>Data availability</i>	Data are available for the EU-27 in the Eurostat database. The ISARE project on regional has not collected data on fertility rate.
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	Basic demographic data. The total fertility rate is the completed fertility of a hypothetical generation and is also used to indicate the replacement level fertility, i.e. the fertility needed to compensate mortality loss. In more developed countries, a rate of 2.1 is considered to be replacement level.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>Total fertility rate (TFR) is calculated as a period indicator (e.g. assuming that age-specific fertility levels remain constant in the future), not by birth cohorts. Completed fertility rate by birth cohort (CFR) refers to the average number of children at the end of reproductive period. TFR and CFR differ significantly if the timing of childbearing differs by time or by country.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">Eurostat metadata, fertility</a></li> <li><a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li><a href="#">Eurostat database, fertility (select total fertility rate)</a></li> </ul>
<i>Work to do</i>	-

### 4.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
10401	Dem & SES	4. Total fertility rate	Eurostat	Total fertility rate.

#### 4. Total fertility rate

##### Comparability between countries

Eurostat calculates all demographic indicators for all countries using a common methodology. In this Eurostat methodology the childbearing years are defined as 15-49 years (Eurostat Working paper 26).

There are no international recommendations for demographic statistics and data collection depends on the registration systems used in each country. Two definitions of age may be used for classifying events in a given calendar year by age:

- 1) The age reached during the calendar year.
- 2) The age at last birthday (age completed).

Most countries measure fertility both by age completed and age reached during the year. However, some countries apply only one of the definitions (Eurostat Working paper 25). This can lead to significant differences, particularly in analysis by age (e.g. live births by mother's age). To cope with this, Eurostat uses a conversion method which permits comparability of data according to the different definitions. For total fertility rate, however, the different definitions of age have only an insignificant effect.

In most countries the definition of a live birth matches the WHO definition, i.e., births of children that showed any sign of life (it is the number of births excluding stillbirths). Sometimes further criteria on birth weight and/or length of gestational period are added (Bulgaria, Czech Republic and Finland). Not all countries register whether the child is born alive or stillborn (Eurostat Working paper 25).

Almost all countries consider their registrations of birth as accurate and complete. However, a small number of the countries described their registrations as 'acceptable' or 'fairly good'. (Eurostat Working paper 25). Consequently, the comparability for countries with poorer quality and completeness of their statistics may be less accurate.

##### Comparability over time

No break in series (trends) are reported.

##### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

##### References and further reading

- [See Eurostat metadata Fertility \(last update 2 March 2010\)](#)
- [See Eurostat metadata Population \(last update 13 January 2010\)](#)
- [Eurostat Working paper and studies 3/2003/E/n° 25 Demographic statistics: Definitions and methods of collection in 31 European Countries](#)
- [Eurostat Working paper and studies 3/2003/F/no 26 Methodology for the calculation of Eurostat's demographic indicators](#)

## 5. POPULATION PROJECTIONS

### 5.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>A) Demographic and socio-economic factors</b> 5. Population projections
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, ageing population</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Population projections are what-if scenarios that aim to provide information about the likely future size and structure of the population based on assumptions for fertility, mortality and migration. Population projections expressed in absolute numbers.
<i>Calculation</i>	The EUROPOP2010 “convergence scenario” is used. This is based on the population on 1st January 2010, and the assumptions have been developed in a conceptual framework where the socio-economic and cultural differences between EU Member States would fade away in the long run. This assumption implies a convergence of the most important demographic values. For example, in the (hypothetical) convergence year 2150, fertility is assumed to converge to levels achieved by MSs that are considered to be forerunners in the demographic transition. Life expectancy increases are assumed to be greater for countries at lower levels of life expectancy and smaller for those at higher levels. Migration is assumed to converge to zero net migration in 2150. These assumptions can be summarised by means of indicators such as total fertility rate, life expectancy at birth and net international migration for the target year 2060.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year (from 2010 up to and including 2060)</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> <li>• Sex</li> <li>• Age group (0-24, 25-64, 65+)</li> </ul>
<i>Preferred data types and source</i>	Preferred data type: basic demographic data (as input for the projection models) Preferred data source: Eurostat (EUROPOP2010)
<i>Data availability</i>	Eurostat calculates projections for all EU Member States and EFTA countries. Population projection data from Eurostat are available by single age and sex from 2010 (start population) up to and including 2060. For 2008 until 2031 Eurostat also calculates regional population projections at NUTS level 2 (i.e. not fully in accordance with ISARE recommendations).
<i>Data periodicity</i>	Population projections are produced by Eurostat every 3-4 years. There is no official release calendar.
<i>Rationale</i>	Basic demographic data by itself: population projections are predictive measures which implicate that if the hypothetical projection calculation premises are correct, what projected population size and age structure would result in any future year. The current scenario is primarily used in the context of the European Commission’s analysis of the impact of ageing populations on public spending.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Eurostat projections may differ from national estimates due to different assumptions of fertility, mortality and migration. Eurostat projections are recommended because Eurostat uses the same harmonized calculation methods for all countries.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat metadata, EUROPOP2010 - Convergence scenario, national level</a></li> <li>• <a href="#">Eurostat (Population and social conditions). Ageing characterises the demographic perspectives of the European societies. Statistics in focus72/2008</a></li> <li>• <a href="#">Eurostat metadata, EUROPOP2008 - Convergence scenario, regional level</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat database, population projections, convergence year 2150 - 1 January population by sex and single year of age</a></li> </ul>
<i>Work to do</i>	-

## 5.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
10501	Dem & SES	5. Population projections	Eurostat	Estimate of population size using convergence scenario (2150), total (absolute numbers).
10502				Estimate of population size using convergence scenario (2150), male (absolute numbers).
10503				Estimate of population size using convergence scenario (2150), female (absolute numbers).
10504				Estimate of population size using convergence scenario (2150), for age group 0-24 (absolute numbers).
10505				Estimate of population size using convergence scenario (2150), for age group 25-64 (absolute numbers).
10506				Estimate of population size using convergence scenario (2150), for age group 65+ (absolute numbers).

## 5.3. Remarks on comparability

5. Population projections
<p><b>Comparability between countries</b></p> <p>Eurostat uses the same harmonized calculation methods for all countries. Eurostat projections may differ from national estimates due to different assumptions of fertility, mortality and migration.</p> <p>The Europop2010 (Eurostat Population Projections 2010-based) convergence scenario is used. This scenario contains:</p> <ul style="list-style-type: none"> <li>• Projected 1st January population by sex and 5-year age group, by 5-year time interval</li> <li>• Assumptions on total fertility rates (TFR), life expectancy at birth by sex and net international migration.</li> </ul> <p>Therefore, the comparability issues for <i>population by sex and age, total fertility rate and life expectancy</i>, are also relevant for population projections. Most countries consider their registrations of birth and deaths as accurate and complete. However, a small number of the countries described their registrations as 'acceptable' or 'fairly good'. The quality and completeness of international migration statistics vary widely between the European countries (Eurostat Working paper 25). Consequently, the projections for countries with poorer quality and completeness of their statistics may be less accurate.</p> <p>Europop2010 data are purely projections and therefore they should not be intended as population forecasts.</p> <p><b>Comparability over time</b></p> <p>Not applicable</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <i>chapter 2.4</i> of this report.</p> <p><b>References and further reading</b></p> <ul style="list-style-type: none"> <li>• <a href="#">See Eurostat metadata EUROPOP2010 - Convergence scenario, national level (last update 2 May 2011)</a></li> <li>• <a href="#">Eurostat Working paper and studies 3/2003/E/n° 25 Demographic statistics: Definitions and methods of collection in 31 European Countries</a></li> </ul>

## 6. POPULATION BY EDUCATION

### 6.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>A) Demographic and socio-economic factors</b> 6. Population by education
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion (%) of population divided up into three classes of educational attainment (low, middle and high education). Attainment profiles are based on highest completed specified level of education.
<i>Calculation</i>	Percentage of total population in the 7 classes of ISCED (International Standard Classification of Education 1997), aggregated into three attainment groups comprising of: elementary and lower secondary education (ISCED level 0 ,1 and 2), upper/post secondary (ISCED levels 3 and 4) and tertiary (ISCED levels 5 and 6) (see remarks).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Sex</li> <li>• Age group (25-64)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (based on Labour Force Survey (LFS))
<i>Data availability</i>	In the Eurostat database data on educational attainment level (%) from the LFS are divided by sex and several age groups, including 25-64. Data by region according to ISARE recommendations are not available. Data on educational attainment level are however available by NUTS 2 level in the Eurostat database.
<i>Data periodicity</i>	Eurostat data based on the LFS are available annually and quarterly.
<i>Rationale</i>	Together with occupation and income, education belongs to the classic three core indicators of socio-economic status. The different indicators emphasise the different dimensions of SES. Apart from being an important indicator for describing the general social condition of the population by itself, stratification schemes based on the indicator provide an important tool for monitoring socio-economic inequalities in health.

<p><i>Remarks</i></p>	<ul style="list-style-type: none"> <li>• “Educational level should be measured by means of a hierarchical classification of the population according to their highest completed educational level” “An exception may be made to students, who might be classified according to the level of education they are attending” (see reference 1 below). So, students have not reached their highest level of education yet, and this should be taken into account when interpreting data on population by education.</li> <li>• References 1 and 3 (see below) recommend to use 4 categories (elementary education, lower secondary, upper/post secondary and tertiary); “The recommendation on number attainment groups (four) is taking into account two conflicting requirements. On the one hand, the groups should be small enough to give a good impression of the size of inequalities. On the other hand, they should be large enough to have a sufficient number of cases per socio-economic group. In practice, the recommended 4-level scheme is found to be a good compromise” (see reference 1 below). In case three categories are used, the distribution among education groups is skewed for the population aged 50+.</li> <li>• However, all three databases (Eurostat, WHO, OECD) provide data on educational attainment divided into three categories instead of four. Eurostat has data aggregated into the categories ISCED0-2, ISCED3-4 and ISCED5-6. Usually comparability and sample size are not sufficient to allow a breakdown in more than 3 groups.</li> <li>• In 2011 a new ISCED version was released, which contains 9 classes (0 -8). How these could best be aggregated into larger groups needs to be discussed with experts and Eurostat (see work-to-do-section).</li> <li>• The meaning of education differs between birth cohorts. Because of the general increase in educational level the comparability of the educational level of elderly and young people is hampered. Therefore differences in age-distribution of the population should be taken into account.</li> <li>• If possible elderly should be included because the prevalence/incidence of health problems is highest in the oldest age groups.</li> <li>• Compared with LFS EU-SILC has the advantage of the inclusion of the elderly age groups. However a 2009 Equalsoc Working Paper concludes “As to internationally comparative studies concerning substantive issues related to education, the results found here do not suggest promoting at this stage EU-SILC as a promising data base” (see reference 9). Large discrepancies in education distributions result from EU-SILC and EU-LFS in spite of the fact that both databases are produced by the same National Statistical Institutes (NSIs). Both data sets are collected by NSIs from similar population samples. With a few exceptions, EU-LFS educational distributions were found to correspond relatively closely to educational distributions from national databases. Also because EU-LFS is usually based on larger samples than EU-SILC it may be taken as a reference” (see also reference 9).</li> <li>• Sample frame LFS: rotating random sample survey of persons (15+) in private households.</li> <li>• In the EHIS questionnaire the ISCED classification is used (no education and 6 ISCED classes, 7 categories in total). So data for 7 categories will become available from EHIS in the future. Whether the data quality of data on population by education from EHIS will be preferable over LFS is to be assessed when EHIS data are available for analysis.</li> </ul>
<p><i>References</i></p>	<ul style="list-style-type: none"> <li>• <a href="#">Monitoring socio-economic differences in health indicators in the European Union-project</a></li> <li>• <a href="#">EUROTHINE - Tackling Health Inequalities In Europe: an integrated approach</a></li> <li>• <a href="#">Kunst, A. Development of health inequalities indicators for the Eurothine project. 2008</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">LFS introduction</a></li> <li>• <a href="#">LFS userguide</a></li> <li>• <a href="#">ISCED International Standard Classification of Education</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Schneider, 2009. Measurement of Education in EU-SILC Preliminary Evaluation of Measurement Quality</a></li> <li>• <a href="#">Eurostat database, dataset Persons with a given education attainment level by sex and age groups (%)</a></li> <li>• <a href="#">LFS main indicators. Reference Metadata in Euro SDMX Metadata Structure (ESMS)</a></li> <li>• <a href="#">LFS series - Detailed quarterly survey results (from 1998). Reference Metadata in Euro SDMX Metadata Structure (ESMS)</a></li> <li>• <a href="#">ISCED 2011 version</a></li> </ul>
<p><i>Work to do</i></p>	<ul style="list-style-type: none"> <li>• Discuss with (Extended) Core Group (or comparable body, if (E)CG is no longer maintained after the Joint Action for ECHIM) the suggestion made by Eurostat to change the indicator's name into 'population by educational attainment level', in accordance with ISCED 2011 terminology.</li> <li>• Discuss with experts and Eurostat how the 9 classes of the new ISCED version (compared with the 7 classes in ISCED 1997) could be best aggregated into larger groups. N.B.: Eurostat announced that they intend to publish LFS data on educational attainment level, when collected according to ISCED 2011, by at least 4 groups.</li> </ul>

## 6.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
10601	Dem & SES	6. Population by education	Eurostat (LFS)	Proportion of population aged 25-64 whose highest completed level of education is ISCED class 0, 1 or 2, for both sexes.
10602				Proportion of population aged 25-64 whose highest completed level of education is ISCED class 3 or 4, for both sexes.
10603				Proportion of population aged 25-64 whose highest completed level of education is ISCED class 5 or 6, for both sexes.
10604				Proportion of population aged 25-64 whose highest completed level of education is ISCED class 0, 1 or 2, for men.
10605				Proportion of population aged 25-64 whose highest completed level of education is ISCED class 3 or 4, for men.
10606				Proportion of population aged 25-64 whose highest completed level of education is ISCED class 5 or 6, for men.
10607				Proportion of population aged 25-64 whose highest completed level of education is ISCED class 0, 1 or 2, for women.
10608				Proportion of population aged 25-64 whose highest completed level of education is ISCED class 3 or 4, for women.
10609				Proportion of population aged 25-64 whose highest completed level of education is ISCED class 5 or 6, for women.



## 6. Population by education

### Comparability between countries

Comparability across countries is considered as high. Eurostat obtains the data from the European Union Labour Force Survey (EU LFS). Common regulations and definitions and a common methodology for this survey go a long way to ensure comparability of the statistics between the participating countries. For all countries the classification of educational activities is based on ISCED (the International Standard Classification of Education) developed by UNESCO.

For education, each country has the responsibility to ensure that the national survey provides data that are compatible with the EU definitions and of the same quality. However, the EU LFS is a joint effort by Member States to coordinate their national employment surveys, which must serve their own national requirements. Therefore, there inevitably remain some differences in the survey from country to country. In addition, each Member State runs their survey independently, e.g. using different modes of data collection for the LFS: personal visits, telephone interviews and self-administered questionnaires. Furthermore, part of the data can be supplied by equivalent information from alternative sources, including administrative registers, provided the data obtained are of equivalent quality. Typically, the Nordic countries supply the demographic information directly from their population registers.

The EU LFS results cover the total population usually residing in Member States and living in private households, persons living in collective or institutional households are hence excluded. Because elderly generally have a lower educational level than younger people, the exclusion of people in collective or institutional household can result in an overestimation of the percentage of the population in the highest classes of educational attainment in countries where a high proportion of elderly are institutionalized compared with countries with a low proportion of institutionalized elderly people. For the same reason differences in age-distribution of the population should be taken into account. However, data are not age-standardised and therefore comparability is hampered.

### Comparability over time

Comparability over time is considered as reasonably high. The LFS is now a continuous survey, of which results are published quarterly. Initially, the survey was carried out one quarter per year only (usually in spring), but between 1998 and 2005 it underwent a transition to a continuous survey with interviews being distributed across all weeks of the year. Breaks in series might result from this transition to a quarterly continuous survey, but also from census revisions and from revisions in survey design, sample design and the content or order of the questionnaire. These break in series are flagged with a footnote in the Heidi Table Chart. Detailed information on these breaks in trends is given in the document 'Comparability of results, breaks in series and coherence with other statistics' and in the document 'Youth education attainment level', both available on the Circa site (see References and further reading).

### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

### References and further reading:

- [Eurostat metadata LFS series - Detailed quarterly survey results \(from 1998\) \(last update 21 March 2012\)](#)
- [Eurostat metadata LFS main indicators \(last update 21 March 2012\)](#)

See also the technical information available at the EU- LFS circa-page:

- [The European Union Labour Force Survey](#)
- [Comparability of results, breaks in series and coherence with other statistics](#)
- [Youth education attainment level](#)

See also the [LFS dedicated section on Eurostat's website](#)

## 7. POPULATION BY OCCUPATION

### 7.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>A) Demographic and socio-economic factors</b> 7. Population by occupation
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion (%) of population by occupational group. Classification is based on the current or last (main) occupation.
<i>Calculation</i>	According to European Socio-economic Classification (ESeC) project recommendations; 9 occupational classes (and one class for never worked/long-term unemployed), based on ISCO classification and additional information on: 1) status (self-employed/employees), 2) organization size for employers (less than 10/10 employees or more), 3) hierarchical position for employee (supervisor or ordinary employee). The 9 classes are to be aggregated into 5 groups: ESeC classes 1+2, 3+6, 4+5, 7, and 8+9.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> <li>• Sex</li> <li>• Age group (25-64)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Labour Force Survey (LFS), alternatively: European Social Survey (ESS)
<i>Data availability</i>	(Also see first remark) <ul style="list-style-type: none"> <li>• Microdata of European Statistics of Income and Living Condition survey (EU-SILC) and LFS allow for the computation of occupational class according to ESeC since 2004 and 2006 respectively. Eurostat does not publish data on occupation from these surveys.</li> <li>• LFS contains data by sex, age and NUTS-II level. This corresponds to ISARE recommendations for a number of countries only.</li> <li>• ESS: Data available for years 2002, 2004, 2006, 2008. Next round planned for 2010. 30 countries participated in 2008. ESS is project based (funded by FP6, FP7 (DG Research)).</li> <li>• Individual level data freely available in ESS database; ISCO classification and additional information necessary to compute ESeC classes, sex, age. No data on region according to ISARE recommendations available.</li> <li>• ISARE project on regional data does not collect data on occupation.</li> </ul>
<i>Data periodicity</i>	LFS: quarterly survey since early 2000's (before that time: annual). ESS: biannual survey.
<i>Rationale</i>	Next to stratification schemes based on educational level and income, occupation-based social class schemes provide an important tool for monitoring socio-economic inequalities in health.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Currently no data on population by occupation by ESeC class are centrally computed/published, though the necessary microdata are available (see data availability). ECHIM will discuss with Eurostat whether these data can be provided in the future (see work to do). Until these data are available, Labour Force Survey (LFS) data on occupational class based on ISCO can be used as an alternative (see references).</li> <li>• LFS applies ISCO classification on 4 digit level for the main job and 3 digit level for the previous occupation, SILC applies ISCO at 2 digit level. The former therefore is more suitable for calculating occupational classes according to ESeC.</li> <li>• Economically inactive persons should also be assigned to occupational classes to prevent underestimation of health inequalities. This can be achieved through using the last (main) occupation instead of current occupation, and/or by assignment of occupational class at household level instead of individual level.</li> <li>• Occupational class should only be measured as of age 25, as most socioeconomic characteristics are not yet established for many young persons. If possible people aged 65+ should be included, but in practice (good) data for the elderly are often unavailable in surveys.</li> <li>• Both LFS and ESS cover the population residential within private households from the age of 15. (N.B. in LFS demographic data are collected for all age groups, labour market related data only for persons aged 15 and over).</li> <li>• Disadvantage of ESS compared to LFS is the relatively small sample sizes.</li> <li>• Occupational class (measured by means of the ISCO classification) can also be a good tool for stratifying register data. This is the case for mortality data in particular (see recommendations of the Monitoring socio-economic differences in health indicators in the European Union-project).</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">European Socio-economic Classification (ESeC) project</a></li> <li>• Social Class in Europe: An Introduction to the European Socio-economic Classification. David Rose and Eric Harrison (eds). Routledge/ESA studies in European Societies, 2010.</li> <li>• <a href="#">International Standard Classification of Occupations (ISCO)</a></li> <li>• <a href="#">LFS metadata and LFS</a></li> <li>• <a href="#">European Social Survey (ESS)</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Monitoring socio-economic differences in health indicators in the European Union-project</a></li> <li>• <a href="#">Eurostat database, Employment by sex, age groups, professional status and occupation</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Check with Eurostat whether data on occupational classes according to ESeC using LFS data can be provided</li> <li>• Check with ESeC experts rationale for recommended aggregation of classes</li> <li>• Check with ESeC experts whether ESeC guidelines will be adapted to incorporate new ISCO version (ISCO-08)</li> <li>• Discuss with (Extended) Core Group (or comparable body, if (E)CG is no longer maintained after the Joint Action for ECHIM) the suggestion made by Eurostat to change the indicator's name into 'Employed population by occupation'</li> </ul>

## 7.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
10701	Dem & SES	7. Population by occupation	Eurostat (LFS)	Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 1 or 2, for both sexes.
10702				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 3 or 6, for both sexes.
10703				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 4 or 5, for both sexes.
10704				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 7, for both sexes.
10705				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 8 or 9, for both sexes.
10706				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 1 or 2, for men.
10707				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 3 or 6, for men.
10708				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 4 or 5, for men.
10709				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 7, for men.
10710				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 8 or 9, for men.
10711				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 1 or 2, for women.
10712				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 3 or 6, for women.
10713				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 4 or 5, for women.
10714				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 7, for women.
10715				Proportion of population aged 25-64 whose current or last main occupation is/was in ESeC class 8 or 9, for women.

## 7. Population by occupation

### Comparability between countries

Comparability across countries is considered as high. Eurostat obtains the data from the European Union Labour Force Survey (EU LFS). Common regulations and definitions and a common methodology for this survey go a long way to ensure comparability of the statistics between the participating countries. Comparability of the main characteristic in the EU Labour Force Survey (labour status, the distribution of the population in employed, unemployed or economically inactive) is enhanced by EU legislation, in which particular definitions and sequence of questions is outlined. For example, comparability is ensured by:

- a close correspondence between the EU list of survey variables and the national survey questionnaires;
- the use of the same definitions for all countries;
- the use of common classifications; the employed population is subdivided by occupation using an internationally standardised classification: ISCO (International Standard Classification of Occupations). ISCO-08 from 2011; ISCO-88 (COM) until 2010.
- legally binding minimum precision requirements, which in effect assure a sufficiently large sample size;
- the data being centrally processed by Eurostat.

However, each Member State runs their survey independently, e.g. using different modes of data collection for the LFS: personal visits, telephone interviews and self-administered questionnaires.

### Comparability over time

In 2011 a revision of the ISCO classification took place and the data for previous years were not revised. The introduction of the new ISCO-08 does create a break in the time series, this is more visible in some countries than in others.

For the time series before 2011, comparability over time is considered as reasonably high. The LFS is now a continuous survey, of which results are published quarterly. Initially, the survey was carried out one quarter per year only (usually in spring), but between 1998 and 2005 it underwent a transition to a continuous survey with interviews being distributed across all weeks of the year. Breaks in series might result from this transition to a quarterly continuous survey, but also from census revisions and from revisions in survey design, sample design and the content or order of the questionnaire. Detailed information on these breaks in trends is given in the document 'Comparability of results, breaks in series and coherence with other statistics' available on the *circa* site (see References and further reading). Furthermore, the manner in which certain questions are answered may be influenced by the political or social circumstances at the time of interview.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [Eurostat metadata LFS series - Detailed quarterly survey results \(from 1998\) \(last update 21 March 2012\)](#);
- [Eurostat metadata LFS main indicators \(last update 21 March 2012\)](#)

See also the technical information available at the EU- LFS *circa*-page:

- [The European Union Labour Force Survey](#)
- [Comparability of results, breaks in series and coherence with other statistics](#)
- [Youth education attainment level](#)

See also the *LFS dedicated section on Eurostat's website*

## 8. TOTAL UNEMPLOYMENT

### 8.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>A) Demographic and socio-economic factors</b> 8. Total unemployment
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health in all Policies (HiAP)</li> </ul>
<i>Definition</i>	<ol style="list-style-type: none"> <li>1) Proportion (%) of unemployed persons aged 15-74 in the labour force.</li> <li>2) Proportion (%) of long-term unemployed persons aged 15-74 in the labour force.</li> </ol>
<i>Calculation</i>	<ol style="list-style-type: none"> <li>1) The (annual average) number of unemployed people aged 15-74 years who were without work, were currently available for work and were either actively seeking work in the past four weeks or had already found a job to start with within the next two weeks, as a proportion of the labour force (unemployed and employed persons aged 15 to 74). Annual averages are calculated based on four reference weeks, each for one quarter of the year.</li> <li>2) The (annual average) number of long-term unemployed people (persons who have been unemployed for one year or more) aged 15-74 years as a proportion of the labour force (unemployed and employed persons 15 to 74 years of age). Annual averages are calculated based on using four reference weeks, each for one quarter of the year.</li> </ol>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Sex</li> <li>• Age group (15-24)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Survey</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• Eurostat, The European Union Labour Force Survey (EU LFS)</li> </ul>
<i>Data availability</i>	<ol style="list-style-type: none"> <li>1) In the Eurostat database data on unemployment for all 27 MS are mostly available from 2000 onwards. Data are available by sex, age groups and regions (NUTS levels 1, 2, 3). The ISARE project on regional data has collected regional data on unemployment (indicator: percentage of unemployed persons 14 to 64 years old).</li> <li>2) Eurostat also has data on long-term unemployment. Data on long-term unemployment for all 27 MS are mostly available from 2000 onwards. Data are available by sex, age and region (NUTS level 1/ 2 or 3). The ISARE project on regional data has not collected data on long-term unemployment.</li> </ol>
<i>Data periodicity</i>	The data of the European Union Labour force survey is updated quarterly since 2000 (data collection). Annual unemployment data is consistently calculated as average of the quarterly data of the European Union Labour Force Survey since 2005. The annual averages are published along with quarter 4 data. Quarterly unemployment rates are released according to national availability. For orientation, the current legal transmission obligation foresees transmission of national data to Eurostat 12 weeks after the end of the reference quarter.
<i>Rationale</i>	Important indicator from the view of socio-economic differences in health. Besides other special risks, unemployment is tied up with poverty. Especially long-term unemployment itself has detrimental health effects.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• 'Unemployment rate by gender' is one of the EU Structural Indicators as well as one of the EU Sustainable Development Indicators. 'Unemployment by age group' and 'total long-term unemployment rate' are also Sustainable Development Indicators. Both unemployment and long-term unemployment are overarching indicators of the Open Method of Coordination on Social Inclusion and Social Protection (OMC). 'Long-term unemployment rate' is also one of the indicators on the social inclusion strand of the OMC.</li> <li>• Eurostat also provides data on unemployment rate by education (ISCED).</li> <li>• Eurostat currently does not publish data on long-term unemployment by age. The LSF data however do allow for the computation of this indicator operationalisation.</li> <li>• The survey is representative for the population of the Member States aged 15-74 living in private households. Exceptions are Norway, Iceland, the United Kingdom and Spain, where the data is representative for the population aged 16-74.</li> <li>• People living in collective or institutional households are excluded from the survey.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, metadata LFS adjusted series</a></li> <li>• <a href="#">Unemployment rate annual average by sex and age group</a></li> <li>• <a href="#">Long-term unemployment annual average by sex</a></li> <li>• <a href="#">Long-term unemployment (12 months and more) at NUTS level 1 and 2 (1000, %)</a></li> <li>• <a href="#">Unemployment rate by sex, age and NUTS 3 regions (%)</a></li> <li>• <a href="#">EU Sustainable Development Indicators, Eurostat website</a></li> <li>• <a href="#">EU Structural Indicators, Eurostat website</a></li> <li>• <a href="#">OMC, Indicators of the social inclusion strand, Eurostat website</a></li> <li>• <a href="#">OMC, overarching indicators, Eurostat website</a></li> <li>• <a href="#">LFS dedicated section on Eurostat's website</a></li> </ul>
<i>Work to do</i>	

## 8.2. Operational indicators

<b>ID</b>	<b>Sub-division</b>	<b>Indicator name</b>	<b>Data source</b>	<b>Operational indicator(s)</b>
10801	Dem & SES	8. Total unemployment	Eurostat (Labour Force Survey)	Unemployment rate, % of labour force, annual average, total population (15-74 years).
10802				Unemployment rate, % of labour force, annual average, male population (15-74 years).
10803				Unemployment rate, % of labour force, annual average, female population (15-74 years).
10804				Unemployment rate, % of labour force, annual average, age less than 25 years.
10805				Long term unemployment rate, % of labour force, annual average, total population (15-74 years).
10806				Long term unemployment rate, % of labour force, annual average, male population (15-74 years).
10807				Long term unemployment rate, % of labour force, annual average, female population (15-74 years).

## 8. Total unemployment

### Comparability between countries

Comparability across countries is considered as high. Eurostat obtains the data from the European Union Labour Force Survey (EU LFS). Common regulations and definitions and a common methodology for this survey go a long way to ensure comparability of the statistics between the participating countries. Comparability of the EU Labour Force Survey results is ensured by:

- a close correspondence between the EU list of survey variables and the national survey questionnaires;
- the use of the same definitions for all countries, for unemployment in particular, this is the internationally agreed ILO concept of unemployment which is further specified in an operational definition of unemployment, legally binding through a regulation;
- the use of common classifications;
- legally binding minimum precision requirements, which in effect assure a sufficiently large sample size;
- the data being centrally processed by Eurostat.

However, each Member State runs their survey independently, e.g. using different modes of data collection for the LFS: personal visits, telephone interviews and self-administered questionnaires.

The EU-LFS results cover the total population usually residing in Member States and living in private households, persons living in collective or institutional households are hence excluded. Employment and unemployment are concepts defined for the population of age 15 and over. Questions in the LFS relating to labour market status are hence restricted to persons in the age group of 15 years or older. Also by definition, unemployment is subject to an upper age limit of 75. The unemployment rates thus cover the resident population of the Member States aged 15-74 living in private households. Exceptions are Norway, Iceland, the United Kingdom, Sweden (until 2000) and Spain, where the data covers the population aged 16-74.

### Comparability over time

Comparability over time is considered as reasonably high. Breaks in series might result from the transition to a quarterly continuous survey that took place between 1998 and 2004, from revisions in survey design (e.g. questionnaire and sample design) and from the gradual alignment with the operational definition of unemployment in Regulation (EC) 1897/2000. However, the LFS Adjusted Series, which are used for this ECHI indicator as far as possible include corrections for these types of breaks.

In spite of these adjustments, for unemployment a break in series occurred in 2001 for Sweden and in 2007 for Turkey. For long term unemployment a break in series occurred in 2005 for Germany and Spain, in 2004 for Austria and Italy and in 2002 for Romania. Breaks are flagged with a footnote in the Heidi Table Chart.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [Eurostat metadata Unemployment - LFS adjusted series \(last update 04 March 2011\)](#)
- [Eurostat metadata LFS main indicators \(last update 04 March 2011\)](#)
- [See also the LFS dedicated section on Eurostat's website](#)
- [See also the technical information available at the EU- LFS circa-page](#)

## 9. POPULATION BELOW POVERTY LINE AND INCOME INEQUALITY

### 9.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>A) Demographic and socio-economic factors</b>  9. Population below poverty line and income inequality
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Life style, health behaviour</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	<p>3) Population at risk of poverty: the share of persons with an income below the poverty line.</p> <p>4) Income inequality: the ratio of total income received by 20% of the country's population with the highest income to that received by 20% of the country's population with the lowest income.</p>
<i>Calculation</i>	<p>1) Percentage of persons in the total population with an equivalised disposable income below the "national poverty line" (i.e. below 60% of the national median equivalised disposable income). Total population is all persons living in private household on the national territory. Total disposable income of a household is calculated by adding together the personal income received by all of the household members, plus income received at household level. Disposable household income includes all income from work, private income from investment in property, transfers between households and all social transfers received in cash including old-age pensions (see remarks for more detailed definition). Personal equivalised income is obtained by dividing the total household disposable income by the equivalised size of the household, using modified OECD scale: 1 for the first person aged 14 or more; 0.5 for any subsequent person aged 14 or more; and 0.3 for persons aged less than 14.</p> <p>2) Income inequality is calculated as the ratio of the sum of equivalised disposable income received by the 20% of the country's population with the highest equivalised disposable income (top inter-quintile interval) to that received by the 20% of the country's population with the lowest equivalised disposable income (lowest inter-quintile interval).</p>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Sex</li> <li>• Age group (0-17, 18-64 and 65+ for indicator 1, 0-64 and 65+ for indicator 2)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Survey</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• Eurostat, European Statistics of Income and Living Conditions (EU- SILC)</li> </ul>
<i>Data availability</i>	<p>3) Partial coverage partly due to the fact that countries implemented the European Statistics on Income and Living Conditions in different years (see remarks). Data available from 1995 onwards. From 2005 onwards fairly continuous data for EU-27 plus Iceland and Norway. Data are available for sex and age. There are no data available for region.</p> <p>1) Partial coverage. Data available from 1995 onwards. From 2005 onwards fairly continuous data for EU-27 plus Iceland and Norway. Data are available for sex and age. There are no data available for region.</p> <p>2) The ISARE project on regional data has not collected data on population below poverty line and/or income inequality.</p>
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	Important indicator for social inclusion. Economic deprivation can have a negative effect on health and well-being. Children are especially vulnerable.



<i>Remarks</i>	<ul style="list-style-type: none"> <li>• ‘Population at risk of poverty’ and ‘income inequality’ are EU Structural Indicators and are also indicators of the social inclusion strand of the Open Method of Coordination on Social Inclusion and Social Protection (OMC). Both indicators are overarching indicators of the OMC. ‘At risk of poverty rate’ is also one of the EU Sustainable Development Indicators.</li> <li>• A more detailed definition of disposable income as applied by Eurostat; Disposable household income includes: the sum for all household members of gross personal income components (gross employee cash or near cash income; company car; gross cash benefits or losses from self-employment; pensions received from individual private plans; unemployment benefits; old-age benefits; survivor’ benefits, sickness benefits; disability benefits and education-related allowances), plus: gross income components at household level (income from rental of a property or land; family/children related allowances; social exclusion not elsewhere classified; regular inter-household cash transfers received; interests, dividends, profit from capital investments in unincorporated business; income received by people aged under 16), minus: regular taxes on wealth; regular inter-household cash transfer paid; tax on income and social insurance contributions.</li> <li>• After 2001 The European Statistics on Income and Living Conditions (SILC) replaced the European Community Household Panel (ECHP). The ECHP was the primary source of data for 1994 to 2001 for 15 EU member states. For other countries national databases (mainly based on household budget surveys) were used.</li> <li>• Countries launched SILC at different times. In 2003: BE, DK, EL, IE, LU, AT, NO. In 2004: EE, ES, FR, T, PL, FI, SE, IS. In 2005: CZ,DE,CY,LV,LT,HU,MT,NL,PL,SI,SK,UK. In 2007: BG, RO, TR, CH. During the transition between ECHP and EU-SILC data was provided by National Statistical Institutes from national sources (with some breaks in series due to lack of information, transition from national data source to EU-SILC).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, At risk of poverty rates by age and gender</a></li> <li>• <a href="#">Eurostat database, S80/S20 income quintile share ratio by gender and selected age group</a></li> <li>• <a href="#">Metadata Income and living conditions, 22 April 2010</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">EU Structural Indicators, Eurostat website</a></li> <li>• <a href="#">EU Sustainable Development Indicators, Eurostat website</a></li> <li>• <a href="#">OMC, indicators of the social inclusion strand, Eurostat website</a></li> <li>• <a href="#">OMC, overarching indicators, Eurostat website</a></li> </ul>
<i>Work to do</i>	

## 9.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
10901	Dem & SES	9. Population below poverty line and income inequality	Eurostat (EU-SILC)	At risk of poverty rate (cut-off point: 60% of mean equivalised income), total population.
10902				At risk of poverty rate (cut-off point: 60% of mean equivalised income), male population.
10903				At risk of poverty rate (cut-off point: 60% of mean equivalised income), female population.
10904				At risk of poverty rate (cut-off point: 60% of mean equivalised income), age 0-17.
10905				At risk of poverty rate (cut-off point: 60% of mean equivalised income), age 18-64.
10906				At risk of poverty rate (cut-off point: 60% of mean equivalised income), age 65+.
10907				Inequality of income (income quintile share ratio), total population.
10908				Inequality of income (income quintile share ratio), male population.
10909				Inequality of income (income quintile share ratio), female population.
10910				Inequality of income (income quintile share ratio), age 0-64.
10911				Inequality of income (income quintile share ratio), age 65+.

## 9. Population below poverty line and income inequality

### Comparability between countries

The data on population below poverty line and income equality are based on the EU SILC (Statistics on Income and Living Condition). To ensure comparability of data and/or indicators EU-SILC has opted for output harmonization strategy. This means that certain output requirements are set and survey design and methods are flexible as long as those requirements are met.

EU-SILC aims ensuring standardisation at different levels through the use of common definitions, recommendations for design and sample size and common requirements for sampling. Furthermore, specific fieldwork aspects are also controlled for, e.g. follow up rules of individuals and households in case of refusals and non-contact. At the same time flexibility is a key aspect, to allow country's specificities to be taken into account in order to maximise quality of data. The most important element of the flexibility is related to the data sources, both administrative or interview data can be used.

Non-response is a potential source of bias for interview data. For instance, persons with higher incomes might be more reluctant to give income information to an interviewer. This could lead to a downward bias (underestimation of the income), because the upper income class is under-represented in the sample. In EU-SILC this has been dealt with by imputation, a technique aimed at 'filling the holes' in a distribution. However, it has to be kept in mind that these imputed values do not perfectly resemble reality. The European Community Household Panel (ECHP) was the primary source of data for 1994 to 2001 for 15 EU member states. For other countries national databases (mainly based on household budget surveys) were used.

The institutionalized population is excluded from the EU-SILC study sample. Differences between countries in the proportion of institutionalized people could influence the comparability, because the income of people living in institutions might be different from those living in private households.

### Comparability over time

For EU countries, the comparability over time is high since 2005. Breaks are flagged with a footnote in the Heidi Table Chart. There are breaks in series between 2001 and 2005. These breaks are due to the transition from ECHP (which expired in 2001) to EU-SILC and the transition period in between. During this transition period, national data provided by National Statistical Institutes were harmonised to compute the indicators in this domain.

### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

### References and further reading

- [See Eurostat metadata Income and living conditions \(last update 15 July 2010\)](#)
- [Eurostat Quality Profile: At risk-of-poverty rate after social transfers](#)
- [Eurostat Quality Profile: Inequality of income distribution \(income quintile share ratio\)](#)

## 10. LIFE EXPECTANCY

### 10.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 10. Life expectancy
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> </ul>
<i>Definition</i>	Life expectancy at a given age represents the average number of years of life remaining if a group of persons at that age were to experience the mortality rates for a particular year over the course of their remaining life. Life expectancy at birth is a summary measure of the age-specific all cause mortality rates in an area in a given period.
<i>Calculation</i>	Life expectancies are calculated using (abridged) life tables presenting age specific mortality rates. Life expectancy tables are calculated based on death probabilities according to Farr's death rate method: $qx = Mx / (Bx + (Mx/2))$ where $Mx$ = the number of deaths at the age of $x$ to under $x+1$ years in the reported period; $Bx$ = average population aged $x$ to under $x+1$ in the base period; $qx$ = death probability from age $x$ to $x+1$ . Farr's method of calculation of abridged life-tables assumes that there is a constant mortality within the age intervals and thus the years of life lived by a person dying in the interval is (on average) half of the length of the interval.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> <li>• Sex</li> <li>• Age group (at birth and at age 65)</li> <li>• Socio-economic status (see availability and remarks)</li> </ul>
<i>Preferred data types and data source</i>	Preferred data type: register data (as input for the calculations) Preferred data source: Eurostat
<i>Data availability</i>	Data on life expectancy in the Eurostat database are available from 1960 onwards for most EU-27 Member States, as well as for the other countries participating in the Joint Action for ECHIM. For some countries data are presented only from the 1990's onwards (Cyprus, France, Liechtenstein, Poland, Macedonia, the United Kingdom) and for Croatia and Latvia only from 2002 onwards. For Malta, life expectancy figures are missing from 1982 to 1994. Life expectancy data are available by age group (including at birth and at age 65) and by sex. Regional life expectancy data at age 65 and at birth were collected by the ISARE-III project. Data for life expectancy by socio-economic status are under preparation (see remarks and reference to Eurostat OMC web page on indicators of the health and long term care strand).
<i>Data periodicity</i>	Life expectancy data are updated annually.
<i>Rationale</i>	Basic indicator for population health. It reflects the cumulative effect of the impact of risk factors, occurrence and severity of disease, and the effectiveness of interventions and treatment.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• WHO and OECD use different methods for calculating life expectancy (e.g. Wiesler's method). Different calculation methods produce slightly different results. This explains why indicators of life expectancy may differ between different databases.</li> <li>• The national statistical offices send raw national numbers to Eurostat, which subsequently are validated and recalculated by Eurostat before publication in the database. This explains why some indicators might differ from the ones published by the countries themselves.</li> <li>• Life expectancy at birth, at age 45 and at age 65, and life expectancy by socio-economic status by socio-economic status are indicators of the health and long-term care strand of the Open Method of Coordination on Social Inclusion and Social Protection. Data for life expectancy by socio-economic status are under preparation.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat metadata on Mortality</a></li> <li>• <a href="#">Calot G, Sardon J-P. Methodology for the calculation of Eurostat's demographic indicators. Detailed report by the European Demographic Observatory</a></li> <li>• <a href="#">CODED, the Eurostat Glossary and Definition Database</a></li> <li>• <a href="#">Eurostat database, Life expectancy by sex and age</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat OMC</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor developments Open Method of Coordination regarding Life expectancy by socio-economic status</li> </ul>

## 10.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20101	Health status	10. Life expectancy	Eurostat	Life expectancy, total population, at birth.
20102				Life expectancy, total population, at age 65.
20103				Life expectancy, male population, at birth.
20104				Life expectancy, male population, at age 65.
20105				Life expectancy, female population, at birth.
20106				Life expectancy, female population, at age 65.

## 10.3. Remarks on comparability

10. Life expectancy
<p><b>Comparability between countries</b></p> <p>The indicator Life expectancy is calculated by Eurostat on the basis of age- and sex-specific death rates, provided by the national statistical offices. Life expectancy tables are calculated based on death probabilities according to ‘Farr’s death rate method’. Using the same method for all countries, Eurostat provides comparability between countries. Indicators based on total mortality remain the best indicators in term of comparability of health status between countries, because these are not based on more arbitrary information like cause of death and subjective health status.</p> <p>The numerator of this indicator comes from population registers. In some countries the completeness in the population register may not be 100% because of difficulties in reaching some population groups (like homeless or illegal people) or persons are calculated who should not be counted (emigrated persons). These problems in the population register are supposed to be small and may not lead to big problems in comparability.</p> <p>See also remarks on comparability for ECHI indicator 1: <i>Population by sex/age</i>.</p> <p><b>Comparability over time</b></p> <p>For all countries data for this indicator is comparable over time.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <i>chapter 2.4</i> of this report.</p> <p><b>References and further reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Eurostat Metadata Mortality (last update 2 February 2012)</a></li> <li>• <a href="#">Eurostat Metadata Population (last update 13 January 2010)</a></li> <li>• <a href="#">Eurostat Annex - Description of the Eurostat method for the calculation of the life expectancies at all ages</a></li> </ul>

## 11. INFANT MORTALITY

### 11.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 11. Infant mortality
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Maternal and perinatal health</li> <li>• Child health (including young adults)</li> </ul>
<i>Definition</i>	The number of deaths of infants (younger than one year of age at death) per 1000 live births (based on one year data).
<i>Calculation</i>	Number of deaths under one year of age (aged 0-364 days) in a given year, per 1000 live births in that year.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> <li>• Sex</li> <li>• Socio-economic status (see data availability and remarks)</li> <li>• Birth weight group (specific operationalization to be established, see data availability)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: (In preference order)</p> <ol style="list-style-type: none"> <li>1) National population statistics</li> <li>2) Civil registration and medical registers</li> </ol> <p>Preferred source: Eurostat</p>
<i>Data availability</i>	Data are available for the EU-27 in the Eurostat database (from 1960 onwards). Data available also by region for the EU-27 (from year 1990 onwards, NUTS-II level), but no data by sex, socio-economic status or birth weight group is available. The ISARE project on regional data has collected data on infant mortality (indicator: Infant mortality per 1000 live births).
<i>Data periodicity</i>	Data are being updated annually.
<i>Rationale</i>	“Basic indicator for population health and quality of health care services, infant mortality is highly correlated to countries’ level of development. An important part of the infant mortality rate measures the consequences of perinatal events (low birth weight, prematurity) or birth defects. Moreover, infant mortality comprises the deaths in the post-neonatal period; those include accidents and infections, Sudden Infant Death Syndrome (SIDS) and lack of the essentials of life (adequate food, water, maternal care). Those post-neonatal deaths are often preventable and are highly influenced by social factors. This indicator can thus serve as a measure of the quality of medical care, preventive services and health promotion interventions” (PERISTAT project).

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Infant mortality and Infant mortality by socio-economic status are also indicators of the health and long term care strand of the Social Protection Committee, developed under the Open Method of Coordination (OMC). Data for infant mortality by socio-economic status are currently under preparation.</li> <li>• PERISTAT is an EU-funded project on evaluating and monitoring perinatal health in Europe. PERISTAT definition, which is scientifically preferable, is: Number of infant deaths (day 0 through 364) after live birth at or after 22 completed weeks of gestation in a given year , per 1000 live births in the same year. PERISTAT has data only for years 2000 (15 countries) and 2004 (26 countries). Next data round is planned for 2010 data.</li> <li>• For PERISTAT definition, records of gestation time are needed, if not all live births are to be included in the statistics. Comparability is less affected by variation in the registration criteria for live births than by the variation in registration criteria for perinatal mortality. However, the registration of infants with very short gestation may cause variation between countries.</li> <li>• PERISTAT plans in the next phase to explicitly work on integrating their recommendations into the regular Eurostat data collections.</li> <li>• For international comparisons, it is noteworthy that some differences exist between countries in a) the recording rules of extremely low birth weight newborns, and b) the ethical attitudes of neonatologists in case of extremely low births weight. This can lead to bias in comparisons of infant death rates including the lowest birth weight categories. Therefore, the WHO recommends for international comparison purposes, to compute the infant mortality rate excluding births weighing less than 1000 grams. This restricted indicator, however, is currently not routinely available, but it can be calculated based on ad hoc reports, e.g. the EURO-PERISTAT report on 2004 data.</li> <li>• OECD notes: Some of the international variation in infant and neonatal mortality rates may be due to variations among countries in registering practices of premature infants (whether they are reported as live births or not). In several countries, such as in the Nordic countries, very premature babies (with relatively low odds of survival) are registered as live births. This increases mortality rates compared with other countries that do not register them as live births.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, infant mortality rates (select infant mortality rate)</a></li> <li>• <a href="#">Eurostat database, infant mortality rate by region (select infant mortality rate)</a></li> <li>• <a href="#">Eurostat metadata, mortality</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">PERISTAT</a></li> <li>• For PERISTAT project 2000 data please see: the Special Issue of the European Journal for Obstetrics &amp; Gynecology and Reproductive Biology, Volume 111 (2003), Supplement 1, S1–S87.</li> <li>• For PERISTAT project 2004 data please see: “European Perinatal Health Report”</li> <li>• <a href="#">OMC, indicators of the health and long term care strand, Eurostat website</a></li> <li>• <a href="#">WHO. International Statistical Classification of Diseases and Related Health Problems, 10th revision. Volume 2. 2d Ed, Geneva: 2004</a> (p.94: Standards and reporting requirements related to fetal, perinatal, neonatal and infant mortality)</li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor Eurostat and PERISTAT developments regarding indicator definition and data collection</li> <li>• Monitor developments OMC with regard to data by socio-economic status.</li> </ul>

## 11.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20201	Health status	11. Infant mortality	Eurostat	Infant mortality per 1000 live births

## 11. Infant mortality

### Comparability between countries

The indicator infant mortality is calculated by Eurostat on the basis of data, provided by the national statistical offices. Using the same method for all countries, Eurostat provides comparability between countries. However, differences in allocating infants who are born alive but die shortly after birth to either stillbirths or live births followed by neonatal/infant death, can lead to diminished comparability of this indicator between countries.

According to metadata of the WHO Health for All database and the paper of Joseph et al. (2012), the regulations for registration of live births varies widely between countries. Some countries do register all live births, whereas other countries specify limits based on some combination of gestational age (for example, at least 16, 22, 24, 28 weeks or 6 months), birth weight (for example, at least 500 or 1000 g) or survival (for example, any live birth irrespective of birth weight that survives the first 24 hours after birth). These differences hamper comparability. For example, in countries where very premature infants, with relatively low odds of survival, are registered as live births, the infant mortality rate is increased, compared to countries in which very premature infants are not registered at all.

In contrast to the afore mentioned sources, according to the Eurostat metadata (Working paper 3/2003/E/no25, table 2.3) only three countries use additional criteria for the registration of live births (Bulgaria, Czech Republic and Finland).

Another issue that can cause comparability problems is the difference between countries in whether newborns of mothers with a foreign citizenship or mothers living abroad are included or excluded in the indicator. Most countries include children born abroad to own residents and exclude children born within their territories to non-residents, but there are several exceptions (Working paper 3/2003/E/no25, table 2.4). These differences have only a limited effect on comparability between countries of the indicator infant mortality.

### Comparability over time

For all countries data of this indicator is comparable over time. Some breaks in series for EU averages are flagged with a footnote in the Heidi Table Chart.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading:

- [Eurostat Metadata Mortality \(last update 2 February 2012\)](#)
- Joseph KS, Liu S, Rouleau J, Lisonkova S, Hutcheon JA, Sauve R, Allen AC, Kramer MS; Fetal and Infant Health Study Group of the Canadian Perinatal Surveillance System. Influence of definition based versus pragmatic birth registration on international comparisons of perinatal and infant mortality: population based retrospective study. *BMJ*. 2012;344:e746.
- [Eurostat Metadata Working paper 3/2003/E/no25, Demographic statistics: Definitions and methods of collection in 31 European Countries](#)
- [Metadata from the WHO-HfA database](#)

## 12. PERINATAL MORTALITY

### 12.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>  12. Perinatal mortality
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Maternal and perinatal health</li> <li>• Child health (including young adults)</li> </ul>
<i>Definition</i>	The number of early neonatal deaths after live birth plus fetal deaths in a given year, per 1000 live and stillbirths.
<i>Calculation</i>	The number of fetal deaths and deaths in the early neonatal period (up to 6 completed days after birth) after live birth, expressed per 1000 live and stillbirths in the same year. For international comparisons, it is recommended by the WHO that elements in both the nominator (fetal deaths and early neonatal deaths) and denominator (fetal deaths and live births) are restricted to fetuses and infants weighting 1000 grams or more.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: (In preference order)</p> <ol style="list-style-type: none"> <li>1) National population statistics</li> <li>2) Birth registries and perinatal databases</li> <li>3) Perinatal surveys</li> </ol> <p>Preferred source: WHO-HfA</p>
<i>Data availability</i>	WHO-HfA: data available for the EU-27, from year 1970 onwards. No data by region available in HfA. The ISARE project on regional data has collected data on perinatal mortality (indicators: Number of perinatal deaths, and: Perinatal death rate per 1000 (live births and stillbirths)).
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	A sensitive measure of health in the perinatal period. Also important indicator for quality of perinatal health care, and preventive care.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The WHO recommendation for international comparisons is to include live births and stillbirths with a weight of 1000 grams or more. This is only to minimize the variation in registration criteria (the registration of live births with very short gestation may vary between countries), but this is not very relevant for the EU any more due to improved survival of children weighing less than 1000 grams.</li> <li>• PERISTAT is an EU-funded project on evaluating and monitoring perinatal health in Europe. PERISTAT recommendation, which is scientifically preferable, is: The number of fetal deaths and deaths in the early neonatal period (up to 6 completed days after birth) after live birth (weighting 500 grams or more) at or after 22 complete weeks of gestation in a given year, expressed per 1000 live and stillbirths in the same year. PERISTAT has data only for years 2000 (15 countries) and 2004 (26 countries). Next data round is planned to be for 2010 data.</li> <li>• PERISTAT plans in the next phase to explicitly work on integrating their recommendations into the regular Eurostat data collections.</li> <li>• Currently, Eurostat has no common definition. If Eurostat implements PERISTAT recommendation to collect perinatal mortality data (stillbirths) from 22 weeks (stillbirth data is available from 24/28 weeks in some countries), Eurostat data can be presented. The implementation of causes-of-death statistics (draft in April 2010) suggests that the collection of stillbirth data is obligatory from 28 weeks onwards, and stillbirth between 22 and 27 weeks are collected voluntarily only. There is no recommendation, if induced abortions fulfilling the definition of birth are to be included or not.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">WHO, European Health for All database (WHO-HfA)</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">PERISTAT</a></li> <li>• For PERISTAT project 2000 data please see: the Special Issue of the European Journal for Obstetrics &amp; Gynecology and Reproductive Biology, Volume 111 (2003), Supplement 1, S1–S87.</li> <li>• For PERISTAT project 2004 data please see: “<a href="#">European Perinatal Health Report</a>”</li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor Eurostat and PERISTAT developments regarding indicator definition and data collection</li> <li>• Check with ISARE project the precise definition they applied for perinatal deaths.</li> </ul>



## 12.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20301	Health status	12. Perinatal mortality	WHO-HfA	Weight specific (1000 g +) fetal deaths and early neonatal deaths per 1000 births (live births and stillbirths).

## 12.3. Remarks on comparability

12. Perinatal mortality
<p><b>Comparability between countries</b></p> <p>Not all countries use the same definition of perinatal mortality. For international comparisons, it is recommended by the WHO that both the nominator (fetal deaths and early neonatal deaths) and denominator (fetal deaths and live births) include only fetuses and infants weighting 1000 grams or more. However, this is not a very strict requirement. In WHO-HfA metadata is stated that ‘if weight specific data are not available, any available data provided according to national criteria are used as a proxy’.</p> <p>Several countries described the method of calculating the mortality rates. This is presented in the WHO-HfA metadata. Some countries use the criterion of birth weight to determine which fetuses and infants are included in the calculation, other countries use gestational age, some countries use a combination of birth weight and gestational age, and a few countries include all fetal deaths and live births, irrespective of birth weight or gestational age. Countries that do use gestational age as criterion, have different lower limits: 16, 22, 24, 28 weeks or 6 months. Countries that do use birth weight as criterion, have 500 or 1000 g as lower limits. These differences hamper comparability (Joseph et al., 2012) Furthermore, for several countries no remarks are included in the WHO-HfA metadata. However, this does not necessarily mean that they followed the WHO definition.</p> <p>It must be realized that preciseness in measuring gestational age depends on the access to prenatal care and the availability of ultrasound dating of pregnancy. Such differences in access to prenatal care and use of ultrasound equipment can limit comparability as well. Also differences in completeness of the registration of deaths among preterm babies can produce differences in indicator results between countries. This also applies to differences in the inclusion or omission of late pregnancy terminations after the legal time limit of gestational age for civil registration of a stillbirth or for registration in the medical birth register.</p> <p>Furthermore, different data sources can give different results. Perinatal registries may give different results than cause of deaths statistics, birth registries or population statistics. The exact data source each country uses is not always totally clear from the WHO-HfA metadata.</p> <p>Other differences that can cause comparability problems: population included in the numerator (newborns of mothers with a foreign citizenship or mothers living abroad), place of birth (in some countries, e.g. in Croatia, births outside hospitals – for example at home – are not included), the way multiple births are counted and the capture of pregnancies which are not counselled by midwives or birth attendants.</p> <p><b>Comparability over time</b></p> <p>Within most countries, the definition of perinatal mortality has changed over the last decades, which have caused breaks in time series. These break in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. In some countries changes in the type of data source have occurred. Such changes could also have led to breaks in trends.</p> <p>In the future, possibly the definition of PERISTAT can be used. PERISTAT is an EU-funded project on evaluating and monitoring perinatal health in Europe. The indicator perinatal mortality is not included in the PERISTAT indicator set. Instead of that, fetal mortality rate from 22 gestational weeks and neonatal mortality rate for all live births are used. Neonatal mortality is subdivided by timing of death into early neonatal deaths (at 0-6 days after live birth) and late neonatal deaths (at 7-27 days after live birth). The indicators are presented by gestational age, birth weight and plurality. PERISTAT definitions are scientifically preferable to WHO-HfA definitions. PERISTAT plans in the next phase to explicitly work on integrating their recommendations into the regular Eurostat data collections. So it is expected that in future data collected according to the PERISTAT strategy can be presented. In that case, breaks in time series will be inevitably.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <a href="#">chapter 2.4</a> of this report.</p> <p><b>References and further reading</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Infant and Perinatal health on DG SANCO website</a></li> <li>• WHO-HfA (Health for All) database: <a href="#">Perinatal mortality data</a> . Both online and offline tables can be created.</li> <li>• Metadata are available at the <a href="#">HfA-Database</a>, by clicking on ‘Definitions’.</li> <li>• General background information on perinatal mortality is available in the WHO report ‘<a href="#">Neonatal and Perinatal Mortality. Country, Regional and Global Estimates</a>’, published in 2006. This information does not represent the definitions used in the HfA database.</li> <li>• <a href="#">Website of PERISTAT</a></li> </ul> <p><b>Literature:</b></p> <p>Joseph KS, Liu S, Rouleau J, Lisonkova S et al. Influence of definition based versus pragmatic birth registration on international comparisons of perinatal and infant mortality: population based retrospective study. <i>BMJ</i> 2012;344:e746</p>

## 13. DISEASE-SPECIFIC MORTALITY

### 13.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>		
	13. Disease-specific mortality		
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>- Health system performance, quality of care, efficiency of care</li> <li>- Non-communicable diseases (NCDs), chronic diseases</li> <li>- Health threats, communicable diseases</li> <li>- (Preventable) Burden of Disease (BoD)</li> <li>- Lifestyle, health behaviour</li> <li>- Mental health</li> </ul>		
<i>Definition</i>	Deaths caused by specific diseases or disease groups per 100,000 inhabitants for the following ICD-10 codes:		
	Number	Description	ICD-10 Codes
	1	Total (All Causes)	All
	2	Infectious & Parasitic Diseases	A00 - B99
	3	AIDS (HIV Disease)	B20 - B24
	4	Malignant Neoplasms	C00 - C97
	5	Malignant Neoplasm of Stomach	C16
	6	Malignant Neoplasm of Colon	C18
	7	Malignant Neoplasm of Larynx & Trachea / Bronchus / Lung	C32 - C34
	8	Malignant Melanoma of Skin	C43
	9	Malignant Neoplasm of Breast	C50
	10	Malignant Neoplasm of Cervix	C53
	11	Malignant Neoplasm of Prostate	C61
	12	Malignant Neoplasm of Lymphatic / Haematopietic Tissue	C81 - C96
	13	All Childhood Cancers (Age 0-14 Years)	C00 - C97
	14	Mental and Behavioural Disorders	F00 - F99
	15	Diseases of the Circulatory System	I00 - I99
	16	Ischaemic Heart Disease	I20 - I25
	17	Cerebrovascular Disease	I60 - I69
	18	Diseases of the Respiratory System	J00 - J99
	19	Chronic Lower Respiratory Diseases	J40 - J47
	20	Diseases of the Digestive System	K00 - K93
	21	External Causes of Injury & Poisoning	V01 - Y89
	22	Accidents	V01 - X59
	23	Transport Accidents	V01 - V99
	24	Accidental Falls	W00 - W19
	25	Suicide & Intentional Self Harm	X60 - X84
	26	Homicide / Assault	X85 - Y09

<i>Calculation</i>	Number of deaths per 100,000 inhabitants (age-standardized rates). The (age-)standardized death rate is a weighted average of age-specific mortality rates. The weighting factor is the age distribution of a standard reference population. Standardization is carried out through the direct method. The standard reference population used is the European standard population as defined by the World Health Organisation (WHO). The annual average population available in Eurostat's demography database is used to calculate the rates.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Sex</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Causes of death registries (administrative data)</li> </ul> <p>Preferred source:</p> <p>For all selected ICD-10 groups except HIV/AIDS:</p> <ul style="list-style-type: none"> <li>• Eurostat</li> </ul> <p>Preferred source for HIV/AIDS:</p> <ul style="list-style-type: none"> <li>• CISID database (based on EuroHIV data collection)</li> </ul>
<i>Data availability</i>	<p>Time series for most EU-27 countries and EFTA (without Liechtenstein) are available in the Eurostat database from 1994 onwards. Regional data (NUTS level 2) are available for most of the countries (i.e. not completely in accordance with ISARE recommendations). Regional mortality data (age/sex breakdown of deaths by cause) have also been collected by the ISARE-3 project on regional data.</p> <p>Data for "Deaths among AIDS cases - Incidence (cases per 100 000 population)" are available in CISID as of 1999 (provided by EuroHIV) for all EU-27 countries and for Albania, Bosnia &amp; Herzegovina, Croatia, Iceland, Norway, Moldova, Serbia, Switzerland and FYR Macedonia.</p>
<i>Data periodicity</i>	<p>- Eurostat data are updated annually. Eurostat asks for the submission of final data for the year N at N+18 months. However, a number of countries still faces difficulties with this timetable and delivers data at their earliest convenience.</p> <p>- Annual data on deaths among AIDS cases are available in CISID.</p>
<i>Rationale</i>	Data on causes of death provide information on mortality patterns and form a major element of public health information necessary for planning of prevention and health care, and for the evaluation of policies.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• ECHIM does not require mortality data by age group and by Socio-Economic Status (SES) to reduce number of indicator operationalisations. For further details on SES, see Eurothine project.</li> <li>• Causes of death (COD) data are derived from death certificates. The medical certification of death is an obligation in all Member States. Countries code the information provided in the medical certificate of cause of death into International Classification of Diseases (ICD) codes according to the rules specified in the ICD10.</li> <li>• COD data refer to the underlying cause which - according to the World Health Organisation (WHO) - is "the disease or injury which initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury".</li> <li>• The ICD-10 categories used in this indicator are based on the codes used in the Eurostat 65CoD shortlist. Note that there are discrepancies between the ICD codes relating to cancer in the Eurostat 65CoD list, which are used for this indicator, and the codes used for the cancer categories in Indicators 20 &amp; 78.</li> <li>• For AIDS mortality EuroHIV is the preferred source because countries report data to EuroHIV from national AIDS monitoring systems. These include confirmed AIDS cases, i.e. they are more accurate than routine vital statistics system (death certificates), because the accuracy and standardization of coding included on death certificates is much lower.</li> <li>• EuroHIV project ended by 31 December 2007. As of that date ECDC and the WHO Regional Office for Europe (WHO/Europe) jointly coordinate HIV/AIDS surveillance in Europe. Data on HIV infections and AIDS diagnoses are collected in the joint database for HIV/AIDS surveillance.</li> <li>• EuroHIV data on HIV/AIDS are not reported according to ICD-10. For EuroHIV cases are reported according to a uniform AIDS case definition originally published in 1982 and revised in 1985, 1987 and, for adults and adolescents (13 years and over), in 1993 (see references).</li> <li>• Mortality data from Eurostat are age-standardized but data from CISID are probably not age-standardized as rates in EuroHIV report No. 75 were also not age-standardized. As most causes of death vary significantly with people's age and sex, the use of standardized death rates improves comparability over time and between countries.</li> <li>• A new Regulation on Community statistics on public health and health and safety at work (EC) No 1338/2008 was signed by the European Parliament and the Council on 16 December 2008. This Regulation is the framework of the data collection on the domain. Within the context of this framework Regulation, a specific Implementing Measure is currently being developed - within the ESS - on Causes of Death statistics and, according to forthcoming agreement with the member States, Implementing Measures for other domains will follow.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat database, Causes of death - Standardized death rate (per 100,000 inhabitants)</a></li> <li>• <a href="#">CISID database, for “Deaths among AIDS cases - Incidence (cases per 100 000 population)”</a></li> <li>• <a href="#">Eurostat metadata on causes of death</a></li> <li>• <a href="#">International Classification of Diseases (ICD)</a></li> <li>• <a href="#">Metadata European Shortlist for Causes of Death 1998</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">EUROTHINE. Tackling health inequalities in Europe: an integrated approach. EUROTHINE Final Report. Rotterdam: Department of Public Health, University Medical Centre Rotterdam, 2007</a></li> <li>• <a href="#">European Centre for the Epidemiological Monitoring of AIDS. 1993 revision of the European AIDS surveillance case definition. AIDS Surveillance in Europe, Quarterly Report 1993; No. 37: 23-28</a></li> <li>• <a href="#">European Centre for the Epidemiological Monitoring of AIDS. European case definition for AIDS surveillance in children - revision 1995. HIV/AIDS Surveillance in Europe, Quarterly Report 1995; No. 48: 46-53</a></li> </ul>
<i>Work to do</i>	<p>- Wait for information from WHO/CISID and process in documentation sheet (request for clarification on age-standardization yes/no pending at WHO-Euro)</p> <p>- Discuss with (Extended) Core Group (or comparable body, if (E)CG is no longer maintained after the Joint Action for ECHIM) the addition of an additional operationalization to this indicator; premature mortality. This was a proposal by France during the lasting ECG meeting of the Joint Action in March 2012. ECG members however felt that; 1) it was better not to make substantial changes to the indicators this shortly before the ending of the Joint Action, 2) more detailed discussions are needed on e.g. usefulness of an indicator for premature mortality for different diagnoses and the cut off point to use (&lt;65, &lt;70, &lt;75?).</p>

### 13.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20401	Health status	13. Disease-specific mortality	Eurostat (exception: EURO-HIV (CISID database) for mortality due to AIDS)	Standardised death rate (per 100,000 inhabitants), all causes, total population.
20402				Standardised death rate (per 100,000 inhabitants), all causes, for men.
20403				Standardised death rate (per 100,000 inhabitants), all causes, for women.
20404				Standardised death rate (per 100,000 inhabitants), infectious and parasitic diseases (ICD-10 codes A00-B99), total population.
20405				Standardised death rate (per 100,000 inhabitants), infectious and parasitic diseases (ICD-10 codes A00-B99), for men.
20406				Standardised death rate (per 100,000 inhabitants), infectious and parasitic diseases (ICD-10 codes A00-B99), for women.
20407			EURO-HIV (CISID database)	Death rate (per 100,000 inhabitants), AIDS (according to EuroHIV definition), total population.
20408				Standardised death rate (per 100,000 inhabitants), malignant neoplasms (ICD-10 codes C00-C97), total population.
20409				Standardised death rate (per 100,000 inhabitants), malignant neoplasms (ICD-10 codes C00-C97), for men.
20410				Standardised death rate (per 100,000 inhabitants), malignant neoplasms (ICD-10 codes C00-C97), for women.
20411				Standardised death rate (per 100,000 inhabitants), all childhood cancers (ICD-10 codes C00-C97, age 0-14), total population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20412				Standardised death rate (per 100,000 inhabitants), all childhood cancers (ICD-10 codes C00-C97, age 0-14), for men.
20413				Standardised death rate (per 100,000 inhabitants), all childhood cancers (ICD-10 codes C00-C97, age 0-14), for women.
20414				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of stomach (ICD-10 code C16), total population.
20415				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of stomach (ICD-10 code C16), for men.
20416				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of stomach (ICD-10 code C16), for women.
20417				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of colon (ICD-10 code C18), total population.
20418				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of colon (ICD-10 code C18), for men.
20419				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of colon (ICD-10 code C18), for women.
20420				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of larynx & trachea/bronchus/lung (ICD-10 codes C32-34), total population.
20421				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of larynx & trachea/bronchus/lung (ICD-10 codes C32-34), for men.
20422				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of larynx & trachea/bronchus/lung (ICD-10 codes C32-34), for women.
20423				Standardised death rate (per 100,000 inhabitants), malignant melanoma of skin (ICD-10 code C43), total population.
20424				Standardised death rate (per 100,000 inhabitants), malignant melanoma of skin (ICD-10 code C43), for men.
20425				Standardised death rate (per 100,000 inhabitants), malignant melanoma of skin (ICD-10 code C43), for women.
20426				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of breast (ICD-10 code C50), for women.
20427				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of cervix (ICD-10 code C53), for women.
20428				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of prostate (ICD-10 code C61), for men.
20429				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of lymphatic/haematopoietic tissue (ICD-10 codes C81-C96), total population.
20430				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of lymphatic/haematopoietic tissue (ICD-10 codes C81-C96), for men.
20431				Standardised death rate (per 100,000 inhabitants), malignant neoplasm of lymphatic/haematopoietic tissue (ICD-10 codes C81-C96), for women.
20432				Standardised death rate (per 100,000 inhabitants), mental and behavioural disorders (ICD-10 codes F00-F99), total population.
20433				Standardised death rate (per 100,000 inhabitants), mental and behavioural disorders (ICD-10 codes F00-F99), for men.
20434				Standardised death rate (per 100,000 inhabitants), mental and behavioural disorders (ICD-10 codes F00-F99), for women.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20435				Standardised death rate (per 100,000 inhabitants), diseases of the circulatory system (ICD-10 codes I00-I99), total population.
20436				Standardised death rate (per 100,000 inhabitants), diseases of the circulatory system (ICD-10 codes I00-I99), for men.
20437				Standardised death rate (per 100,000 inhabitants), diseases of the circulatory system (ICD-10 codes I00-I99), for women.
20438				Standardised death rate (per 100,000 inhabitants), ischaemic heart disease (ICD-10 codes I20-I25), total population.
20439				Standardised death rate (per 100,000 inhabitants), ischaemic heart disease (ICD-10 codes I20-I25), for men.
20440				Standardised death rate (per 100,000 inhabitants), ischaemic heart disease (ICD-10 codes I20-I25), for women.
20441				Standardised death rate (per 100,000 inhabitants), cerebrovascular disease (ICD-10 codes I60-I69), total population.
20442				Standardised death rate (per 100,000 inhabitants), cerebrovascular disease (ICD-10 codes I60-I69), for men.
20443				Standardised death rate (per 100,000 inhabitants), cerebrovascular disease (ICD-10 codes I60-I69), for women.
20444				Standardised death rate (per 100,000 inhabitants), diseases of the respiratory system (ICD-10 codes J00-J99), total population.
20445				Standardised death rate (per 100,000 inhabitants), diseases of the respiratory system (ICD-10 codes J00-J99), for men.
20446				Standardised death rate (per 100,000 inhabitants), diseases of the respiratory system (ICD-10 codes J00-J99), for women.
20447				Standardised death rate (per 100,000 inhabitants), chronic lower respiratory disease (ICD-10 codes J40-J47), total population..
20448				Standardised death rate (per 100,000 inhabitants), chronic lower respiratory disease (ICD-10 codes J40-J47), for men.
20449				Standardised death rate (per 100,000 inhabitants), chronic lower respiratory disease (ICD-10 codes J40-J47), for women.
20450				Standardised death rate (per 100,000 inhabitants), diseases of the digestive system (ICD-10 codes K00-K93), total population.
20451				Standardised death rate (per 100,000 inhabitants), diseases of the digestive system (ICD-10 codes K00-K93), for men.
20452				Standardised death rate (per 100,000 inhabitants), diseases of the digestive system (ICD-10 codes K00-K93), for women.
20453				Standardised death rate (per 100,000 inhabitants), external causes of injury & poisoning (ICD-10 codes V01-Y89), total population.
20454				Standardised death rate (per 100,000 inhabitants), external causes of injury & poisoning (ICD-10 codes V01-Y89), for men.
20455				Standardised death rate (per 100,000 inhabitants), external causes of injury & poisoning (ICD-10 codes V01-Y89), for women.
20456				Standardised death rate (per 100,000 inhabitants), accidents (ICD-10 codes V01-X59), total population.
20457				Standardised death rate (per 100,000 inhabitants), accidents (ICD-10 codes V01-X59), for men.
20458				Standardised death rate (per 100,000 inhabitants), accidents (ICD-10 codes V01-X59), for women.
20459				Standardised death rate (per 100,000 inhabitants), transport accidents (ICD-10 codes V01-V99), total population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20460				Standardised death rate (per 100,000 inhabitants), transport accidents (ICD-10 codes V01-V99), for men.
20461				Standardised death rate (per 100,000 inhabitants), transport accidents (ICD-10 codes V01-V99), for women.
20462				Standardised death rate (per 100,000 inhabitants), accidental falls (ICD-10 codes W00-W19), total population.
20463				Standardised death rate (per 100,000 inhabitants), accidental falls (ICD-10 codes W00-W19), for men.
20464				Standardised death rate (per 100,000 inhabitants), accidental falls (ICD-10 codes W00-W19), for women.
20465				Standardised death rate (per 100,000 inhabitants), suicide and intentional self harm (ICD-10 codes X60-X84), total population.
20466				Standardised death rate (per 100,000 inhabitants), suicide and intentional self harm (ICD-10 codes X60-X84), for men.
20467				Standardised death rate (per 100,000 inhabitants), suicide and intentional self harm (ICD-10 codes X60-X84), for women.
20468				Standardised death rate (per 100,000 inhabitants), homicide/assault (ICD-10 codes X85-Y09), total population.
20469				Standardised death rate (per 100,000 inhabitants), homicide/assault (ICD-10 codes X85-Y09), for men,
20470				Standardised death rate (per 100,000 inhabitants), homicide/assault (ICD-10 codes X85-Y09), for women.

### 13. Disease-specific mortality

#### Comparability between countries

Eurostat calculates cause-specific mortality rates in a uniform way in order to improve the international comparability. Mortality data are age-standardised in order to be comparable between countries. As most causes of death vary significantly with people's age and sex, the use of standardised death rates improves comparability over time and between countries. Comparability is also enhanced by the fact that all countries follow the standards and rules specified in the International Classification of Diseases (ICD) at coding of the death certificates. Besides, the overall procedures for the collection of causes of death data are relatively homogenous between European countries (medical certification of causes of death).

However, national differences in interpretation and use of ICD rules exist and as a result important quality and comparability issues remain:

- The coverage of residents dying abroad is not complete in all countries. On the other hand, in many countries domestic deaths of non-residents are not fully excluded.
- The revision of classifications used to collect information on underlying causes of death differs between the EU countries. Some countries use ICD-9, others ICD-10. Furthermore, not all countries apply the recommended WHO's updates (within these revisions).
- For perinatal deaths, WHO recommends a specific form to be used at medical certification of death. This form is not used in all countries, which decreases the comparability of causes of death statistics in neonates. Especially, comparability for causes like certain conditions originating in the perinatal period, congenital malformations and sudden infant death syndrome can be affected by this difference.
- Causes of death statistics require information on sex, age, place of residence etc. of the deceased. This information is either collected through the death certificate or taken from other sources. The completeness and validity of this information may vary between countries.
- Depending on the country, coding is done manually or using automated coding systems. These two systems may lead to (small) differences in causes of death statistics.
- Information on autopsy is often collected on the death certificate but the results of autopsy are not systematically included in the final statistics in some countries.
- The denominator of this indicator comes from population registers. In some countries the completeness of the population register may not be 100% because of difficulties in reaching some population groups (like homeless or illegal people) or persons who should not be counted (emigrated persons) are nevertheless included. These problems in the population registers are considered to be small and may not lead to big problems in comparability.

#### Comparability over time

For most countries changes in coding took place since the end of the nineties. For example the introduction of a new version of ICD and the implementation of updates of ICD. Also in most countries both the medical certificate of cause of death and medical certificate of cause of perinatal death (concerning the causes of death as well as additional medical information) have been changed. Some countries changed their manual coding to automated coding.

#### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

#### References and further reading

- [Eurostat Metadata Causes of death \(last update 20 May 2011\)](#)
- [Eurostat – Detailed documents on the registration, calculation, dissemination and improvement of causes of death statistics](#)
- [Analysis of differences between countries in coding practices \(report commissioned by the European Commission\)](#)
- [Circa document on technical characteristics of the use of ICD and coding practices](#)



## 14. DRUG-RELATED DEATHS

### 14.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 14. Drug-related deaths
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Lifestyle, health behaviour</li> <li>• Mental health</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Drug-related deaths per 100,000 population.
<i>Calculation</i>	<p>Drug-related deaths (also called for the purpose of the EMCDDA indicator ‘drug-induced deaths’ or ‘overdoses’) are defined as deaths happening shortly after consumption of one or more illicit psychoactive drugs, and directly related to this consumption.</p> <p>EMCDDA recommends that the definition is operationalised as follows:</p> <ol style="list-style-type: none"> <li>1) When information is extracted from General Mortality Registers, deaths are included when the underlying cause of death is <ul style="list-style-type: none"> <li>• mental and behavioural disorders due to psychoactive substance use or</li> <li>• poisoning (accidental, intentional or by undetermined intent), following the ICD-10 codes: <ul style="list-style-type: none"> <li>- Harmful use, dependence, and other mental and behavioural disorders due to: opioids (F11), cannabinoids (F12), cocaine (F14), other stimulants (F15), hallucinogens (F16), multiple drug use (F19).</li> <li>- Accidental (X41, X42), intentional (X61, X62), or poisoning by undetermined intent (Y11, Y12) by: opium (T40.0), heroin (T40.1), other opioids (T40.2), methadone (T40.3), other synthetic narcotics (T40.4), cocaine (T40.5), other and unspecified narcotics (T40.6), cannabis (T40.7), lysergide (T40.8), other and unspecified psychodysleptics (T40.9), psychostimulants (T43.6); Poisoning by unspecified drugs (X44, X64, Y14), if in combination with T codes T40.0-9 and T43.6.</li> </ul> </li> </ul> <p>This is called “selection B” of the EMCDDA standard definitions.</p> </li> <li>2) When the information is extracted from Special Registries (usually based on medico-legal files) cases are included when the death is due to poisoning by accident, suicide, homicide, or undetermined intent by a set of illegal drugs of abuse. This is called “selection D” of the EMCDDA standard definitions.</li> <li>3) The few EU countries that cannot apply exactly the above standard procedure (“Selection B” or “Selection D”), they provide the data extracted either from their GMR or SR with ad-hoc procedures (“ad-hoc national definitions”) that are the closest approximations of selections B and D.</li> </ol> <p>EMCDDA presents national data (Table 2) with what is considered the best estimation in each country. In most cases it is one of the standard definitions (either Selection B or Selection D). See remarks for more information.</p>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Sex</li> <li>• Age groups (aged 15-39 and aged 15-64 years)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: General mortality registers (see remarks)</p> <p>Preferred data source: The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA): Drug-related deaths based on standard EMCDDA definition</p>
<i>Data availability</i>	EMCDDA has collected time series of mortality data according to national definitions since 1985. Tables with absolute numbers by sex and for people aged less than 25 are available at the EMCDDA website as of 1985. Mortality rates per million are published for the entire population, for the population aged 15 to 64, and for the population aged 15 to 39 years (total and males), but only for the latest available year. Data are published for the EU Member States, EU Candidate Countries and Norway. For some countries there are missing values for some specific years or specific break downs. EMCDDA and ECHIM will discuss to what extent EMCDDA can provide the rates required by ECHIM.
<i>Data periodicity</i>	Data are collected annually for drug related deaths.

<i>Rationale</i>	Important group of premature and preventable deaths.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Drug-related deaths often occur in combination with other substances such as alcohol or psychoactive medicines.</li> <li>• Numbers of drug-related deaths for selection B of drug-related deaths are extracted from general mortality registries. When possible, EMCDDA collects data from both general mortality registers and special registries (such as police, forensic) for cross-analysis and improvement of the quality and understanding of the data.</li> <li>• Codes and criteria for selection B and D were agreed by the EMCDDA Expert Group on drug-related deaths (see EMCDDA protocol). A selection of ICD-9 codes was available initially for countries who had not yet implemented ICD-10.</li> <li>• The EMCDDA standard protocol indicates practical codes to extract and report these cases in a similar way across countries, producing the closest possible set of cases to the conceptual definition. It is noted though that the numbers from different countries are not always directly comparable because, despite harmonization efforts by the EMCDDA, some differences remain in case definition and recording methods. Nevertheless, in recent years, quality, validity and therefore comparability have increased considerably. See references for full descriptions of the operationalisation of drug related deaths.</li> <li>• EMCDDA provides breakdowns by sex, age group (see data availability) and according to presence of opiates yes/no. For some countries data on numbers of drug-related deaths are available by region.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EMCDDA</a></li> <li>• <a href="#">Overview of EMCDDA data on drug-related deaths</a></li> <li>• <a href="#">Population mortality rates (DRD/million population rates for the entire populations, for adults aged 15 to 64, and for adults aged 15 to 39 years (total and males))</a></li> <li>• <a href="#">DRD/million population are based on data for last available year in the following table: Numbers of drug-related deaths since 1995 (including sex and age breakdowns)</a></li> <li>• <a href="#">Numbers of drug-related deaths since 1985</a></li> <li>• <a href="#">EMCDDA drug-related deaths protocol, definitions, and further references:</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Discuss with EMCDDA to what extent it is possible for EMCDDA to provide required rates (trends for DRD per 100.000) to ECHIM/SANCO (→ for uploading the data in the SANCO database/data presentation tool).</li> </ul>

#### 14.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20501	Health status	14. Drug-related deaths	EMCDDA	Drug-related deaths per 100,000 inhabitants.
20502				Drug-related deaths per 100,000 inhabitants, for men.
20503				Drug-related deaths per 100,000 inhabitants, for women.
20504				Drug-related deaths per 100,000 inhabitants, for people aged less than 25 years.

## 14. Drug-related deaths

### Comparability between countries

The EMCDDA (The European Monitoring Centre for Drugs and Drug Addiction) established a common definition of drug-related deaths (more precisely, drug-induced deaths) which is simple and relatively restrictive. It includes ‘people who die directly due to use of illegal substances, although these often occur in combination with other substances such as alcohol or psychoactive medicines. These deaths occur generally shortly after the consumption of the substance.’ Furthermore, an EMCDDA protocol establishes common operative criteria and procedures for extracting and reporting the relevant types of deaths from both GMR (General Mortality Registries) and SR (Special Registries, such as forensic or police) in a similar way across countries.

For the GMR, the operative criteria consist of a list of codes from the WHO International Classification of Diseases (ICD) 10th Edition. This list of ICD-10 codes is known as ‘Selection B’. They include cases where the underlying cause of death (the condition that initiated the process that led to the death) is: (1) mental and behavioural disorders due to psychoactive substance use (harmful use, dependence, and other mental and behavioural disorders (F codes) due to opioids, cannabinoids, cocaine, other stimulants, hallucinogens or multiple drug use, or (2) poisonings (X and Y codes) that are accidental, intentional or of undetermined intent due to substances under the heading of narcotics (T40-0 to T40-9) or psychostimulants (T43.6).

For the SR the operative criteria are known as ‘Selection D’ and they consist of the classes of deaths that should be extracted (only overdoses out of all possible cases recorded in these registries e.g. traffic accidents, violence). Cases are selected when the death is due to poisoning by accident, suicide, homicide, or undetermined intent by a set of illegal drugs of abuse. Using General Mortality Registries (GMR) is preferred over using SR. SR will be used in countries where extracting cases from existing GMR cannot be implemented (e.g. lack of T-codes or serious underreporting), but SR will also be used whenever possible as a backup estimate for the GMR.

Considerable progress was obtained in the quality and reliability of the indicator over the last 15 years. For example, national definitions are becoming more comparable to the common EMCDDA definition. In addition, in many countries both General and Special Mortality Registries now exist. This is an improvement because for assessment of consistency and cross validation, ideally information will be extracted from both systems.

However, despite these improvements, comparisons of population rates should be made with caution since there are still some differences in case definitions and the quality of reporting may differ. For example, some countries use selection B and others selection D (both selections aim at capturing the same cases, but they apply respectively to general and special mortality registers). Furthermore, a few countries still do not use strictly the standard definitions. In addition, there are still differences between countries in procedures of recording cases, and in the frequency of post-mortem toxicological investigation.

### Comparability over time

Some countries have changed their national definitions to become more comparable to the common EMCDDA definitions. Such changes can cause breaks in trends, for example in Portugal, Finland and Norway, although in most countries comparability over time is reasonable.

### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

### References and further reading

- [Drug-related deaths and mortality — an overview of the methods and definitions used \(accessed 4 May 2012\)](#)
- [Drug-related deaths and mortality \(DRD\) \(accessed 4 May 2012\)](#)
- [An overview of the drug-related deaths \(DRD\) key indicator, EMCDDA, Lisbon, January 2009](#)
- [EMCDDA standard protocol to collect data and report figures for the key indicator drug-related deaths, version 3.2](#)
- [Mortality related to drug use in Europe. Selected Issue, 2011](#)

## 15. SMOKING-RELATED DEATHS

### 15.1. Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>  15. Smoking-attributable deaths
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Non-communicable diseases (NCDs), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Lifestyle, health behaviour</li> </ul>
<i>Definition</i>	Mortality caused by tobacco smoking. Death rates from combined, selected causes of death which are related to smoking, as per 100,000 of the population.
<i>Calculation</i>	<p>The smoking-attributable mortality (SAM) is to be calculated via the formula given below (Shultz et al., 1991) by using available mortality data and disease-specific relative mortality risks of current and former smokers, each compared to never-smokers (reference group). RRs are obtained from the Cancer Prevention Study II, which have been published and utilized in Schultz et. al. (1991) (see references). Finally, the rates of current, former and never-smokers are required. The formula provides the tobacco-attributable fraction (TAF) per cause of death, which is multiplied by the number of total deaths (per cause) to yield the tobacco-attributable mortality (TAM) per cause of death. The summed TAMs of all considered causes equal the smoking-attributable mortality (SAM) and shall be expressed as per 100,000 of the population under investigation.</p> $\text{TAF} = \frac{P_0 + (P_1 * \text{RR}_1) + (P_2 * \text{RR}_2) - 1}{P_0 + (P_1 * \text{RR}_1) + (P_2 * \text{RR}_2)}$ <p>TAM = TAF * number of death cases per cause; SAM = Σ TAMs (all causes)</p> <p>P<sub>0</sub> = prevalence of never-smokers; P<sub>1</sub> = prevalence of current smokers; P<sub>2</sub> = prevalence of former smokers; RR<sub>1</sub> = relative risk of death for current smokers; RR<sub>2</sub> = relative risk of death for former smokers.</p> <p>Prevalence data need decimal expressions to be used for TAF calculation (e.g. P<sub>0</sub> = 25% = 0.25; P<sub>0</sub> + P<sub>1</sub> + P<sub>2</sub> = 1). Disease categories according to ICD-10 definition to be included are: Neoplasms (C00-14, C15-16, C25, C32-34, C53, C64-68), Cardiovascular diseases (I00-09, I10-15 I20-51, I60-78) and Respiratory diseases (J10-18, J40-43, J44-46).</p> <p>Smoking prevalence data need to be obtained e.g. from EHIS; percentage of current smokers (SK.1[1-2]), percentage of former smokers (SK.1[3]+4[1]), percentage of never-smokers (SK.1[3]+4[2]).</p>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar Year</li> <li>• Sex</li> <li>• Age groups: 35-64 years; 65+</li> <li>• SES (by educational level ISCED 3 aggregated groups: 0-2; 3+4; 5+6; if available)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: <b>Mortality data:</b> National population statistics (death register) <b>Smoking prevalence data:</b> 1) HIS 2) microcensus</p> <p>Preferred source: <b>Mortality data:</b>  <ul style="list-style-type: none"> <li>• Eurostat, or national statistical offices (maintaining death register) in case Eurostat database does not contain the required data</li> </ul> <b>Smoking prevalence data:</b>  <ul style="list-style-type: none"> <li>• Eurostat (EHIS)</li> </ul> </p>

<i>Data availability</i>	<p><b>Mortality data:</b> Eurostat collects data from 1994 according to the International Classification of Diseases (ICD) for all causes of death by age group and sex (and also by region). N.B.: Eurostat only disseminates data according to a shortlist of 65 causes. Germany delivers data only for the causes of death groups in this shortlist, so not for all causes of death.</p> <p><b>Smoking prevalence data:</b> BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.</p>
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014. A higher frequency may be useful if larger changes in smoking prevalences are expected.
<i>Rationale</i>	Smoking can cause many diseases which reduce both quality of life and life expectancy. Smoking is one of the best preventable health risk behaviours.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Comparability depends largely on coding quality of death register data and accuracy of national smoking prevalence estimates. Further limitations of the formula applied above: <ul style="list-style-type: none"> <li>- does neither include duration and type of smoking nor level of tobacco consumption</li> <li>- it is assumed that most of the current smoking is long term smoking</li> <li>- all persons who ever smoked –irrespective of type, time span, quantity and period since quitting- are regarded as former smokers</li> <li>- does not take account of various levels of ETS/SHS exposure of non-smokers and infants</li> </ul> </li> <li>• Tobacco smoke directly attributes to mortality and morbidity of smokers and –to some minor extent- of non-smokers exposed to environmental tobacco smoke (ETS), also known as second-hand smoke (SHS). Policies on smoking address the active smokers by prevention measures and campaigns while ETS is mainly tackled by restrictions and bans on smoking in public areas. Periodical surveys on smoking prevalences allow for both identifying gaps and evaluating efficacy of prevention actions.</li> <li>• The above mentioned prevalence calculations are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised; hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• EHIS also covers ETS/SHS exposure of responders (SK.6-8) but data on infant ETS/SHS exposure cannot be derived from EHIS and are generally difficult to obtain; indicator will have to focus on active smoking (history) and adults only.</li> <li>• EHIS-based estimates may be influenced by reporting biases and sampling related biases. Therefore they may not be an adequate reflection of the current situation in a country, and other estimates may be better for this purpose (see: Preferred data type). However, as a common methodology is underlying the gathering of EHIS data, they might suit the purpose of international comparison.</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• CDC (2004) Smoking-attributable mortality, morbidity, and economic costs (SAMMEC): adult and maternal and child health software. Atlanta, GA: US Department of Health and Human Services, CDC</li> <li>• CDC (2005) <u>Annual Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses - United States, 1997—2001, Morbidity and Mortality Weekly Report (MMWR) July 1, 2005 / 54(25); 625-628</u></li> <li>• Peto R, Lopez AD, Boreham J, Thun M, Heath C (1994) Mortality from Smokers in Developed Countries 1950-2000. Oxford University Press, New York</li> <li>• Cancer Prevention Study II; Public Health Service, Centers for Disease Control, Office on Smoking and Health: Reducing the health consequences of smoking: 25 years of progress: a report of the Surgeon General. DHHS Publication No. (CDC) 89-8411, Rockville, MD, 1989.</li> <li>• Shultz JM, Novotny TE, Rice DP (1991) <u>Quantifying the disease impact of cigarette smoking with SAMMEC II Software. Public Health Rep. 106; 326-33</u></li> <li>• John U, Hanke M (2003) Tobacco- and alcohol-attributable mortality and years of potential life lost in Germany. Eur J Public Health 13: 275-277</li> <li>• EHIS standard questionnaire (version of 11/2006, used in first wave)</li> <li>• <u>Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</u></li> </ul>

<i>Work to do</i>	<ul style="list-style-type: none"> <li>• EHIS module SK could be refined</li> <li>• Check Eurostat, WHO for further/alternative data sources on smoking prevalences (e.g. microcensus, special surveys)</li> <li>• Monitor EHIS/Eurostat developments</li> <li>• Discuss with SANCO/Eurostat possibilities for incorporation of (the calculation of) this indicator into regular data collection and publication processes.</li> </ul>
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## 15.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20601	Health status	15. Smoking-attributable deaths	Eurostat (EHIS) or national HIS for smoking prevalence; Eurostat for mortality data	Death rates from combined, selected causes of death which are related to smoking in people aged 35+, per 100,000
20602				Death rates from combined, selected causes of death which are related to smoking, in men aged 35+, per 100,000
20603				Death rates from combined, selected causes of death which are related to smoking, in women aged 35+, per 100,000
20604				Death rates from combined, selected causes of death which are related to smoking, per 100,000, for age group 35-64
20605				Death rates from combined, selected causes of death which are related to smoking, per 100,000, for age group 65+

## 16. ALCOHOL-RELATED DEATHS

### 16.1. Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
<i>Relevant policy areas</i>	<p>16. Alcohol-attributable deaths (AADs)</p> <ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, Quality of care, Efficiency of care, patient safety</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Mental health</li> <li>• Child health (including young adults)</li> </ul>
<i>Definition</i>	Mortality caused by alcohol consumption. Number of premature deaths that may be attributed to alcohol consumption in the population (Alcohol Attributable Deaths (AAD)) out of the total number of deaths*100)
<i>Calculation</i>	<p>The methodology described below is based on the methodology applied in the European ODHIN project, though the selection of ICD codes is divergent; this is based on the deaths codes used by WHO for the Global Burden of Disease study (for reasons of comparability with other international data on alcohol attributable mortality).</p> <p>Alcohol Attributable Deaths (AAD) are defined as:  <b>AAD = AAF*D</b>  <b>AADs = Sum AAD (all causes)</b>            where D is the number of deaths due to a specific cause or group of causes affected by the risk factor with relative risk, in this case alcohol consumption. The AAF by age groups and gender has to be multiplied by the total number of deaths per cause.</p> <p>Alcohol-attributable fractions (AAFs) are generally defined as the proportion of a disease in a population that will disappear if alcohol is removed. AAFs are calculated by using the Alcohol-Attributable Fraction formula:  <b>AAF = <math>[\sum_{i=1}^k P_i(RR_i - 1)] / [\sum_{i=0}^k P_i(RR_i - 1) + 1]</math></b>            where i is the category of alcohol usage (i = 1-3) or no alcohol (i=0), RR<sub>i</sub> is the relative risk at exposure level i, compared with no alcohol consumption, P<sub>i</sub> is the prevalence of the ith category of alcohol consumption, and k is the highest drinking category.</p> <p>Relative Risks of drinking exposure levels are available from several studies and will be used from selected sources (see references 1-3), and the overview of RRs to be used for the calculation of this indicator in annex 1.</p> <p>The drinking categories required for the calculation of this indicator are: category i=1: females=(0.25-19.99 g/day); males=(0.25- 39.99 g/day); category i=2: females=(20-39.99 g/day); males (40-59.99 g/day); category i=3: females=(40+ g/day); males=(60+ g/day).</p> <p>There are diseases wholly attributable to alcohol (group 1 for which AAF=1), meaning that they would not exist without it. Furthermore, alcohol is a contributory cause in a fair number of diseases partially attributable to alcohol (group 2) and unintentional and intentional injuries (group 3). The total number of Alcohol-attributable deaths is equal to AAD(group1)+ AAD(group2)+AAD(group3). See annex 2 for an overview of ICD codes to be used in the calculation of this indicator.</p>
<i>Relevant dimensions and subgroups</i>	<p>Country.            Gender            Age groups:  <b>group 1</b> (diseases wholly attributable to alcohol): 15-29, 30-44, 45-59, 60-69, 70+;  <b>group 2</b> (diseases partially attributable to alcohol): 30-44, 45-59, 60-69, 70+;  <b>group 3</b> (unintentional and intentional injuries): 15-29, 30-44, 45-59, 60-69, 70+ (according to reference 1, appendix B pag 1100).            SES by ISCED groups (if available)</p>

<i>Preferred data type and data source</i>	<p><b>Mortality data:</b> National population statistics (Death register) or Eurostat database (if it contains the requested data)</p> <p><b>Alcohol consumption prevalence data:</b> 3) EHIS survey 4) National HIS surveys Preferred source: EHIS</p>
<i>Data availability</i>	Alcohol consumption prevalence data can be obtained by EHIS when it will be implemented in MS (second wave planned for 2014).
<i>Data periodicity</i>	The EHIS is currently held every 5 years. Higher frequency is not necessary for this indicator because mortality for alcohol related causes do not change very much year by year.
<i>Rationale</i>	In all of the European regions, alcohol use has been identified as one of the major risk factors for burden of disease and injury with highest levels of alcohol-attributable burden in Russia and surrounding countries (see reference 1). Amenable to interventions.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>Alcohol consumption can be described in terms of grams of alcohol consumed or in terms of standard drinks. In Europe, a standard drink commonly contains 10-12g of alcohol. Eurostat (EHIS) standard drink (see reference 10) may differ from national estimates due to different assumptions alcohol concentration and volume of drinks. Eurostat data are recommended because the standardization provided by the specific question in the survey questionnaire refers to 1 drink containing 10g of pure alcohol. This will allow a fairly good comparison between countries if the problems related to the conversion from usual national alcoholic beverages to standard drinks of 10g alcohol can be overcome.</li> <li>The risk relations between alcohol and chronic disease outcomes were taken from meta-analytical studies, which assume transferability of relative risks between countries. Although this assumption is customary for most Comparative Risk Assessments (see reference 4), there could be interactions between alcohol and other risk factors such as poverty, malnutrition, or hopelessness, which introduce error (Schmidt LA, Mäkelä P, Rehm J, Room R. Alcohol and social determinants of health).</li> <li>The above-mentioned prevalence calculations are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised; hence, adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>M. Ezzati, A. Lopez, et al. Comparative Quantification of Health Risks. Global and regional Burden of Disease Attributable to Selected Major Risk Factors. Vol. 1.</li> <li>G. Danaei, E. L. Ding, et al. -The Preventable Causes of Death in the United States: Comparative Risk Assessment of Dietary, Lifestyle, and Metabolic Risk Factors.</li> <li>WHO - Global Status Report on Alcohol 2004.</li> <li>Rhem et al., -Alcohol and Global Health 1 - Global burden of disease and injury and economic cost attributable to alcohol use and alcohol-use disorders"; Lancet 2009; 373: 2223–33</li> <li>Alcohol consumption and alcohol-attributable burden of disease in Switzerland, 2002; Int. J Public Health 52 (2007) 383–392.</li> <li>Alcohol accounts for high proportion of premature mortality in central and eastern Europe; International Journal of Epidemiology International Journal of Epidemiology 2007;36:458–467</li> <li>Determining alcohol-related mortality in Europe" Jürgen Rehm, Urszula Sulkowska; HEM-Closing the Gap-Reducing Premature Mortality. Report to steering committee on calculating alcohol attributable burden</li> <li>Estimating Chronic Diseases Deaths and hospitalizations due to alcohol use in Canada in 2002; Preventing Chronic Diseases –Public Health Research, Practice, and Policy vol 3 n.4 October 2006</li> <li>Alcohol-attributable fraction for England. Alcohol-attributable mortality and hospital admissions. <a href="http://www.cph.org.uk/showPublication.aspx?pubid=403">http://www.cph.org.uk/showPublication.aspx?pubid=403</a></li> <li>EHIS standard questionnaire 2007-2010 <a href="http://circa.europa.eu/Public/irc/dsis/health/library?l=/methodologiessandsdatasc/healthsinterviewsurvey/2007-2008_methodology&amp;vm=detailed&amp;sb=Title">http://circa.europa.eu/Public/irc/dsis/health/library?l=/methodologiessandsdatasc/healthsinterviewsurvey/2007-2008_methodology&amp;vm=detailed&amp;sb=Title</a></li> <li>WHO-Global Information System on Alcohol and Health (GISAH)</li> <li>2nd draft of the International guide for monitoring alcohol consumption and related harm (WHO, in press)</li> <li>Rehm, J. and Scafato, E. (2011), Indicators of alcohol consumption and attributable harm for monitoring and surveillance in European Union countries. Addiction, 106: 4–10. doi: 10.1111/j.1360-0443.2010.03323.x</li> <li>ODHIN project (Optimizing delivery of health care interventions)</li> </ul>



<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Check with Eurostat WHO and OECD the preferable data sources</li> <li>• There have been some discussions within the ECHIM Core Group about which ICD-codes to use in the calculation of this indicator. The Italian ECHIM partners from the ISS in Rome recommend using the methodology described in this documentation sheet (version 14-05-2012). This documentation sheet/ methodology still is to be approved by the ECHIM Core Group (or comparable body, if the ECHIM Core Group will not be maintained after the ending of the Joint Action for ECHIM)</li> </ul>
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**Annex 1. Relative Risks (RR) for Partially attributable chronic conditions and Alcohol-Attributable Fractions (AAFs) for Wholly attributable conditions and Partially attributable acute conditions**

		M			
		RR Abstainers	RR [0.25-39.99 g/day]	RR [40-59.99 g/day]	RR [60+ g/day]
DISEASES PARTIALLY ATTRIBUTABLE TO ALCOHOL					
Maternal and perinatal conditions					
Spontaneous abortion	30+				
Low birth weight	30+	1	1,4	1,4	1,4
Malignant neoplasms					
Mouth malignant neoplasms of lip, oral cavity and pharynx	30+	1,00	1,45	1,85	5,39
Esophageal cancer	30+	1,00	1,80	2,38	4,36
Colon and rectal cancers	30+	1,00	1,00	1,16	1,41
Malignant neoplasm of larynx	30+	1,00	1,83	3,90	4,93
Liver cancer	30+	1,00	1,45	3,03	3,60
Other neoplasms	30+	1,00	1,10	1,30	1,70
Diabete mellitus	30+	1,00	1,00	0,57	0,73
Neuropsychiatric conditions					
Epilepsy	30+	1,00	1,23	7,52	6,83
Diseases of the Circulatory System					
Hypertensive heart disease	30+	1,00	1,40	2,00	4,10
Ischemic heart disease	30-44	1,00	0,60	0,62	1,00
	45-59	1,00	0,63	0,65	1,00
	60-69	1,00	0,82	0,83	1,00
	70-79	1,00	0,92	0,93	1,00
	80+	1,00	0,97	0,98	1,00
Cardiac arrhythmias	30+	1,00	1,51	2,23	2,23
Oesophageal varices	30+	1,00	1,26	9,54	9,54
Haemorrhagic stroke	30+	1,00	1,27	2,19	2,38
Ischemic Stroke	30+	1,00	0,94	1,33	1,65
Digestive diseases					
Cirrhosis of the liver	30+	1,00	1,30	9,50	13,00
Cholelithiasis	30+	1,00	0,82	0,68	0,50
Acute and chronic pancreatitis	30+	1,00	1,30	1,80	3,20

		M			
		RR Abstainers	RR [0.25-39.99 g/day]	RR [40-59.99 g/day]	RR [60+ g/day]
Skin diseases					
Psoriasis	30+	1,00	1,58	1,60	2,20

		F			
		RR Abstainers	RR [0.25-19.99 g/day]	RR [20-39.99 g/day]	RR [40+ g/day]
DISEASES PARTIALLY ATTRIBUTABLE TO ALCOHOL					
Maternal and perinatal conditions					
Spontaneous abortion	30+	1	1,2	1,76	1,76
Low birth weight	30+	1	1,4	1,4	1,4
Malignant neoplasms					
Mouth malignant neoplasms of lip, oral cavity and pharynx	30+	1,00	1,45	1,85	5,39
Esophageal cancer	30+	1,00	1,80	2,38	4,36
Colon and rectal cancers	30+	1,00	1,00	1,01	1,41
Malignant neoplasm of larynx	30+	1,00	1,83	3,90	4,93
Liver cancer	30+	1,00	1,45	3,03	3,60
Breast cancer	30-44	1,00	1,15	1,41	1,46
	45+	1,00	1,14	1,38	1,62
Other neoplasms	30+	1,00	1,10	1,30	1,70
Diabete mellitus	30+	1,00	0,92	0,87	1,13
Neuropsychiatric conditions					
Epilepsy	30+	1,00	1,34	7,22	7,52
Diseases of the Circulatory System					
Hypertensive heart disease	30+	1,00	1,40	2,00	2,00
Ischemic heart disease	30-44	1,00	0,60	0,62	1,00
	45-59	1,00	0,63	0,65	1,00
	60-69	1,00	0,82	0,83	1,00
	70-79	1,00	0,92	0,93	1,00
	80+	1,00	0,97	0,98	1,00
Cardiac arrhythmias	30+	1,00	1,51	2,23	2,23
Oesophageal varices	30+	1,00	1,26	9,54	9,54
Haemorrhagic stroke	30+	1,00	0,59	0,65	7,98
Ischemic Stroke	30+	1,00	0,52	0,64	1,06
Digestive diseases					
Cirrhosis of the liver	30+	1,00	1,30	9,50	13,00
Cholelithiasis	30+	1,00	0,82	0,68	0,50
Acute and chronic pancreatitis	30+	1,00	1,30	1,80	1,80

Skin diseases					
Psoriasis	30+	1,00	1,58	1,60	2,20

		AAFs				
		15-29	30-44	45-59	60-69	70+
<b>FALLS, HOMICIDE AND SUICIDE, AND OTHER INJURY</b>						
Unintentional Injuries						
Road traffic injuries- pedestrian (Motor Vehicle Traffic)	M	0,46	0,50	0,27	0,22	0,22
	F	0,18	0,25	0,21	0,15	0,15
Falls	M	0,30	0,30	0,30	0,24	0,17
	F	0,20	0,20	0,20	0,13	0,06
Accidental drowning and submersion	M	0,35	0,40	0,40	0,33	0,33
	F	0,33	0,39	0,39	0,32	0,32
Exposure to smoke, fire and flames	M	0,00	0,00	0,00	0,00	0,00
	F	0,00	0,00	0,00	0,00	0,00
Accidental poisonings by exposure to noxious substances	M	0,38	0,22	0,22	0,22	0,12
	F	0,31	0,21	0,21	0,21	0,10
Other unintentional Injuries	M	0,38	0,38	0,32	0,32	0,32
	F	0,31	0,31	0,26	0,26	0,26
Intentional Injuries						
Suicide and Self-inflicted Injuries	M	0,21	0,21	0,16	0,16	0,07
	F	0,14	0,14	0,12	0,12	0,07
Homicide	M	0,36	0,36	0,36	0,36	0,36
	F	0,36	0,36	0,36	0,36	0,36
Other Intentional injuries	M	0,27	0,27	0,27	0,27	0,14
	F	0,27	0,27	0,27	0,27	0,14

**Annex 2. 46 diseases attributable to alcohol consumption, divided into the 3 type of conditions (orange colour) and the 8 disease categories (bold), according to ICD 9 and 10**

<b>Diseases ICD 9</b>	
<b>Diseases wholly attributable to alcohol – Wholly attributable conditions</b>	
Alcohol use Disorders	291, 303
Alcoholic Polyneuropathy	357.5
Alcoholic Cardiomyopathy	425.5
Alcoholic Gastritis	535.3
Alcoholic liver disease	571.0-571.3
Excessive blood level of alcohol (Finding of alcohol in blood)	790.3
Toxic Effect Of Alcohol-Ethanol	980.0

<b>Diseases ICD 9</b>	
Toxic Effect Of Alcohol-Methanol	980.1
Toxic Effect Of Alcohol-Alcohol, unspecified	980.9
Degeneration of nervous system due to alcohol	331.7
Alcohol induced chronic pancreatitis	577.1
Fetal alcohol syndrome	760.71
Intentional self poisoning by, and exposure to alcohol	E860
Alcoholic myopathy	359.4
Alcohol-induced pseudo-Cushing's syndrome	255.0
Fetus and newborn affected by maternal use of alcohol	760.71
<b>Diseases partially attributable to alcohol – Partially attributable chronic conditions</b>	
<b>Maternal and perinatal conditions</b>	
Spontaneous abortion	634
Low birth weight	655.5, 760, 765
<b>Malignant neoplasms</b>	
Mouth Malignant neoplasms of lip, oral cavity and pharynx	141, 143-146, 148, 149
Esophageal cancer	150
Colon and rectal cancers	153-154
Malignant neoplasm of larynx	161
Liver cancer	155
Breast cancer	174
Other neoplasms	210-239
Diabetes mellitus	250
<b>Neuropsychiatric conditions</b>	
Epilepsy	345
<b>Diseases of the Circulatory System</b>	
Hypertensive heart disease	401-405
Ischemic heart disease	410-414
Cardiac arrhythmias	427
Oesophageal varices	456.0-456.2
Haemorrhagic stroke	430-432
Ischemic Stroke	433-437
<b>Digestive diseases</b>	
Cirrhosis of the liver	571.5-571.9
Cholelithiasis	574
Acute and chronic pancreatitis	577.0-577.1
<b>Skin diseases</b>	
Psoriasis	696.0-696.2
<b>Falls, homicide and suicide, and other injury – Partially attributable acute conditions</b>	
<b>Unintentional injuries</b>	

<b>Diseases ICD 9</b>	
Road traffic injuries – pedestrian (Motor Vehicle Traffic)	E810-E819
Falls	E880-E888, E848
Accidental drowning and submersion	E910
Exposure to smoke, fire and flames	E890-E899
Accidental poisonings by exposure to noxious substances	E850-E858, E861-869
Other unintentional injuries	E800-E849, E870-E879, E900-E909, E911-E929
<b>Intentional Injuries</b>	
Suicide and Self-inflicted Injuries	E950-E959
Homicide Assault	E960-E969
Other Intentional injuries	E970-E978

<b>Diseases ICD 10</b>	
<b>Diseases wholly attributable to alcohol – Wholly attributable conditions</b>	
Alcohol use Disorders	F10
Alcoholic Polyneuropathy	G62.1
Alcoholic Cardiomyopathy	I42.6
Alcoholic Gastritis	K29.2
Alcoholic liver disease	K70
Excessive blood level of alcohol (Finding of alcohol in blood)	R78.0
Toxic Effect Of Alcohol-Ethanol	T510
Toxic Effect Of Alcohol-Methanol	T511
Toxic Effect Of Alcohol-Alcohol, unspecified	T519
Degeneration of nervous system due to alcohol	G312
Alcohol induced chronic pancreatitis	K86.0
Fetal alcohol syndrome	Q86.0
Intentional self poisoning by, and exposure to alcohol	X65
Alcoholic myopathy	G72.1
Alcohol-induced pseudo-Cushing's syndrome	E24.4
Fetus and newborn affected by maternal use of alcohol	P04.3, O35.4
<b>Diseases partially attributable to alcohol – Partially attributable chronic conditions</b>	
<b>Maternal and perinatal conditions</b>	
Spontaneous abortion	O03
Low birth weight	P05-P07
<b>Malignant neoplasms</b>	
Mouth Malignant neoplasms of lip, oral cavity and pharynx	C00-C14
Esophageal cancer	C15
Colon and rectal cancers	C18-C21
Malignant neoplasm of larynx	C32
Liver cancer	C22

<b>Diseases ICD 10</b>	
Breast cancer	C50
Other neoplasms	D00-D48
Diabetes mellitus	E10-E14
<b>Neuropsychiatric conditions</b>	
Epilepsy	G40-G41
<b>Diseases of the Circulatory System</b>	
Hypertensive heart disease	I10-I15
Ischemic heart disease	I20-I25
Cardiac arrhythmias	I47-I49
Oesophageal varices	I85
Haemorrhagic stroke	I60-I62
Ischemic Stroke	I63
<b>Digestive diseases</b>	
Cirrhosis of the liver	K74
Cholelithiasis	K80
Acute and chronic pancreatitis	K85, K86.1
<b>Skin diseases</b>	
Psoriasis	L40 excl. L40.5
Falls, homicide and suicide, and other injury – Partially attributable acute conditions	
<b>Unintentional injuries</b>	
Road traffic injuries – pedestrian (Motor Vehicle Traffic)	V01-V04, V06, V09-V80, V87, V89, V99
Falls W00-W19	
Accidental drowning and submersion	W65-W74
Exposure to smoke, fire and flames	X00-X09
Accidental poisonings by exposure to noxious substances	X40-X49
Other unintentional injuries	V05, V07, V08, V81-V86, V88, V90-V98, W20-W64, W75-W99, X10-X39, X50-X59 Y40-Y86, Y88, Y89
<b>Intentional Injuries</b>	
Suicide and Self-inflicted Injuries	X60-X84, Y87.0
Homicide Assault	X85-Y09, Y87.1
Other Intentional injuries	Y35

## 16.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20701	Health status	16. Alcohol-attributable deaths	Eurostat (EHIS) or national HIS for data on alcohol use; Eurostat for mortality data	Death rates from combined, selected causes of death which are related to alcohol use in people aged 15+, per 100,000
20702				Death rates from combined, selected causes of death which are related to alcohol use, in men aged 15+, per 100,000
20703				Death rates from combined, selected causes of death which are related to alcohol use, in women aged 15+, per 100,000
20704				Death rates from combined, selected causes of death which are related to alcohol use, per 100,000, for age group 15-44
20705				Death rates from combined, selected causes of death which are related to alcohol use, per 100,000, for age group 45-64
20706				Death rates from combined, selected causes of death which are related to alcohol use, per 100,000, for age group 65+

## 17. EXCESS MORTALITY BY EXTREME TEMPERATURES

### 17.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b> 17. Excess mortality by extreme temperatures
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>Health inequalities (including accessibility of care)</li> <li>Environmental health</li> </ul>
<i>Definition</i>	To be developed: Daily number of observed deaths and death rates (all cause) in a region during a heat wave or a period of extreme winter cold in relation to the expected number of deaths and death rate for the same calendar day.
<i>Key issues and problems</i>	<p>Indicator calculation needs more development:</p> <ul style="list-style-type: none"> <li>Indicator could be calculated based on day-by-day regional mortality and temperature analysis: Daily number of observed deaths (all cause) in a region during a heat wave or a period of extreme winter cold in relation to expected number of deaths for the same calendar day, expressed as number of a) excess deaths and b) excess death rates due to heat waves/excess winter cold. Expected number of deaths at a certain day is estimated from past number of deaths or past daily death frequencies or both.</li> </ul> <p>However, the following issues are related to the indicator calculation:</p> <ul style="list-style-type: none"> <li>Decide on the definition of heat wave or period of extreme winter cold: above or below a threshold air temperature Celsius of a defined value of temperature? There is no universal definition of a heat wave or period of extreme winter cold because they are relative to the usual weather in a certain area. Robine et al report defines heat wave by identifying exceptional days of excess mortality, not by air temperature itself.</li> <li>Which age groups: all, below 65, 65-84 and 85+?</li> <li>Decide on mortality from all non-accidental causes, cardio- or cerebro-vascular and respiratory mortality; or all causes? Preference for all cause, because specific causes needs more research.</li> <li>Time frame: deaths during or how many days after the heat wave or period of extreme low temperature? According to report Robine et al: during the days of heat wave only.</li> <li>Number of excess deaths, or death rates? In principle, the daily number of excess deaths can be computed almost live, i.e. as soon as the number of deaths of the day in question is known. It needs more time to calculate excess death rates, as one needs estimates of the size of exposed population. For this almost all methods use a combination of population estimates by January first of the year Y with population estimates by January first of the year Y + 1. Therefore the death rates of summer Y cannot be computed before you get the population estimates by January first of the year Y + 1.</li> </ul> <p>The following issues are related to data availability:</p> <ul style="list-style-type: none"> <li>This indicator requires ad hoc data collection/calculation (as there is not a heat wave or period of extreme low temperature every year). Detailed (daily) mortality data are available at national level, but not regularly provided to Eurostat. How to incorporate data collection and calculation in regular data collections? It is not very likely that this will happen in the future as this poses a large administrative burden on the MS.</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: mortality registers</p> <p>Preferred data source: Eurostat? (but currently not available)</p>
<i>Data availability</i>	Detailed (daily) mortality data are available at national level, but not regularly provided to Eurostat.
<i>Rationale</i>	Extreme temperatures can induce excess mortality in the population. Excess mortality affects vulnerable groups, particularly those who are old or ill. Important indicator in the frame of health effects of climate change. In some countries winter excess mortality is a problem and in others excess mortality by heat waves. Therefore both excess mortality by heat waves and winter excess mortality are included.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>Heat-related deaths are not well defined and heat is usually not listed on death certificates as causing or contributing to death. Heat-related deaths can include many different causes of death and the heat wave can act as a last trigger in elderly and frail persons, especially if no adequate and immediate care is made available. Heat is recorded from other sources.</li> <li>Death due to frostbite (ICD 10 T33-T35) and deaths due to hypothermia and other effects of reduced temperature (ICD T68 and T69) can also occur outside of periods of extreme low temperatures.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">CANICULE, Etude de l'impact de la canicule d'août 2003 sur la population européenne</a></li> <li><a href="#">JM Robine, SL Cheung, S Le Roy, H Van Oyen et F R Herrmann: Report on excess mortality in Europe during summer 2003</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Contact experts to discuss and solve key issues and problems.</li> </ul>



## 18. SELECTED COMMUNICABLE DISEASES

### 18.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 18. Selected communicable diseases
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health threats, communicable diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> </ul>
<i>Definition</i>	Incidence of selected communicable diseases, per 100,000 population.
<i>Calculation</i>	Following ECDC methodology (see preferred source and remarks): The total number of confirmed new cases of the disease in a specific year divided by the population of the country in question in the same year, expressed per 100 000 population (using Eurostat dataset 'Population by sex and age on 1 January of each year' for the calculation of the rate). Incidence is calculated for the following communicable diseases (see remarks for rationale selection): 1. Chlamydia, 2. Giardiasis, 3. Campylobacteriosis, 4. Salmonellosis, 5. Mumps, 6. Hepatitis A, 7. Invasive pneumococcal disease, 8. Hepatitis B, 9. Legionellosis, 10. Listeriosis, 11. E. Coli infections (VTEC, STEC, EHEC), 12. Yersiniosis
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Age group (0-24, 25-64, 65+)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: <ul style="list-style-type: none"> <li>• Surveillance reports</li> </ul> Preferred source: <ul style="list-style-type: none"> <li>• ECDC</li> </ul>
<i>Data availability</i>	As of 2007 ECDC publishes annual surveillance reports. The data reported are the data from year N-2 (so the 2009 report contains data from 2007). Data are reported for the EU27 and EEA/EFTA countries. Data are reported by age group (0-4, 5-14, 15-24, 25-44, 45-64, 65+), so preferred age groups as defined by ECHIM can be compiled from these.
<i>Data periodicity</i>	Annually.
<i>Rationale</i>	Communicable diseases cause, or have the potential to cause, significant disease burden (morbidity and/or mortality). They are also diseases for which effective preventive measures are available with a protective health gain. Communicable diseases move across borders and therefore ask for sometimes rapid internationally based interventions.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The ECHI shortlist contains a separate indicator on the vaccination coverage in children for major childhood diseases (see indicator 56. Vaccination coverage in children).</li> <li>• ECDC reports confirmed cases, i.e. the notification rate per 100,000 population. Generally this is a good proxy for incidence. However, in case of a disease with few symptoms, e.g. Chlamydia, people may not report to a doctor/nurse, and cases may be missed by routine surveillance systems. For such diseases the notification rate derived from routine surveillance systems will be (much) lower than the actual incidence rate.</li> <li>• Next to providing breakdowns by age, ECDC also reports distribution by sex and season.</li> <li>• Commission Decision 2002/253/EC of 19 March 2002 lays down the compulsory case definitions for reporting ± 40 communicable diseases. ECHIM and ECDC experts together have made a selection – based on the 2006 data – to be reported for this ECHI indicator. Inclusion criteria applied were: A) Vaccine preventable diseases; top 4 incidence, B) Non-vaccine preventable diseases; top 4 incidence, C) Clear upward trend in incidence. This selection needs to be revised at regular intervals (see work to do section).</li> <li>• In 2011 there has been some discussion in the ECHIM Core Group that the criteria above may need to be adapted, as a major public health concern like Tuberculosis now is excluded from the indicator based on these criteria. A solution could be to broaden the C) category to 'Other important public health concerns (e.g. clear upward trend in incidence, large burden of disease)'.</li> <li>• Comparability of data between countries is limited due to different underlying national surveillance systems (e.g. obligatory vs. voluntary reporting).</li> <li>• Epidemiological data on reportable communicable diseases are uploaded by the Member States using ECDC's online system for the collection of surveillance data (TESSy).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">ECDC, surveillance reports</a></li> <li>• <a href="#">Commission Decision 2002/253/EC of 19 March 2002</a></li> <li>• <a href="#">ECDC's online system for the collection of surveillance data (TESSy)</a></li> </ul>

<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Compare selection criteria once every 2 years with latest data available to see whether list of selected communicable diseases for this indicator is still accurate. N.B.: last update based on 2006 data.</li> <li>• The ECHIM Core Group (or a comparable body, if the Core Group will not be maintained after the ending of the Joint Action) needs to reassess the selection criteria applied for this indicator (see remarks).</li> <li>• Compiling the data from the surveillance reports requires a lot of manual work. ECHIM should therefore discuss with ECDC whether data can be provided by ECDC in data file format.</li> </ul>
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## 18.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20901	Health status	18. Selected communicable diseases	ECDC	Incidence of Campylobacteriosis, per 100,000.
20902				Incidence of Campylobacteriosis, per 100,000, for age group 0-24.
20903				Incidence of Campylobacteriosis, per 100,000, for age group 25-64.
20904				Incidence of Campylobacteriosis, per 100,000, for age group 65+.
20905				Incidence of Chlamydia, per 100,000.
20906				Incidence of Chlamydia, per 100,000, for age group 0-24.
20907				Incidence of Chlamydia, per 100,000, for age group 25-64.
20908				Incidence of Chlamydia, per 100,000, for age group 65+.
20909				Incidence of E. Coli infections (VTEC, STEC, EHEC), per 100,000.
20910				Incidence of E. Coli infections (VTEC, STEC, EHEC), per 100,000, for age group 0-24.
20911				Incidence of E. Coli infections (VTEC, STEC, EHEC), per 100,000, for age group 25-64.
20912				Incidence of E. Coli infections (VTEC, STEC, EHEC), per 100,000, for age group 65+.
20913				Incidence of Giardiasis, per 100,000.
20914				Incidence of Giardiasis, per 100,000, for age group 0-24.
20915				Incidence of Giardiasis, per 100,000, for age group 25-64.
20916				Incidence of Giardiasis, per 100,000, for age group 65+.
20917				Incidence of Hepatitis A , per 100,000.
20918				Incidence of Hepatitis A , per 100,000, for age group 0-24.
20919				Incidence of Hepatitis A , per 100,000, for age group 25-64.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20920				Incidence of Hepatitis A , per 100,000, for age group 65+.
20921				Incidence of Hepatitis B, per 100,000.
20922				Incidence of Hepatitis B, per 100,000, for age group 0-24.
20923				Incidence of Hepatitis B, per 100,000, for age group 25-64.
20924				Incidence of Hepatitis B, per 100,000, for age group 65+.
20925				Incidence of Invasive pneumococcal disease , per 100,000.
20926				Incidence of Invasive pneumococcal disease , per 100,000, for age group 0-24.
20927				Incidence of Invasive pneumococcal disease , per 100,000, for age group 25-64.
20928				Incidence of Invasive pneumococcal disease , per 100,000, for age group 65+.
20929				Incidence of Legionellosis, per 100,000.
20930				Incidence of Legionellosis, per 100,000, for age group 0-24.
20931				Incidence of Legionellosis, per 100,000, for age group 25-64.
20932				Incidence of Legionellosis, per 100,000, for age group 65+.
20933				Incidence of Listeriosis, per 100,000.
20934				Incidence of Listeriosis, per 100,000, for age group 0-24.
20935				Incidence of Listeriosis, per 100,000, for age group 25-64
20936				Incidence of Listeriosis, per 100,000, for age group 65+.
20937				Incidence of Mumps, per 100,000.
20938				Incidence of Mumps, per 100,000, for age group 0-24.
20939				Incidence of Mumps, per 100,000, for age group 25-64.
20940				Incidence of Mumps, per 100,000, for age group 65+.
20941				Incidence of Salmonellosis, per 100,000.
20942				Incidence of Salmonellosis, per 100,000, for age group 0-24.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
20943				Incidence of Salmonellosis, per 100,000, for age group 25-64.
20944				Incidence of Salmonellosis, per 100,000, for age group 65+.
20945				Incidence of Yersiniosis, per 100,000.
20946				Incidence of Yersiniosis, per 100,000, for age group 0-24.
20947				Incidence of Yersiniosis, per 100,000, for age group 25-64.
20948				Incidence of Yersiniosis, per 100,000, for age group 65+.

### 18.3. Remarks on comparability

18. Selected communicable diseases
<p><b>Comparability between countries</b></p> <p>Incidence rates are based on the number of cases reported by individual experts in the Member States (called Contact Points) to the ECDC database for surveillance of 49 infectious diseases, The European Surveillance System (TESSy). International comparisons are hampered by differences in national surveillance systems. Some countries use sentinel surveillance systems, other countries use national systems, which produce more complete and more stable incidence rates. Furthermore, the quality and coverage (nationwide reporting versus reporting by some regions) of surveillance are not consistent and the amount of underdiagnosis ('under-ascertainment') and underreporting (i.e. not reported to public health authorities) varies across countries. This also hampers comparability.</p> <p>The extent of underdiagnosis depends on healthcare-seeking behaviour of potentially infected persons, access to health services, availability of diagnostic tests, quality of the tests (sensitivity to detect cases), extent to which diagnostic tests are offered by health care workers, availability of screening programmes (for subgroups) and type of surveillance (active case-finding versus passive waiting). The extent of underreporting depends on the reporting practices by doctors and others, the sources of the surveillance (like laboratories, physicians and hospitals), compulsory or voluntary participation, and other characteristics of the surveillance system. Underdiagnosis and underreporting may differ between diseases, depending on disease-specific surveillance characteristics, severity of symptoms and contagious character of the disease. Furthermore, for some diseases the number of newly reported diagnoses does not represent actual incidence. The incidence of newly reported diagnoses includes both recently infected individuals as well as those who were infected several years ago. The lag time between infection and diagnosis can differ between countries, due to the aforementioned factors.</p> <p>The crude incidence rates are not age-standardised. Therefore, countries with relatively more young children or old people may have higher incidence rates, because some diseases may affect these groups to a larger extent. Using crude incidence rates hampers comparability between countries.</p> <p><b>Comparability over time</b></p> <p>Some countries have substantially modified their national surveillance systems. These modifications are disease-specific and can cause breaks in series.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <i>chapter 2.4</i> of this report.</p> <p><b>References and further reading</b></p> <p><a href="#">ECDC annual Surveillance reports</a></p>

## 19. HIV/AIDS

### 19.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 19. HIV/AIDS
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health threats, communicable diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Lifestyle, health behaviour</li> </ul>
<i>Definition</i>	Incidence of a) HIV-infected and b) AIDS cases, in a given calendar year, per 100,000 population.
<i>Calculation</i>	The rates are calculated as the number of newly diagnosed cases per 100,000 population, based on the number of cases reported by national surveillance systems to the joint WHO-Euro/ECDC database for HIV/AIDS surveillance in The European Surveillance System (TESSy).. A case of HIV infection and AIDS are defined following the European AIDS and HIV surveillance case definitions.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Sex</li> <li>• Age group (0-24, 25+)</li> </ul>
<i>Preferred data type and source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• National surveillance systems</li> </ul> <p>Preferred data source:</p> <ul style="list-style-type: none"> <li>• the joint WHO-Euro/ECDC HIV/AIDS surveillance database made available through a joint WHO-Euro/ECDC annual HIV/AIDS surveillance report and the Centralized Information System for Infectious Diseases (CISID) database of the World Health Organization, Regional Office for Europe</li> </ul>
<i>Data availability</i>	<p>The CISID database is available online and reports the absolute number of newly reported HIV infections and AIDS cases for each year by country. Data are available since 1980. Early years not complete for all countries.</p> <p>The HIV/AIDS Surveillance reports are also available online and give:</p> <ul style="list-style-type: none"> <li>• the absolute numbers of newly diagnosed HIV infections in males and females and rates per 100.000 population by country and year of diagnosis (since 2000), in EU/EEA and non-EU/EEA countries of the WHO European Region.</li> <li>• the absolute numbers of newly diagnosed AIDS cases in males and females and rates per 100.000 population by country and year of diagnosis (since 2000), in EU/EEA and non-EU/EEA countries of the WHO European Region.</li> </ul>
<i>Data periodicity</i>	Data are collected annually and the HIV/AIDS surveillance report is published annually on World AIDS Day, 1 December.
<i>Rationale</i>	HIV remains one of the most important communicable diseases in Europe. It is an infection associated with serious morbidity, high costs of treatment and care, significant mortality and shortened life expectancy.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• From January 2008 onwards, HIV/AIDS surveillance in Europe is jointly coordinated by the European Centre for Disease Prevention (ECDC) and the WHO Regional Office for Europe, collecting data from all 53 countries in the European region, including the 27 countries of the European Union (EU) and the additional three countries of the European Economic Area (EEA). Between 1984 and 2007, this was coordinated by the European Centre for the Epidemiological Monitoring of AIDS (EuroHIV).</li> <li>• Early years are not complete for all countries. Since 1999 the analyses are published in the reports "HIV/AIDS Surveillance in Europe" which are available on the ECDC website.</li> <li>• The surveillance data on HIV and AIDS diagnoses is collected annually and is submitted by the national HIV/AIDS surveillance contact points in the Member States to the joint database for HIV/AIDS surveillance in The European Surveillance System (TESSy).</li> <li>• CISID only contains very limited meta-data. For more information on definitions, data comparability etc. one should refer to the chapter on Data collection, analysis and presentation in the HIV/AIDS Surveillance reports.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">CISID database</a></li> <li>• <a href="#">European Network for HIV/AIDS Surveillance</a></li> <li>• <a href="#">Joint WHO-Euro/ECDC annual HIV/AIDS Surveillance reports</a></li> </ul>
<i>Work to do</i>	-

## 19.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
21001	Health status	19. HIV/AIDS	EURO-HIV (CISID database)	Incidence of HIV, per 100,000
21002				Incidence of HIV, per 100,000, for men.
21003				Incidence of HIV, per 100,000, for women.
21004				Incidence of HIV, per 100,000, for age group 0-24.
21005				Incidence of HIV, per 100,000, for age group 25+.
21006				Incidence of AIDS, per 100,000.
21007				Incidence of AIDS, per 100,000, for men.
21008				Incidence of AIDS, per 100,000, for women.
21009				Incidence of AIDS, per 100,000, for age group 0-24.
21010				Incidence of AIDS, per 100,000, for age group 25+.

## 19. HIV/AIDS

### Comparability between countries

The rates are based on the number of HIV and AIDS cases reported by the national HIV/AIDS surveillance centers (called contact points) in the Member States to the joint WHO-Euro/ECDC database for HIV/AIDS surveillance in The European Surveillance System (TESSy). The EU and WHO use compatible case definitions. These case definitions are based on laboratory criteria (see references below).

International comparisons are hampered by differences in national surveillance systems. The quality and coverage of national surveillance are not consistent and the amount of underdiagnosis and underreporting varies across countries. For example estimates of underreporting for AIDS cases ranged from 10% (Iceland, Italy) to around 40% (Germany, UK). For HIV cases, underreporting could range from less than 2% in Belarus to 37% in France. Underreporting decreased to 28% for France in 2010 (source: HIV/AIDS surveillance in Europe 2010, see below). Furthermore, reported rates in the HIV/AIDS Surveillance reports are not age-standardised.

HIV surveillance and AIDS surveillance complement each other. AIDS surveillance has become an even less accurate reflection of the current trends in HIV infection since the introduction of highly active antiretroviral therapy (HAART) in 1996 and its increasingly widespread use. A major limitation of using HIV diagnoses for monitoring the HIV epidemic is, however, that the number of newly reported HIV diagnoses does not represent actual incidence as not everyone gets tested or only gets test tested several years later. Furthermore, because of the time delay in reporting of new diagnoses to national authorities, the number of diagnosed cases can be different from the number of reported cases. This is not only due to registration delay but also to patient delay. For example in the Netherlands, the number of reported cases is based on the number of people in care, but a significant proportion of newly diagnosed people delay seeking care, and may therefore not be registered in a timely fashion.

Newly reported HIV diagnoses thus include recently infected individuals as well as those who were infected several years ago. This is influenced by factors such as the availability and uptake of HIV testing and patterns of reporting. Because these factors differ between countries, the extent to which diagnosed or reported incidence rates represent actual rates also differs between countries.

### Comparability over time

Some countries have only recently established or substantially modified their national HIV/AIDS reporting systems (source: HIV/AIDS surveillance in Europe 2010, see below). This can have an influence on time trends.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [Joint WHO-Euro/ECDC annual HIV/AIDS Surveillance reports](#)
- [European Centre for Disease Prevention and Control/WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2010. Stockholm: European Centre for Disease Prevention and Control; 2011](#)
- [European Network for HIV/AIDS Surveillance](#)
- [EU case definitions for AIDS and HIV](#)
- [WHO case definitions of HIV for surveillance and revised clinical staging and immunological classification of HIV-related disease in adults and children](#)

## 20. CANCER INCIDENCE

### 20.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>  20. Cancer incidence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, Ageing population</li> <li>• Health system performance, Quality of care, Efficiency of care, patient safety</li> <li>• Non-Communicable diseases (NCD), Chronic Diseases</li> <li>• Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Total cancer incidence and incidence of the most important cancers, per 100,000 population, in a given year.
<i>Calculation</i>	Number of patients with newly diagnosed cancer during a given calendar year divided by person-years at risk, expressed per 100,000 population. The age standardised incidence rate is calculated for the following 10 cancer-groups: 1) all cancers combined without non-melanoma skin (ICD10 codes C00-C97), 2) trachea, bronchus or lung (C33-34), 3) breast (C50), 4) colorectal (C18-C21), 5) prostate (C61) , 6) stomach (C16), 7) melanoma (C43), 8) cervical (C53), 9) leukaemias/lymphomas (C91-95), 10) all childhood (0-14 years of age) cancers.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Sex (when appropriate)</li> <li>• Age group: for age standardization data must be collected by 5 year age groups (see remarks for more information on age standardization method applied by preferred source) for data presentations it is required to present the following age groups; 0-64, 65+</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• National Cancer Registries (population based or regional/local).</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• GLOBOCAN 2008 (Cancer Incidence and Mortality Worldwide in 2008) and ECO (European Cancer Observatory) 2008 databases for the latest estimates of the incidence of the cancers.</li> <li>• Cancer Incidence in Five Continents (CI5plus) for time trends by country.</li> <li>• The International Agency for Research on Cancer (IARC) is hosting these databases.</li> </ul>
<i>Data availability</i>	<ul style="list-style-type: none"> <li>• GLOBOCAN (2008) and ECO (2008): Data available for the EU-27 for year 2008, except for all childhood (0-14 years of age) cancers.</li> <li>• CI5plus: Data available for the EU-27 for year 1960-2002, depending on the cancer and country, except for all childhood (0-14 years of age) cancers.</li> <li>• No data by region available in the databases. The ISARE project on regional data has collected data on breast cancer incidence (indicator: Breast cancer incidence per 100,000 women).</li> </ul>
<i>Data periodicity</i>	Data are being updated annually (also see data availability).
<i>Rationale</i>	Cancer is one of the most important causes of death and it is related to a high disease burden in Europe and there are (often) prevention possibilities. Therefore cancer monitoring is an important Public Health issue



<i>Remarks</i>	<ul style="list-style-type: none"> <li>IARC is hosting the databases (GLOBOCAN 2008, ECO 2008 and CI5plus). Eurostat and OECD derive their figures from these data bases. WHO-HfA-DB receives data directly from countries, as a part of annual HFA data collection and in most cases the source is national cancer register</li> <li>GLOBOCAN 2008 presents age-standardised (to the World Standard Population 1960) estimates for the year 2008. However, although the populations of the different countries are those estimated for the middle of 2008, the disease rates are not those for the year 2008, but from the most recent data available, generally 2-5 years earlier. The degree of delay in the available data was taken into account by computing predictions of the national incidence and mortality rates for the year 2008, wherever possible.</li> <li>ECO 2008: Cancer incidence rates are age-standardised to the standard European population (European Standard Rate [ESR])</li> <li>CI5plus: Cancer incidence rates are age-standardised to The World standard population.</li> <li>In some Member States the Cancer Registry covers the entire population, in others one or more Cancer Registries cover a fraction of the population. The European Network of Cancer Registries (ENCR) and IARC produce cancer incidence estimates at national level, where missing, by mathematical models.</li> <li>GLOBOCAN (2002) note: Because the sources of data are continuously improving in quality and extent, estimates may not be truly comparable overtime and care should be taken when comparing these estimates with those published earlier. The observed differences may be the result of a change in the methodology and should not be interpreted as a time trend effect.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">The International Agency for Research on Cancer, IARC</a></li> <li><a href="#">GLOBOCAN 2008: Ferlay J, Shin HR, Bray F, Forman D, Mathers C and Parkin DM. GLOBOCAN 2008, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 10 [Internet]. Lyon, France: International Agency for Research on Cancer; 2010</a></li> <li><a href="#">Cancer Incidence in Five Continents –database, CI5plus: Ferlay J, Parkin DM, Curado MP, Bray F, Edwards B, Shin HR and Forman D. Cancer Incidence in Five Continents, Volumes I to IX: IARC CancerBase No. 9 [Internet]. Lyon, France: International Agency for Research on Cancer; 2010</a></li> <li><a href="#">ECO, European Cancer Observatory / International Agency for Research on Cancer</a></li> <li><a href="#">ECO 2008 data and Ferlay J, Parkin DM, Steliarova-Foucher E. Estimates of cancer incidence and mortality in Europe in 2008. Eur J Cancer. 2010 Mar;46(4):765-81</a></li> <li><a href="#">ECO 2006 data: Ferlay J, Autier P, Boniol M, Heanue M, Colombet M, Boyle P. Estimates of the cancer incidence and mortality in Europe in 2006. Ann Oncol 2007;18:581-92)</a></li> <li><a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Seek feedback from IARC experts on precise differences between GLOBOCAN and ECO databases (at least they use a different standard population in the age-standardisation (the World Standard Population vs. The European standard population)).</li> </ul>

## 20.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
21101	Health status	20. Cancer incidence	Globocan	Incidence of all cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), per 100,000, total population.
21102				Incidence of all cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), per 100,000, male population.
21103				Incidence of all cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), per 100,000, female population.
21104				Incidence of all cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), per 100,000, age 0-64.
21105				Incidence of all cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), per 100,000, age 65+.
21106				Incidence of trachea, bronchus and lung cancer (ICD-10 C33-C34), per 100,000, total population.
21107				Incidence of trachea, bronchus and lung cancer (ICD-10 C33-C34), per 100,000, male population.
21108				Incidence of trachea, bronchus and lung cancer (ICD-10 C33-C34), per 100,000, female population.
21109				Incidence of trachea, bronchus and lung cancer (ICD-10 C33-C34), per 100,000, age 0-64.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
21110				Incidence of trachea, bronchus and lung cancer (ICD-10 C33-C34), per 100,000, age 65+.
21111				Incidence of breast cancer (ICD-10 C50), per 100,000, female population.
21112				Incidence of breast cancer (ICD-10 C50), per 100,000, female population, age 0-64.
21113				Incidence of breast cancer (ICD-10 C50), per 100,000, female population, age 65+.
21114				Incidence of colorectal cancer (ICD-10 C18-C21), per 100,000, total population.
21115				Incidence of colorectal cancer (ICD-10 C18-C21), per 100,000, male population.
21116				Incidence of colorectal cancer (ICD-10 C18-C21), per 100,000, female population.
21117				Incidence of colorectal cancer (ICD-10 C18-C21), per 100,000, age 0-64.
21118				Incidence of colorectal cancer (ICD-10 C18-C21), per 100,000, age 65+.
21119				Incidence of prostate cancer (ICD-10 C61), per 100,000, male population.
21120				Incidence of prostate cancer (ICD-10 C61), per 100,000, male population, age 0-64.
21121				Incidence of prostate cancer (ICD-10 C61), per 100,000, male population, age 65+.
21122				Incidence of stomach cancer (ICD-10 C16), per 100,000, total population.
21123				Incidence of stomach cancer (ICD-10 C16), per 100,000, male population.
21124				Incidence of stomach cancer (ICD-10 C16), per 100,000, female population.
21125				Incidence of stomach cancer (ICD-10 C16), per 100,000, age 0-64.
21126				Incidence of stomach cancer (ICD-10 C16), per 100,000, age 65+.
21127				Incidence of melanoma (ICD-10 C43), per 100,000, total population.
21128				Incidence of melanoma (ICD-10 C43), per 100,000, male population.
21129				Incidence of melanoma (ICD-10 C43), per 100,000, female population.
21130				Incidence of melanoma (ICD-10 C43), per 100,000, age 0-64.
21131				Incidence of melanoma (ICD-10 C43), per 100,000, age 65+.
21132				Incidence of cervix cancer (ICD-10 C53), per 100,000, female population.
21133				Incidence of cervix cancer (ICD-10 C53), per 100,000, female population, age 0-64.
21134				Incidence of cervix cancer (ICD-10 C53), per 100,000, female population, age 65+.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
21135				Incidence of leukaemias and lymphomas (ICD-10 C81-C96), per 100,000, total population.
21136				Incidence of leukaemias and lymphomas (ICD-10 C81-C96), per 100,000, male population.
21137				Incidence of leukaemias and lymphomas (ICD-10 C81-C96), per 100,000, female population.
21138				Incidence of leukaemias and lymphomas (ICD-10 C81-C96), per 100,000, age 0-64.
21139				Incidence of leukaemias and lymphomas (ICD-10 C81-C96), per 100,000, age 65+.
21140				Incidence of all childhood cancers, per 100,000, age 0-14.
21141				Incidence of all childhood cancers, per 100,000, male population, age 0-14.
21142				Incidence of all childhood cancers, per 100,000, female population, age 0-14.

## 20. Cancer incidence

### Comparability between countries

CI5plus (Cancer Incidence in Five Continents) presents detailed information on the incidence of cancer recorded by the individual cancer registries (regional or national) worldwide. The reference time period in CI5plus is approximately 1998-2002. GLOBOCAN 2008 and the European Cancer Observatory (ECO) present national estimates based on modelling of data from regional or national registries. For GLOBOCAN 2008 and ECO more recent incidence rates were used than for CI5plus for most European countries.

To account for differences in the age structure of the different populations, the incidence rates in CI5plus, GLOBOCAN and ECO are adjusted for age by the direct method of standardisation by use of an international standard population. CI5plus and GLOBOCAN use the world population as a standard, ECO the European population. The calculation of adjusted incidence rates by using the European standard leads to very different outcomes than by using the world standard. The reason for this is that the world standard population is a much younger population than the population of an average European country. Consequently, to compare incidence rates from European countries, the European standardisation is preferable (as in ECO). To compare with countries from other continents, it is recommended to use the world standard population.

In some Member States one cancer registry covers the entire population, in others, one or more regional cancer registries cover variable proportions of the population. Some registries cover relatively small populations, causing fluctuating incidence rates. Both issues can influence comparability.

Several other aspects can influence comparability:

- The calculation of the incidence rates in case of multiple primaries (new cancer cases in patients who have already a cancer diagnosis) can differ between countries. This is corrected when the calculation is done at international level, by excluding duplicates. However, for some countries it may be difficult to distinguish between the recurrence or extension of an existing cancer and the development of a new primary cancer. Hence, their incidence rates will be too high. This is especially difficult if patient identification numbers are lacking.
- Registries which include cancers identified in necropsy examinations of subjects in whom cancer was not diagnosed (or perhaps even suspected) during life, will have higher incidence rates than registries which ignore those cancers.
- In some registries it is not impossible that duplicate registration of the same cases happens.
- The completeness of the registries differs, as well as the correctness of the recorded diagnosis.

Total incidence rates do not give a complete picture of the morbidity of cancer. The distribution of cancer stages (the extent to which the cancer has spread) among the incident cases may give additional information. The distribution can differ between countries. Incidence rates are affected by the prevalence of risk factors in the population, in turn affected by primary prevention. The extent of cancer screening also influences the incidence. By screening, cases will be detected at an earlier stage and cases will be detected which would never have evolved into a symptomatic cancer.

### Comparability over time

For many countries, changes in the data collection methods and calculation of the indicator took place. For example, the number of participating regional Cancer Registries increased, or the quality and completeness improved. CI5 (chapter 5 of IARC publication no. 160) indicates cancer sites for which changes in the completeness of case ascertainment of cancers may have played a role.

There are several differences between GLOBOCAN 2008 and the predecessor GLOBOCAN 2002 which relate to availability of incidence and/or mortality data, methods used to estimate rates in the absence of data and methods used to project available data for 2008. This means that the incidence rates of GLOBOCAN 2002 and 2008 can not be compared. ECO does not have a predecessor.

Also in comparing incidence over time it may be important to consider changes in the distribution of cancer stages. Changes in incidence of cancer can be the result of both changes in the prevalence of risk factors and changes in screening policy and attendance.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

Cancer on DG SANCO website

#### Websites

- [CI5plus](#)
- [GLOBOCAN](#)
- [ECO](#)

#### Literature

CI5plus: Curado MP, Edwards B, Shin HR, Storm H, Ferlay J, Heanue M, Boyle P. Cancer Incidence in Five Continents Vol. IX. IARC Scientific Publication No. 160. Lyon: IARC/IACR, 2007. Chapter 5. Comparability and quality of data.

ECO: Ferlay J, Parkin DM, Steliarova-Foucher E. Estimates of cancer incidence and mortality in Europe in 2008. Eur J Cancer. 2010;46:765-81.

GLOBOCAN: Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. Int J Cancer. 2010;127(12):2893-917.

## 21A. DIABETES, SELF-REPORTED PREVALENCE

### 21a.1. Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	21(a). Diabetes: self-reported prevalence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Non-communicable diseases (NCDs), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion of individuals reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months.
<i>Calculation</i>	Proportion of individuals reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months, derived from European Health Interview Survey (EHIS) questions HS.4/5/6: HS.4: Do you have or have you ever had any of the following diseases or conditions? (11. Diabetes) (yes / no). If yes: HS.5: Was this disease/condition diagnosed by a medical doctor? (yes / no). HS.6: Have you had this disease/condition in the past 12 months? (yes / no). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Diabetes has become one of the most important public health challenges of the 21st century. It is strongly associated with overweight and obesity. Diabetes can be treated and partly prevented. Diabetes is a risk factor for cardiovascular diseases, and complications can result in severe conditions such as foot infections and amputations, blindness and end stage renal disease. Comparisons at international and regional level can serve as benchmark to identify gaps in health care.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>In the EHIS questionnaire, no distinction is made between different types of diabetes.</li> <li>The following types of diabetes exist; Type I, Type II, diabetes resulting from specific genetic conditions or genetic defects, surgery, drugs, malnutrition, infections, and other illnesses (sometimes referred to as Type 3), and gestational diabetes. Type 2 diabetes (formerly called non-insulin-dependent or adult-onset) results from the body's ineffective use of insulin. Type 2 diabetes comprises 90% of people with diabetes around the world, and is largely the result of excess body weight and physical inactivity.</li> <li>According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>(E)HIS-based estimates may be influenced by reporting biases and sampling related biases. Therefore they may not be an adequate reflection of the current situation in a country, and other estimates may be better for this purpose (see indicator 21b). However, as a common methodology is underlying the gathering of EHIS data, they suit well the purpose of international comparison.</li> <li>The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">WHO, Diabetes fact sheet 2011</a></li> <li><a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li><a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li><a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Monitor EHIS/Eurostat developments</li> </ul>

## 21a.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
212a01	Health status	21 A. Diabetes (self-reported)	Eurostat (EHIS) or national HIS	Proportion of individuals aged 15+ reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months.
212a02				Proportion of men aged 15+ reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months.
212a03				Proportion of women aged 15+ reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months.
212a04				Proportion of people aged 15-64 reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months.
212a05				Proportion of people aged 65+ reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months.
212a06				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months.
212a07				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 3 or 4, reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months.
212a08				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 5 or 6, reporting to have been diagnosed with diabetes and to have ever been affected by this condition during the past 12 months.

## 21B. DIABETES, REGISTER-BASED PREVALENCE

### 21b.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 21(b). Diabetes: register-based prevalence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Number of individuals that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months. Expressed per 100,000 and as percentage of total population.
<i>Calculation</i>	National best estimate of number of individuals that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months (ICD-10 codes E10-E14; includes both diabetes mellitus type 1 and type 2 and other diabetes mellitus). Age standardization should be done for men and women separately, according to the direct method, using the 1976 WHO European population as standard population (this is the method applied for the Eurostat diagnosis-specific morbidity statistics; see references (document principles and guidelines in CIRCA)).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country.</li> <li>• Calendar year.</li> <li>• Sex.</li> <li>• Age group: <ul style="list-style-type: none"> <li>- for age standardization data must be collected by 5 year age groups (see calculation)</li> <li>- for data presentations it is required to present the following age groups; 15-64, 65+</li> </ul> </li> <li>• Socio-economic status (see data availability).</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: administrative sources (clinical records, insurance data), disease registers, etc., according to Eurostat recommendations for morbidity statistics. Which source is/which sources are to be preferred is dependent on the specific disease and the health care system and health information system in a specific country. Preferred source: Eurostat (diagnosis-specific morbidity data)
<i>Data availability</i>	Eurostat morbidity data activities are currently in a pilot phase. In 2007, 9 MS (CZ, CY, EE, HU, LT, LV, MT, SI, SK) carried out a data collection pilot. AT and DE carried out a pilot study in 2009. In 2009 BE, DE, FI, NL, PL and RO started with the pilot. Eurostat morbidity data will be available by sex and 18 age groups (0-4, 5-9, etc., 85+), not by socio-economic status and region. The pilot data will not be published since they were collected to assess the feasibility of the proposed method. But if the results of the final report of the TF (to be issued by the end of 2012) show that some indicators are comparable within MS, ECHIM could ask directly to the involved MS whether they agree to send to ECHIM their figures. The final aim (target: 2015) is to set up a regular data collection on morbidity. See remarks for more information on the Eurostat work on morbidity statistics. The ISARE project on regional indicators did not collect data on diabetes.
<i>Data periodicity</i>	It is currently not yet clear how often Eurostat will collect the diagnosis-specific morbidity data.
<i>Rationale</i>	Diabetes has become one of the most important public health challenges of the 21st century. It is strongly associated with overweight and obesity. Diabetes can be treated and partly prevented. Diabetes is a risk factor for cardiovascular diseases, and complications can result in severe conditions such as foot infections and amputations, blindness and end stage renal disease. Comparisons at international and regional level can serve as benchmark to identify gaps in health care.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>In this indicator definition, no distinction is made between different types of diabetes. The following types of diabetes exist; Type I, Type II, diabetes resulting from specific genetic conditions or genetic defects, surgery, drugs, malnutrition, infections, and other illnesses (sometimes referred to as Type 3), and gestational diabetes. Type 2 diabetes (formerly called non-insulin-dependent or adult-onset) results from the body's ineffective use of insulin. Type 2 diabetes comprises 90% of people with diabetes around the world, and is largely the result of excess body weight and physical inactivity.</li> <li>Eurostat diagnosis-specific morbidity data activities are based on a shortlist of diseases covering 60 diseases/disease groups.</li> <li>Eurostat diagnosis-specific morbidity data activities are aimed at providing best national estimates. Each Member State itself decides which is (are) the best data source(s) for calculating a certain estimate. Given the fact that not in all MS the health information system is well aligned with the health care system, there will be limitations to the comparability of national estimates resulting from this approach. Therefore, ECHIM also uses a European Health Interview Survey (EHIS)-based estimate (see indicator 21a).</li> <li>In September 2011, Eurostat created a Task Force on morbidity statistics with the aim to look at the pilots and to provide criteria and recommendations on how to calculate the best estimates for the measurements presented in the European shortlist including harmonized definitions for the different indicators. The work done should be presented at the Eurostat Technical Group Care meeting of 12-13 June 2012.</li> <li>EU-co-funded project "EUropean Best Information through Regional Outcomes in Diabetes" (EUBIROD) aims to implement a sustainable European Diabetes Register through the coordination of existing national/regional frameworks and the systematic use of the BIRO technology. Since 2008, a total of 26 partners from 21 countries joined the Consortium. Finally, a pilot European Diabetes Report was automatically produced using the "BIRO system" to collect/analyse data for 2010 from nineteen countries (Italy, Austria, Scotland, Norway, Romania, Malta, Cyprus, Sweden, Hungary, Belgium, Ireland, Netherlands, Slovenia, Luxembourg, Poland, Germany, Croatia, Spain, Latvia). Results are quite detailed, including seventy-nine indicators stratified/risk-adjusted by major conditions type of diabetes, age, sex, duration of diabetes. The current usability for ECHI is limited, however, as only for few of the participating countries the data can be considered nationally representative. Nevertheless, the aim of EUBIROD, which effectively was realized, was to deliver a tool that will enable the European Diabetes Register to operate and produce standardized national figures; when the system develops further in the future, usefulness for ECHI is expected to improve.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">WHO, Diabetes fact sheet 2011</a></li> <li><a href="#">Diagnosis specific morbidity statistics, Eurostat, public part of CIRCA</a></li> <li><a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li><a href="#">EUropean Best Information through Regional Outcomes in Diabetes, EUBIROD</a></li> <li><a href="#">Description of the registers participating in the EUBIROD project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Monitor developments Eurostat morbidity statistics</li> <li>Follow up EUBIROD with regards to data availability/geographical coverage</li> </ul>

## 21b.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
212b01	Health status	21 B. Diabetes (register-based)	Eurostat (morbidity strand) or national data	Number of individuals aged 15+ that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, per 100,000.
212b02				Number of men aged 15+ that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, per 100,000.
212b03				Number of women aged 15+ that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, per 100,000.
212b04				Number of individuals aged 15-64 that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, per 100,000.
212b05				Number of individuals aged 65+ that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, per 100,000.



ID	Sub-division	Indicator name	Data source	Operational indicator(s)
212b06				Number of individuals aged 15+ that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, % of population.
212b07				Number of men aged 15+ that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, % of population.
212b08				Number of women aged 15+ that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, % of population.
212b09				Number of individuals aged 15-64 that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, % of population.
212b10				Number of individuals aged 65+ that have ever been diagnosed with diabetes and that have been affected by this condition during the past 12 months, % of population.

## 22. DEMENTIA

### 22.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b> 22. Dementia
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, ageing population</li> <li>• Non-Communicable diseases (NCD), Chronic Diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Mental health</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Number of individuals aged 65+ that have been diagnosed with dementia. Expressed per 100,000 and as percentage of total population.
<i>Calculation</i>	National best estimate of number of individuals aged 65+ that have ever been diagnosed with dementia (ICD-10 codes F00-F03, G30; including Alzheimer). Age standardization should be done for men and women separately, according to the direct method, using the 1976 WHO European population as standard population (this is the method applied for the Eurostat diagnosis-specific morbidity statistics; see references (document principles and guidelines in CIRCA)).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country.</li> <li>• Calendar year.</li> <li>• Sex.</li> <li>• Age group: <ul style="list-style-type: none"> <li>- for age standardization data must be collected by 5 year age groups (see calculation)</li> <li>- for data presentations it is required to present the following age groups; 65-84, 85+</li> </ul> </li> <li>• Socio-economic status (see data availability).</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: administrative sources (clinical records, insurance data), disease registers, etc., according to Eurostat recommendations for morbidity statistics. Which source is/which sources are to be preferred is dependent on the specific disease and the health care system and health information system in a specific country. Preferred source: Eurostat (diagnosis-specific morbidity data)

<i>Data availability</i>	Eurostat morbidity data activities are currently in a pilot phase. In 2007, 9 MS (CZ, CY, EE, HU, LT, LV, MT, SI, SK) carried out a data collection pilot. AT and DE carried out a pilot study in 2009. In 2009 BE, DE, FI, NL, PL and RO started with the pilot. Eurostat morbidity data will be available by sex and 18 age groups (0-4, 5-9, etc., 85+), not by socio-economic status and region. The pilot data will not be published since they were collected to assess the feasibility of the proposed method. But if the results of the final report of the TF (to be issued by the end of 2012) show that some indicators are comparable within MS, ECHIM could ask directly to the involved MS whether they agree to send to ECHIM their figures. The final aim (target: 2015) is to set up a regular data collection on morbidity. See remarks for more information on Eurostat's work on morbidity statistics. The ISARE project on regional indicators does not collect data on dementia.
<i>Data periodicity</i>	It is currently not yet clear how often Eurostat will collect the diagnosis-specific morbidity data.
<i>Rationale</i>	An increasingly important public health issue as the European populations are aging rapidly. Dementia in older people is one of the most concerning issue worldwide and particularly in Europe.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Eurostat diagnosis-specific morbidity data activities are based on a shortlist of diseases covering 60 diseases/disease groups.</li> <li>• Eurostat diagnosis-specific morbidity data activities are aimed at providing best national estimates. Each Member State itself decides which is (are) the best data source(s) for calculating a certain estimate. Given the fact that not in all MS the health information system is well aligned with the health care system, there will be limitations to the comparability of national estimates resulting from this approach.</li> <li>• According to the EURODEM study an estimate based solely on diagnosed cases might pose a problem in accurately estimating the number of people with dementia, as many people with dementia never receive a diagnosis and it excludes those in the early stages of dementia who have not yet been diagnosed. However, there is no comparable European wide data derived from (regularly conducted) ad hoc epidemiological surveys and the Alzheimer Europe/EURODEM database is not regularly updated. Furthermore a Health Interview Survey (HIS)-based estimate is not recommended for dementia. However a Cognitive Decline module in Health Examination Surveys could permit proxies and predictive models to dementia.</li> <li>• The EU funded EUROCODE (European Collaboration on Dementia) Project lead by Alzheimer Europe based its country-specific estimates on population statistics provided by Eurostat and on European average prevalence rates from the EURODEM-group and from a study by Ferri et al. (2005). The EURODEM-group pooled data on prevalence of moderate to severe dementia in several European countries to provide estimated prevalence rates for nine different age groups. Ferri et al. developed their prevalence rates through a DELPHI approach i.e. based on a consensus statement by experts in the field of dementia and not directly from epidemiological studies. The EUROCODE Project examined the EURODEM data taking into account high quality studies performed in the last 20 years looking at dementia prevalence and pooled these in a collaborative analysis. Age and sex specific prevalence rates have been calculated using this prevalence data.</li> <li>• In September 2011, Eurostat created a Task Force on morbidity statistics with the aim to look at the pilots and to provide criteria and recommendations on how to calculate the best estimates for the measurements presented in the European shortlist including harmonized definitions for the different indicators. The work done should be presented at the Eurostat Technical Group Care meeting of 12-13 June 2012.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Diagnosis specific morbidity statistics, Eurostat, public part of CIRCA</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Alzheimer Europe. Dementia in Europe Yearbook 2006. Including the Alzheimer Europe Annual Report 2005</a></li> <li>• <a href="#">Dementia in Europe Yearbook 2010 - Alzheimer Europe</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor developments Eurostat morbidity statistics</li> </ul>

## 22.2. Operational indicators

ID	Sub-division	Status	Indicator name	Data source	Operational indicator(s)
21301	Health status	Work-in-Progress section	22. Dementia	Eurostat (morbidity strand)	Number of individuals aged 65+ that have been diagnosed with dementia, per 100,000.
21302					Number of men aged 65+ that have been diagnosed with dementia, per 100,000.
21303					Number of women aged 65+ that have been diagnosed with dementia, per 100,000.

ID	Sub-division	Status	Indicator name	Data source	Operational indicator(s)
21304					Number of individuals aged 65-84 that have been diagnosed with dementia, per 100,000.
21305					Number of individuals aged 85+ that have been diagnosed with dementia, per 100,000.
21306					Number of individuals aged 65+ that have been diagnosed with dementia,% of population.
21307					Number of men aged 65+ that have been diagnosed with dementia, % of population.
21308					Number of women aged 65+ that have been diagnosed with dementia, % of population.
21309					Number of individuals aged 65-84 that have been diagnosed with dementia, % of population.
21310					Number of individuals aged 85+ that have been diagnosed with dementia, % of population.

## 23A. DEPRESSION, SELF-REPORTED PREVALENCE

### 23a.1. Documentation sheet

April 2012
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	23(a). Depression: self-reported prevalence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Non-communicable diseases (NCDs), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Mental health</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Proportion of individuals reporting to have ever been diagnosed with chronic depression and to have been affected by this condition during the past 12 months.
<i>Calculation</i>	Proportion of individuals reporting to have ever been diagnosed with chronic depression and to have been affected by this condition during the past 12 months, derived from European Health Interview Survey (EHIS) questions HS.4/5/6: HS.4: Do you have or have you ever had any of the following diseases or conditions? (19. Chronic depression) (yes / no). If yes: HS.5: Was this disease/condition diagnosed by a medical doctor? (yes / no). HS.6: Have you had this disease/condition in the past 12 months? (yes / no). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• SES (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)

<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	High-burden disease. Because of the high frequency of mental health problems in our society and the importance of their costs in human, social and economic terms, mental health should be regarded as a public health priority. The Global Burden of Disease study reckons that mental disorders represent four of the ten leading causes of disability worldwide. Depression is a major mental condition that is amenable to intervention.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• It has to be noted that this methodology will result in an underestimation of depression prevalence, as many people with depressive symptoms do not seek professional help and therefore they will not be diagnosed with depression. Moreover, depressive symptoms are not always recognized by physicians who are not specialised in mental disorders (e.g. GPs). Therefore epidemiological surveys using more comprehensive measurement instruments tend to find higher prevalence estimates than estimates based on registered/diagnosed cases.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• (E)HIS-based estimates may be influenced by reporting biases and sampling related biases. Therefore they may not be an adequate reflection of the current situation in a country, and other estimates may be better for this purpose (see indicator 23b). However, as a common methodology is underlying the gathering of EHIS data, they suit well the purpose of international comparison.</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• Murray C. The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries and risk factors in 1990 and projected to 2020. Cambridge M, Harvard School of Public Health (Pour le compte de l'Organisation Mondiale de la Santé et la Banque Mondiale), editors. 1996.</li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

### 23a.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
214a01	Health status	23 A. Depression (self reported)	Eurostat (EHIS) or national HIS	Proportion of individuals aged 15+ reporting to have ever been diagnosed with depression and to have been affected by this condition during the past 12 months.
214a02				Proportion of men aged 15+ reporting to have ever been diagnosed with depression and to have been affected by this condition during the past 12 months.
214a03				Proportion of women aged 15+ reporting to have ever been diagnosed with depression and to have been affected by this condition during the past 12 months.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
214a04				Proportion of people aged 15-64 reporting to have ever been diagnosed with depression and to have been affected by this condition during the past 12 months.
214a05				Proportion of people aged 65+ reporting to have ever been diagnosed with depression and to have been affected by this condition during the past 12 months.
214a06				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have ever been diagnosed with depression and to have been affected by this condition during the past 12 months.
214a07				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 3 or 4, reporting to have ever been diagnosed with depression and to have been affected by this condition during the past 12 months.
214a08				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 5 or 6, reporting to have ever been diagnosed with depression and to have been affected by this condition during the past 12 months.

## 23B. DEPRESSION, REGISTER-BASED PREVALENCE

### 23b.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	23(b). Depression: register-based prevalence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Non-Communicable diseases (NCD), Chronic Diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Mental health</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Number of individuals that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months. Expressed per 100,000 and as percentage of total population.
<i>Calculation</i>	National best estimate of number of individuals that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months (ICD-10 codes F32-F33; depressive episode and recurrent depressive disorder). Age standardization should be done for men and women separately, according to the direct method, using the 1976 WHO European population as standard population (this is the method applied for the Eurostat diagnosis-specific morbidity statistics; see references (document principles and guidelines in CIRCA)).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country.</li> <li>• Calendar year.</li> <li>• Sex.</li> <li>• Age group: <ul style="list-style-type: none"> <li>- for age standardization data must be collected by 5 year age groups (see calculation)</li> <li>- for data presentations it is required to present the following age groups; 15-64, 65+</li> </ul> </li> <li>• Socio-economic status (see data availability).</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>

<i>Preferred data type and data source</i>	Preferred data type: administrative sources (clinical records, insurance data), disease registers, etc., according to Eurostat recommendations for morbidity statistics. Which source is/which sources are to be preferred is dependent on the specific disease and the health care system and health information system in a specific country. Preferred source: national data
<i>Data availability</i>	Eurostat morbidity data activities are currently in a pilot phase. In 2007, 9 MS (CZ, CY, EE, HU, LT, LV, MT, SI, SK) carried out a data collection pilot. AT and DE carried out a pilot study in 2009. In 2009 BE, DE, FI, NL, PL and RO started with the pilot. Eurostat morbidity data will be available by sex and 18 age groups (0-4, 5-9, etc., 85+), not by socio-economic status and region. The pilot data will not be published since they were collected to assess the feasibility of the proposed method. But if the results of the final report of the TF (to be issued by the end of 2012) show that some indicators are comparable within MS, ECHIM could ask directly to the involved MS whether they agree to send to ECHIM their figures. The final aim (target: 2015) is to set up a regular data collection on morbidity. See remarks for more information on Eurostat's work on morbidity statistics. The ISARE project did not collect regional data on depression.
<i>Data periodicity</i>	It is currently not yet clear how often Eurostat will collect the diagnosis-specific morbidity data.
<i>Rationale</i>	High-burden disease. Because of the high frequency of mental health problems in our society and the importance of their costs in human, social and economic terms, mental health should be regarded as a public health priority. The Global Burden of Disease study reckons that mental disorders represent four of the ten leading causes of disability worldwide. Depression is a major mental condition that is amenable to intervention.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>The ICD-10 codes applied in the calculation deviate from the ICD-10 codes applied by Eurostat in their diagnosis-specific morbidity activities. Eurostat uses ICD-10 codes F30-F39; this includes bipolar affective disorder. As this definition is too divergent from the objective of this ECHI indicator, i.e. to measure prevalence of depression, ECHI applies a more specific selection of ICD-10 codes.</li> <li>Eurostat diagnosis-specific morbidity data activities are based on a shortlist of diseases covering 60 diseases/disease groups.</li> <li>Eurostat diagnosis-specific morbidity data activities are aimed at providing best national estimates. Also in the ECHIM data collection pilot each Member State itself decides which is (are) the best data source(s) for calculating this estimate. Given the fact that not in all MS the health information system is well aligned with the health care system, there will be limitations to the comparability of national estimates resulting from this approach. Therefore ECHIM also uses a European Health Interview Survey (EHIS)-based estimate (see indicator 23a).</li> <li>In September 2011, Eurostat created a Task Force on morbidity statistics with the aim to look at the pilots and to provide criteria and recommendations on how to calculate the best estimates for the measurements presented in the European shortlist including harmonized definitions for the different indicators. The work done should be presented at the Eurostat Technical Group Care meeting of 12-13 June 2012.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">Diagnosis specific morbidity statistics, Eurostat, public part of CIRCA</a></li> <li><a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Monitor developments Eurostat morbidity statistics</li> </ul>

## 23b.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
214b01	Health status	23 B. Depression (register-based)	Eurostat (morbidity strand) or national data	Number of individuals aged 15+ that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, per 100,000.
214b02				Number of men aged 15+ that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, per 100,000.
214b03				Number of women aged 15+ that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, per 100,000.
214b04				Number of individuals aged 15-64 that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, per 100,000.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
214b05				Number of individuals aged 65+ that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, per 100,000.
214b06				Number of individuals aged 15+ that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, % of population.
214b07				Number of men aged 15+ that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, % of population.
214b08				Number of women aged 15+ that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, % of population.
214b09				Number of individuals aged 15-64 that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, % of population.
214b10				Number of individuals aged 65+ that have ever been diagnosed with depression and that have been affected by this condition during the past 12 months, % of population.

## 24. ACUTE MYOCARDIAL INFARCTION (AMI)

### 24.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	24. Acute Myocardial Infarction (AMI)
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health system performance assessment, quality of care, efficiency of care, patient safety</li> <li>• Non-communicable diseases (NCDs), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care services</li> </ul>
<i>Definition</i>	Attack rate of acute myocardial infarction (non-fatal and fatal) and coronary death per 100,000 population.
<i>Calculation</i>	Age-standardized attack rate by sex in age group 35-74 in the population in a given calendar year, based on combined hospital discharge (ICD-10 codes I21, I22) and mortality data (ICD-10 codes I20-I25) (EUROCISS project recommendation). Attack rate counts the first and recurrent events, whenever there is at least 28 days between the onsets of the events. Age standardization should be done for men and women separately, according to the direct method, using the 1976 WHO European population as standard population (this is the method applied for the Eurostat diagnosis-specific morbidity statistics; see references (document principles and guidelines in CIRCA)).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> <li>• Sex</li> <li>• Age group: <ul style="list-style-type: none"> <li>- for age standardization data must be collected by 5 year age groups for ages 35-74</li> <li>- for data presentations it is required to present the following age groups; 35-64, 65-74</li> </ul> </li> <li>• Socio-economic status (see data availability)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Hospital discharge registries combined with causes of death registries</li> <li>• Alternatively: population-based AMI registers</li> </ul> <p>Preferred source: national data sources (no data available in international data sources according to preferred definition)</p>

<i>Data availability</i>	No regular data collection for this indicator yet exists. AMI population-based regional registers are available in: Belgium, Denmark, Finland, France, Germany, Iceland, Italy, Norway and Sweden. In general these registers do not produce data on AMI by SES. The ISARE project has not collected regional data on AMI incidence/attack rate.
<i>Data periodicity</i>	See data availability.
<i>Rationale</i>	High-burden disease and cause of death. These diseases are preventable.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>About 30-40% of cardiac attacks are fatal and patients die before reaching the hospital. As a consequence, only a combination of mortality data and hospital discharge records can provide a complete picture of the disease in the population. The calculation of this indicator therefore requires linkage of different data sources at subject level. Possibilities for this kind of linkage differ between countries due to a disharmonized legal framework regarding the possibilities to use personal health data for data protection purposes.</li> <li>A wider group of diagnoses (ICD-10 codes) is proposed for the fatal cases than for the non-fatal cases, because it is often impossible to tell whether the death was caused by a myocardial infarction or other coronary event.</li> </ul> <p>Incidence from a primary prevention point of view is more interesting than attack rate, although both bring very similar information. Incidence refers to person's first event. Ideally the denominator should be those who have not had an AMI before, but in practise this is not possible. The total population in the denominator gives a good approximation. Data for attack rate however are more widely available. The preferred age range is limited because the disease is extremely rare in people younger than 35. People older than 74 are excluded as co-morbidity and identification of the cause of death in this group would complicate the interpretation of the results.</p> <p>The accuracy of the mortality diagnosis of ischaemic heart disease varies considerably between countries due to differences in coding practices and differences in the number of autopsies performed.</p>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">EUROCISS project</a></li> <li><a href="#">EUROCISS definition AMI incidence/attack rate</a></li> <li><a href="#">EUROCISS project, manual for operating population based AMI register</a></li> <li><a href="#">Diagnosis specific morbidity statistics, Eurostat, public part of CIRCA</a></li> <li><a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>Tunstall-Pedoe H, Kuulasmaa K, Amouyel P, Arveiler D, Rajakangas A-M, Pajak A, for the WHO MONICA Project. Myocardial infarction and coronary deaths in the World Health Organization MONICA Project. Registration procedures, event rates and case fatality in 38 populations from 21 countries in 4 continents. <i>Circulation</i> 1994;90:583-612</li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Discuss with European Commission possibilities for adding this indicator to regular data collection processes</li> <li>During the ECHIM data collection pilot, which was conducted during the Joint Action for ECHIM, it became clear that there was a need in the Member States for a detailed algorithm for computing this indicator → elaborate algorithm and add to indicator documentation</li> </ul>

## 24.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
21501	Health status	24. Acute Myocardial Infarction (AMI)	National data (registers, administrative sources)	Attack rate of acute myocardial infarction (non-fatal and fatal) and coronary death in population aged 35-74, per 100,000.
21502				Attack rate of acute myocardial infarction (non-fatal and fatal) and coronary death in male population aged 35-74, per 100,000.
21503				Attack rate of acute myocardial infarction (non-fatal and fatal) and coronary death in female population aged 35-74, per 100,000.
21504				Attack rate of acute myocardial infarction (non-fatal and fatal) and coronary death per 100,000, for age group 35-64.
21505				Attack rate of acute myocardial infarction (non-fatal and fatal) and coronary death per 100,000, for age group 65-74.



## 25. STROKE

### 25.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 25. Stroke
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health system performance assessment, quality of care, efficiency of care, patient safety</li> <li>• Non-communicable diseases (NCDs), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Mental health</li> <li>• (Planning of) health care services</li> </ul>
<i>Definition</i>	Attack rate of stroke (non-fatal and fatal) per 100,000 population.
<i>Calculation</i>	Age-standardized attack rate by sex in age group 35-84 in the population in a given calendar year, based on combined hospital discharge and mortality data (ICD-10 codes I60-I64) (EUROCISS project recommendation). Attack rate counts the first and recurrent events, whenever there is at least 28 days between the onsets of the events. Age standardization should be done for men and women separately, according to the direct method, using the 1976 WHO European population as standard population (this is the method applied for the Eurostat diagnosis-specific morbidity statistics; see references (document principles and guidelines in CIRCA)).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> <li>• Sex</li> <li>• Age group: <ul style="list-style-type: none"> <li>- for age standardization data must be collected by 5 year age groups for ages 35-84</li> <li>- for data presentations it is required to present the following age groups; 35-64, 65-84</li> </ul> </li> <li>• Socio-economic status (see data availability)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Hospital discharge registries combined with causes of death registries</li> <li>• Alternatively: population-based stroke registers</li> </ul> <p>Preferred source: national data sources (no data available in international data sources according to preferred definition)</p>
<i>Data availability</i>	No regular data collection for this indicator yet exists. Stroke population-based regional registers are available in Denmark, Finland, France, Germany, Italy, Norway and Sweden. In general these registers do not produce data on stroke by SES. The ISARE project has not collected regional data on stroke.
<i>Data periodicity</i>	See data availability.
<i>Rationale</i>	High-burden disease and cause of death. These diseases are preventable.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Between 3 and 13% of strokes are fatal and patients die before reaching the hospital. As a consequence, only a combination of mortality data and hospital discharge records can provide a complete picture of the disease in the population. The calculation of this indicator therefore requires linkage of different data sources at subject level. Possibilities for this kind of linkage differ between countries due to a disharmonized legal framework regarding the possibilities to use personal health data for data protection purposes.</li> <li>• People may die from the effects of stroke long after the event took place. Therefore in stroke it is difficult to establish a time frame for distinguishing between first and recurrent events. 28 days is a commonly applied time frame. One has to realize though that this definition may result in double counting of events; one for the stroke, and one for death as a consequence of the stroke when death occurs later than 28 days after the stroke. EUROCISS project recommends to report separately: a) haemorrhagic stroke (ICD-10 codes I61, I62), b) ischaemic stroke (ICD-10 codes I63, I64) and c) subarachnoid stroke (ICD-10 codes I60), because of the different disease entities (and hence different risk factors) underlying these diagnoses. ECHIM endorses this point of view, but feels that, given the current lack of data, it seems too early to ask the Member States to implement this indicator at such a detailed level now. ECHIM does nevertheless envisage refining the indicator definition in future.</li> <li>• Incidence from a primary prevention point of view is more interesting than attack rate, although both bring very similar information. Incidence refers to person's first event. Ideally the denominator should be those who have not had a stroke before, but in practise this is not possible. The total population in the denominator gives a good approximation. Data for attack rate however are more widely available.</li> <li>• The preferred age range is limited because the disease is rare in people younger than 35. People older than 84 are excluded as co-morbidity and identification of the cause of death in this group would complicate the interpretation of the results.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EUROCISS project</a></li> <li>• <a href="#">EUROCISS project, manual for operating population based stroke register</a></li> <li>• <a href="#">Diagnosis specific morbidity statistics, Eurostat, public part of CIRCA</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Discuss with European Commission possibilities for adding this indicator to regular data collection processes</li> <li>• P.M.: refine indicator definition according to EUROCISS recommendations (report separately for a) haemorrhagic stroke (ICD-10 codes I61, I62), b) ischaemic stroke (ICD-10 codes I63, I64) and c) subarachnoid stroke (ICD-10 codes I60))</li> <li>• During the ECHIM data collection pilot, which was conducted during the Joint Action for ECHIM, it became clear that there was a need in the Member States for a detailed algorithm for computing this indicator → elaborate algorithm and add to indicator documentation</li> </ul>

## 25.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
21601	Health status	25. Stroke	National data (registers, administrative sources)	Attack rate of stroke (non-fatal and fatal) in population aged 35-84, per 100,000.
21602				Attack rate of stroke (non-fatal and fatal) in male population aged 35-84, per 100,000.
21603				Attack rate of stroke (non-fatal and fatal) in female population aged 35-84, per 100,000.
21604				Attack rate of stroke (non-fatal and fatal) per 100,000, for age group 35-64.
21605				Attack rate of stroke (non-fatal and fatal) per 100,000, for age group 65-84.

## 26A. ASTHMA, SELF-REPORTED PREVALENCE

### 26a.1 Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 26(a). Asthma: self-reported prevalence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Environmental health</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Proportion of individuals reporting to have ever been diagnosed with asthma and to have been affected by this condition during the past 12 months.

<i>Calculation</i>	Proportion of individuals reporting to have ever been diagnosed with asthma and to have been affected by this condition during the past 12 months, derived from European Health Interview Survey (EHIS) questions HS.4/5/6: HS.4: Do you have or have you ever had any of the following diseases or conditions? 1. Asthma (allergic asthma included) (yes / no). If yes: HS.5: Was this disease/condition diagnosed by a medical doctor? (yes / no). HS.6: Have you had this disease/condition in the past 12 months? (yes / no). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Asthma is a significant public health problem and a high-burden disease for which prevention is partly possible and treatment can be quite effective.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>- According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>- The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>- (E)HIS-based estimates may be influenced by reporting biases and sampling related biases. Therefore they may not be an adequate reflection of the current situation in a country, and other estimates may be better for this purpose (see indicator 26b). However, as a common methodology is underlying the gathering of EHIS data, they suit well the purpose of international comparison.</li> <li>- The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> <li>• Monitor EHES developments</li> </ul>

## 26a.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
217a01	Health status	26 A. Asthma (self-reported)	Eurostat (EHIS) or national HIS	Proportion of individuals aged 15+ reporting to have been diagnosed with asthma and to have ever been affected by this condition during the past 12 months.
217a02				Proportion of men aged 15+ reporting to have been diagnosed with asthma and to have ever been affected by this condition during the past 12 months.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
217a03				Proportion of women aged 15+ reporting to have been diagnosed with asthma and to have ever been affected by this condition during the past 12 months.
217a04				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have been diagnosed with asthma and to have ever been affected by this condition during the past 12 months.
217a05				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 3 or 4, reporting to have been diagnosed with asthma and to have ever been affected by this condition during the past 12 months.
217a06				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 5 or 6, reporting to have been diagnosed with asthma and to have ever been affected by this condition during the past 12 months.

## 26B. ASTHMA, REGISTER-BASED PREVALENCE

### 26b.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	26(b). Asthma: register-based prevalence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Environmental health</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Number of individuals that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months. Expressed per 100,000 and as percentage of total population.
<i>Calculation</i>	National best estimate of number of individuals that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months (ICD-10 codes J45, J46). Age standardization should be done for men and women separately, according to the direct method, using the 1976 WHO European population as standard population (this is the method applied for the Eurostat diagnosis-specific morbidity statistics; see references (document principles and guidelines in CIRCA)).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country.</li> <li>• Calendar year.</li> <li>• Sex.</li> <li>• Age group: <ul style="list-style-type: none"> <li>- for age standardization data must be collected by 5 year age groups (see calculation)</li> <li>- for data presentations it is required to present the following age groups: 0-14, 15+</li> </ul> </li> <li>• Socio-economic status (see data availability).</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: administrative sources (clinical records, insurance data), disease registers, etc., according to Eurostat recommendations for morbidity statistics. Which source is/which sources are to be preferred is dependent on the specific disease and the health care system and health information system in a specific country. Preferred source: Eurostat (diagnosis-specific morbidity data)

<i>Data availability</i>	Eurostat morbidity data activities are currently in a pilot phase. In 2007, 9 MS (CZ, CY, EE, HU, LT, LV, MT, SI, SK) carried out a data collection pilot. AT and DE carried out a pilot study in 2009. In 2009 BE, DE, FI, NL, PL and RO started with the pilot. Eurostat morbidity data will be available by sex and 18 age groups (0-4, 5-9, etc., 85+), not by socio-economic status and region. The pilot data will not be published since they were collected to assess the feasibility of the proposed method. But if the results of the final report of the TF (to be issued by the end of 2012) show that some indicators are comparable within MS, ECHIM could ask directly to the involved MS whether they agree to send to ECHIM their figures. The final aim (target: 2015) is to set up a regular data collection on morbidity. See remarks for more information on Eurostat's work on morbidity statistics. The ISARE project on regional indicators does not collect data on asthma.
<i>Data periodicity</i>	It is currently not yet clear how often Eurostat will collect the diagnosis-specific morbidity data.
<i>Rationale</i>	Asthma is a significant public health problem and a high-burden disease for which prevention is partly possible and treatment can be quite effective.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Eurostat diagnosis-specific morbidity data activities are based on a shortlist of diseases covering 60 diseases/disease groups.</li> <li>• Eurostat diagnosis-specific morbidity data activities are aimed at providing best national estimates. Each Member State itself decides which is (are) the best data source(s) for calculating a certain estimate. Given the fact that not in all MS the health information system is well aligned with the health care system, there will be limitations to the comparability of national estimates resulting from this approach. Therefore, ECHIM also uses a European Health Interview Survey (EHIS)-based estimate (see indicator 26a).</li> <li>• In September 2011, Eurostat created a Task Force on morbidity statistics with the aim to look at the pilots and to provide criteria and recommendations on how to calculate the best estimates for the measurements presented in the European shortlist including harmonized definitions for the different indicators. The work done should be presented at the Eurostat Technical Group Care meeting of 12-13 June 2012.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Diagnosis specific morbidity statistics, Eurostat, public part of CIRCA</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor developments Eurostat morbidity statistics</li> </ul>

## 26b.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
217b01	Health status	26 B. Asthma (register- or project-based)	Eurostat (morbidity strand) or national data	Number of individuals, per 100,000, that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months.
217b02				Number of men, per 100,000, that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months.
217b03				Number of women, per 100,000, that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months.
217b04				Number of individuals aged 0-14, per 100,000, that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months.
217b05				Number of individuals aged 15+, per 100,000, that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months.
217b06				Number of individuals that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months, % of population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
217b07				Number of men that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months, % of population.
217b08				Number of women that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months, % of population.
217b09				Number of individuals aged 0-14 that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months, % of population.
217b10				Number of individuals aged 15+ that have ever been diagnosed with asthma and that have been affected by this condition during the past 12 months, % of population.

## 27A. COPD, SELF-REPORTED PREVALENCE

### 27a.1. Documentation sheet

April 2012
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	27(a). Chronic obstructive pulmonary disease (COPD): self-reported prevalence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, ageing population</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Life style, health behaviour</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Proportion of individuals reporting to have ever been diagnosed with chronic obstructive pulmonary disease (COPD) and to have been affected by this condition during the past 12 months.
<i>Calculation</i>	Proportion of individuals reporting to have ever been diagnosed with chronic obstructive pulmonary disease (COPD) and to have been affected by this condition during the past 12 months, derived from European Health Interview Survey (EHIS) questions HS.4/5/6: HS.4: Do you have or have you ever had any of the following diseases or conditions? 2. Chronic bronchitis, chronic obstructive pulmonary disease, emphysema (yes / no). If yes: HS.5: Was this disease/condition diagnosed by a medical doctor? (yes / no). HS.6: Have you had this disease/condition in the past 12 months? (yes / no). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)

<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	COPD is a high-burden disease causing disability and impairing quality of life, as well as generating high costs. COPD is among the leading causes of chronic morbidity and mortality in the EU. Prevention is partly possible and treatment can be quite effective. Smoking is the major risk factor for COPD.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The definition applied by EHIS covers both bronchitis and lung disease characterized by obstruction (emphysema, other COPD). Though these are different disease entities, it is common practice to include both in the definition of COPD. Though the distinction between the different diagnoses is important from a clinical perspective, it is less relevant from a prevention perspective, as common determinants underlie these conditions (smoking, air pollution).</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• (E)HIS-based estimates may be influenced by reporting biases and sampling related biases. Therefore they may not be an adequate reflection of the current situation in a country, and other estimates may be better for this purpose (see indicator 27b). However, as a common methodology is underlying the gathering of EHIS data, they suit well the purpose of international comparison.</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

## 27a.2 Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
218a01	Health status	27 A. COPD (self-reported)	Eurostat (EHIS) or national HIS	Proportion of individuals aged 15+ reporting to have ever been diagnosed with COPD and to have been affected by this condition during the past 12 months.
218a02				Proportion of men aged 15+ reporting to have ever been diagnosed with COPD and to have been affected by this condition during the past 12 months.
218a03				Proportion of women aged 15+ reporting to have ever been diagnosed with COPD and to have been affected by this condition during the past 12 months.
218a04				Proportion of people aged 15-64 reporting to have ever been diagnosed with COPD and to have been affected by this condition during the past 12 months.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
218a05				Proportion of people aged 65+ reporting to have ever been diagnosed with COPD and to have been affected by this condition during the past 12 months.
218a06				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have been diagnosed with COPD and to have ever been affected by this condition during the past 12 months.
218a07				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 3 or 4, reporting to have been diagnosed with COPD and to have ever been affected by this condition during the past 12 months.
218a08				Proportion of people aged 15+ , whose highest completed level of education is ISCED class 5 or 6, reporting to have been diagnosed with COPD and to have ever been affected by this condition during the past 12 months.

## 27B. COPD, REGISTER BASED PREVALENCE

### 27b.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	27(b). Chronic obstructive pulmonary disease (COPD): register-based prevalence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, ageing population</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Life style, health behaviour</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Number of individuals that have ever been diagnosed with chronic obstructive pulmonary disease and that have been affected by this condition during the past 12 months. Expressed per 100,000 and as percentage of total population.
<i>Calculation</i>	National best estimate of number of individuals that have ever been diagnosed with chronic lower respiratory diseases other than asthma, including COPD, and that have been affected by this condition during the past 12 months (ICD-10 codes J40-J44; includes chronic bronchitis, emphysema and other chronic obstructive pulmonary disease (COPD)). Age standardization should be done for men and women separately, according to the direct method, using the 1976 WHO European population as standard population (this is the method applied for the Eurostat diagnosis-specific morbidity statistics; see references (document principles and guidelines in CIRCA)).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country.</li> <li>• Calendar year.</li> <li>• Sex.</li> <li>• Age group: <ul style="list-style-type: none"> <li>- for age standardization data must be collected by 5 year age groups (see calculation)</li> <li>- for data presentations it is required to present the following age groups; 15-64, 65+</li> </ul> </li> <li>• Socio-economic status (see data availability).</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: administrative sources (clinical records, insurance data), disease registers, etc., according to Eurostat recommendations for morbidity statistics. Which source is/which sources are to be preferred is dependent on the specific disease and the health care system and health information system in a specific country. Preferred source: Eurostat (diagnosis-specific morbidity data)



<i>Data availability</i>	Eurostat morbidity data activities are currently in a pilot phase. In 2007, 9 MS (CZ, CY, EE, HU, LT, LV, MT, SI, SK) carried out a data collection pilot. AT and DE carried out a pilot study in 2009. In 2009 BE, DE, FI, NL, PL and RO started with the pilot. Eurostat morbidity data will be available by sex and 18 age groups (0-4, 5-9, etc., 85+), not by socio-economic status and region. The pilot data will not be published since they were collected to assess the feasibility of the proposed method. But if the results of the final report of the TF (to be issued by the end of 2012) show that some indicators are comparable within MS, ECHIM could ask directly to the involved MS whether they agree to send to ECHIM their figures. The final aim (target: 2015) is to set up a regular data collection on morbidity. See remarks for more information on Eurostat's work on morbidity statistics. The ISARE project did not collect regional data on COPD.
<i>Data periodicity</i>	It is currently not yet clear how often Eurostat will collect the diagnosis-specific morbidity data.
<i>Rationale</i>	COPD is a high-burden disease causing disability and impairing quality of life, as well as generating high costs. COPD is among the leading causes of chronic morbidity and mortality in the EU. Prevention is partly possible and treatment can be quite effective. Smoking is the major risk factor for COPD.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>The ICD-10 codes applied in the calculation deviate slightly from the ICD-10 codes applied by Eurostat in their diagnosis-specific morbidity activities. Eurostat uses ICD-10 codes J40-J44, and J47. ICD-10 code J47 covers the diagnosis bronchiectasis. Bronchiectasis is not a common disorder nowadays in developed countries. Hence, its relevance for public health is limited.</li> <li>When looking at the literature, different approaches with regard to defining COPD in terms of ICD codes are being applied. Commonly however ICD-10 codes J40-J44 are being used to define COPD, including the different disease entities bronchitis and lung disease characterized by obstruction (emphysema and other COPD).</li> <li>Though it is relevant from a clinical perspective to make a distinction between the different diagnoses covered by COPD, from a prevention perspective this is less relevant, as common determinants underlie these conditions (smoking, air pollution). Therefore ECHIM has decided to apply the commonly used 'broad' definition of COPD (J40-J44). This approach will also enhance comparability with the European Health Interview Survey (EHIS) based estimate for this indicator, which also applies a broad definition, including both bronchitis and emphysema (see indicator 27(a)).</li> <li>Eurostat diagnosis-specific morbidity data activities are based on a shortlist of diseases covering 60 diseases/disease groups.</li> <li>Eurostat diagnosis-specific morbidity data activities are aimed at providing best national estimates. Each Member State itself decides which is (are) the best data source(s) for calculating a certain estimate. Also in the ECHIM data collection pilot each Member State itself decides which is (are) the best data source(s) for calculating this estimate. Given the fact that not in all MS the health information system is well aligned with the health care system, there will be limitations to the comparability of national estimates resulting from this approach. Therefore, ECHIM also uses a European Health Interview Survey (EHIS)-based estimate (see indicator 21a).</li> <li>In September 2011, Eurostat created a Task Force on morbidity statistics with the aim to look at the pilots and to provide criteria and recommendations on how to calculate the best estimates for the measurements presented in the European shortlist including harmonized definitions for the different indicators. The work done should be presented at the Eurostat Technical Group Care meeting of 12-13 June 2012.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">Diagnosis specific morbidity statistics, Eurostat, public part of CIRCA</a></li> <li><a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Monitor developments Eurostat morbidity statistics</li> </ul>

## 27.2b. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
218b01	Health status	27 B. COPD (register- or project-based)	Eurostat (morbidity strand) or national data	Number of individuals aged 15+ that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, per 100,000.
218b02				Number of men aged 15+ that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, per 100,000.
218b03				Number of women aged 15+ that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, per 100,000.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
218b04				Number of individuals aged 15-64 that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, per 100,000.
218b05				Number of individuals aged 65+ that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, per 100,000.
218b06				Number of individuals aged 15+ that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, % of population.
218b07				Number of men aged 15+ that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, % of population.
218b08				Number of women aged 15+ that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, % of population.
218b09				Number of individuals aged 15-64 that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, % of population.
218b10				Number of individuals aged 65+ that have ever been diagnosed with COPD and that have been affected by this condition during the past 12 months, % of population.

## 28. (LOW) BIRTH WEIGHT

### 28.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b> 28. Low birth weight
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Maternal &amp; perinatal health</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Child health (including young adults)</li> </ul>
<i>Definition</i>	The proportion of live births of low birth weight per 100 live births in a given year.
<i>Calculation</i>	Number of live births weighting less than 2500 grams in a given year, expressed as a percentage of total number of live births (of any birth weight).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations)</li> <li>• Age of mother.</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: (In preference order) 1) Birth registries and perinatal databases 2) Perinatal surveys  Preferred source: WHO-HfA
<i>Data availability</i>	WHO-HfA: data available for the EU-27. Data available at least from early 1980s onwards, except for DE, EE, HR, LV and LI for which time series start later and for NL which data exists only for a couple of years. No data by region, or by age of mother. The ISARE project on regional data has collected data on low birth weight (indicators: Number of low birth weights, and: Percentage of low birth weights).
<i>Data periodicity</i>	Data are being updated annually.

<i>Rationale</i>	Important indicator for pregnancy conditions and perinatal care. Low birth weight is associated with health-problems later in life.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Birth weight is an accurately measured indicator. Babies can be low birth weight because they are born early, because they are growth restricted or both.</li> <li>• Ideally, comparisons between countries in Europe should take into consideration also differences in average birth weight and in birth weight distributions.</li> <li>• WHO publishes the data for live births weighing 2500 g or more for live births, but low birth weights can be calculated from this information.</li> <li>• PERISTAT is an EU-funded project on evaluating and monitoring perinatal health in Europe. PERISTAT calculates, which is scientifically preferable, low birth weight as the number of live births and stillbirths (from 22 weeks of gestation) weighting less than 2500 grams in a given year, expressed as a percentage of total number of all registered live and stillbirths of any birth weight. PERISTAT has data only for years 2000 (15 countries) and 2004 (26 countries). Next data round is planned for 2010 data.</li> <li>• Only if and when Eurostat starts to collect data according to the PERISTAT definition, can Eurostat data be presented.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">WHO, European Health for All database (WHO-Hfa)</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">PERISTAT</a></li> <li>• For PERISTAT project 2000 data please see: the Special Issue of the European Journal for Obstetrics &amp; Gynecology and Reproductive Biology, Volume 111 (2003), Supplement 1, S1–S87</li> <li>• For PERISTAT project 2004 data please see: “European Perinatal Health Report”</li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor Eurostat and PERISTAT developments regarding indicator definition and data collection</li> <li>• Check with ISARE project precise definition they applied for low birth weight.</li> </ul>

## 28.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
21901	Health status	28. (Low) birth weight	WHO-HFA	Percentage of live births with weighing less than 2500 grams.

**28. (Low) birth weight****Comparability between countries**

Birth weight can be accurately measured, which contributes to comparability between countries. Differences in the inclusion of births can affect comparability between countries. Some countries require a minimum weight of e.g. 500 grams, a minimum gestational age or a minimum survival time (e.g. 24 hours) in order to consider the infant a live birth (see remarks on comparability for ECHI indicator 12 perinatal mortality). Although this difference affects the comparability of the prevalence of low birth weight, the effect is smaller than the effect on the comparability of mortality rates, because these births account for a very small number of live births; in 2004 less than 0.07% of live births in European countries have a weight less than 500 grams (Joseph et al., 2012).

Country-specific information on the inclusion of births, obtained from the metadata in the WHO-HfA database:

Croatia: only infants born at maternity wards are included;  
 the Netherlands: only infants with a gestational age of 22 weeks or more were included in both the nominator and denominator;  
 Switzerland: only infants for which the weight is known, are included. These comprise more than 99%;  
 Scotland: only infants born in a hospital are included.

Supplemental information comes from metadata on the WHO-HfA indicator 'number of live births'. Poland only includes infants with a weight of 500 grams or more, the Czech Republic only includes infants with a weight of 500 grams or more or infants with a weight less than 500 grams and survival for at least 24 hours after birth. For countries for which no information is recorded, it is unclear whether restrictions are applied.

Another difference that can cause comparability problems is the fact whether newborns of mothers with a foreign citizenship or mothers living abroad are included or excluded in the indicator.

Babies have a low birth weight because they are preterm, growth restricted, or both. Information on gestational age is essential for distinguishing between these groups. Presenting data by gestational age would enhance comparability. In addition, maternal height and weight influence birth weight. For example, in countries where the average height is shorter, the proportion of babies with a birth weight below 2500 grams is expected to be higher (Lack et al., 2003). Therefore, the existence of physiological variability in birth weight in Europe has to be taken into consideration when interpreting differences between countries. Other factors affecting birth weight and for which adjustment is desired, are maternal age, parity, ethnicity and sex of the baby. A method to stimulate fair comparisons between countries, is to use customized growth curves. Customized growth curves are growth curves adjusted for maternal height and weight, parity and ethnic group (Gardosi, 2006). Till now, in the WHO-HfA database no adjustments are made. This might cause the observed north to south increasing trend in Europe in the prevalence of low birth weight (Zeitlin et al., 2009; EURO-PERISTAT, 2008).

**Comparability over time**

For all countries data of this indicator is comparable over time. For some countries however, a change in the definition of live births was made or a change of the data source was established.

**General note on comparability with national data**

See textbox 4 in *chapter 2.4* of this report.

**References and further reading**

- [Infant and Perinatal health on DG SANCO website](#)
- [Metadata in WHO Health for All \(HfA\) database](#)
- General background information on birth weight is available in the WHO report '[Neonatal and Perinatal Mortality. Country, Regional and Global Estimates](#)', published in 2006. This information does not represent the definitions used in the HfA database.
- [Website of PERISTAT](#)

**Literature:**

- EURO-PERISTAT project. European perinatal health report. Data from 2004. Published in 2008. Available at: <http://www.europeristat.com>.
- Gardosi J. New definition of Small for Gestational Age based on fetal growth potential. *Horm Res* 2006;65(suppl 3):15–18.
- Joseph KS, Liu S, Rouleau J, Lisonkova S et al. Influence of definition based versus pragmatic birth registration on international comparisons of perinatal and infant mortality: population based retrospective study. *BMJ* 2012;344:e746.
- Lack N, Zeitlin J, Krebs L, Kunzel W, Alexander S. Methodological difficulties in the comparison of indicators of perinatal health across Europe. *Eur J Obstet Gynecol Reprod Biol*, 2003;111 Suppl 1:S33-44.
- Zeitlin J, Mohangoo A, Cuttini M, and the EUROPERISTAT Report Writing Committee. The European Perinatal Health Report: comparing the health and care of pregnant women and newborn babies in Europe. *J Epidemiol Community Health* 2009; 63: 681-2.

## 29A. INJURIES: HOME, LEISURE, SCHOOL, SELF-REPORTED INCIDENCE

### 29a.1. Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
<p>This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave I. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.</p>

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	29(a). Injuries: home, leisure, school: self-reported incidence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	<ol style="list-style-type: none"> <li>1) Proportion of individuals reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.</li> <li>2) Proportion of individuals reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.</li> </ol>
<i>Calculation</i>	<ol style="list-style-type: none"> <li>1) Proportion of individuals reporting to have had a home and leisure accident during the past 12 months, derived from EHIS question HS.7: In the past 12 months, have you had any of the following type of accidents resulting in injury (external or internal)? 3. Accident at school, and 4. Home and leisure accident (yes / no). Respondents answering yes to either or both of the above mentioned HS7 answering categories should be added.</li> <li>2) Proportion of individuals reporting to have had a home and leisure accident during the past 12 months, derived from EHIS: question HS.7 and HS.8: HS.7 In the past 12 months, have you had any of the following type of accidents resulting in injury (external or internal)? 3. Accident at school, and 4. Home and leisure accident (yes / no). Respondents answering yes to either or both of the above mentioned HS7 answering categories should be added, and from these respondents the ones answering positively to HS.8 should be extracted; HS.8: Did you visit a doctor, a nurse or an emergency department of a hospital as a result of this accident? (Yes, I visited a doctor or nurse / Yes, I went to an emergency department / No consultation or intervention was necessary).</li> </ol> <p>EHIS data will not be age standardized.</p>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-24; 25-64; 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: HIS Preferred source: Eurostat (EHIS)</p>
<i>Data availability</i>	<p>BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.</p>
<i>Data periodicity</i>	<p>EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.</p>

<i>Rationale</i>	Annually, in the EU more than 60 million people receive medical treatment for an injury, from which an estimated 7 million are admitted to hospital. Two-thirds of all injuries occur in home and leisure environments - a trend that is on the increase across Europe. Detailed injury data (in particular on external circumstances as activities, settings, products involved) makes it possible to develop prevention measures, monitor injury trends, prioritise issues, guide policies and evaluate the success of interventions designed to reduce injuries.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• EHIS distinguishes the following accident categories: road traffic accident, accident at work, accident at school, home and leisure accident. Injuries resulting from poisoning and wilful acts of other persons are included in these categories. From a policy perspective, it would be better to separate interpersonal violence and genuine accidents.</li> <li>• EHIS allows for the computation of person-incidence, i.e. the number of persons who have had one or more accidents during the last year. It would be preferable to know the case-incidence, i.e. the number of accidents that occurred during the last year, as this gives a more precise estimate the occurrence of injuries. Register data generally do allow for the measurement of case-incidence. Therefore ECHIM has also defined a register based incidence operationalization (see indicator 29(b)).</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• (E)HIS-based estimates may be influenced by reporting biases and sampling related biases. Therefore they may not be an adequate reflection of the current situation in a country, and other estimates may be better for this purpose (see indicator 29b). However, as a common methodology is underlying the gathering of EHIS data, they suit well the purpose of international comparison.</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

## 29a.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
220a01	Health status	29 A. Injuries: home/leisure/school (self-reported)	Eurostat (EHIS) or national HIS	Proportion of individuals aged 15+ reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.
220a02				Proportion of men aged 15+ reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.
220a03				Proportion of women aged 15+ reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.
220a04				Proportion of individuals aged 15-24 reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.
220a05				Proportion of individuals aged 25-64 reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.
220a06				Proportion of individuals aged 65+ reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
220a07				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.
220a08				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.
220a09				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury.
220a10				Proportion of individuals aged 15+ reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.
220a11				Proportion of men aged 15+ reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.
220a12				Proportion of women aged 15+ reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.
220a13				Proportion of individuals aged 15-24 reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.
220a14				Proportion of individuals aged 25-64 reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.
220a15				Proportion of individuals aged 65+ reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.
220a16				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.
220a17				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.
220a18				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to have had an accident at home, during leisure activities, and/or at school during the past 12 months, which resulted in injury for which medical treatment was sought.

## 29B. INJURIES: HOME, LEISURE, SCHOOL, REGISTER-BASED INCIDENCE

### 29b.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 29(b). Injuries: home, leisure, school: register-based incidence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>- Healthy ageing, ageing population</li> <li>- (Preventable) Burden of Disease (BoD)</li> <li>- Preventable health risks</li> <li>- Child health (including young adults)</li> <li>- (Planning of) health care resources</li> <li>- Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Number of accidents at home and/or during leisure activities during the past 12 months, resulting in an injury that required treatment in a hospital, expressed per 100,000.
<i>Calculation</i>	Crude incidence rate according to the Injury Database (IDB) methodology (see remarks for more information on IDB). Numerator: occurrence of hospital treated home/leisure injuries (inpatient and outpatient-treatments, excluding “deceased”) in a given calendar year, projected to the resident population based on national Hospital Discharge (HD) register. Denominator: Resident population. If there is no national HD register available, the projection is done based on the HD statistics of the IDB hospital with the aggregated catchment population of this hospital as provided by the national IDB data administrator. In IDB the incidence rates are expressed per 1,000 inhabitants; ECHIM expresses them per 100,000 to enhance comparability with other morbidity and mortality indicators in the ECHI shortlist.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>- Country.</li> <li>- Calendar year.</li> <li>- Sex.</li> <li>- Age group (Data are collected in IDB by 5 year age groups (see data availability). For data presentation purposes, ECHIM recommends the use of the following aggregated age groups: 0-14, 15-24; 25-64; 65+).</li> <li>- SES (see data availability).</li> <li>- Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Special hospital discharge records (see IDB methodology) Preferred source: Injury Database (IDB)
<i>Data availability</i>	In April 2010 the publicly accessible part of IDB holds data for AT, DK, FR, NL, PT, SE and UK, for the period 2002-2007. However, in 2010 15 MS are collecting IDB data (AT, CY, CZ, DK, FR, GE, IT, LV, MT, NL, NO, PT, SE, SI, UK), and updates of the database are expected soon. Data in IDB are available by sex, age group (0-4, 5-9, etc., 85+), not by SES and region. The ISARE project on regional indicators does not collect data on home/leisure and school accidents. It is expected that the geographical coverage of IDB (i.e. number of countries participating) will be expanded in a future Joint Action on injury data (see remarks).
<i>Data periodicity</i>	In April 2010 IDB holds annual estimates for the years 2002-2007. The data are uploaded annually, but with a delay of 1-2 years
<i>Rationale</i>	Annually, in the EU more than 60 million people receive medical treatment for an injury, from which an estimated 7 million are admitted to hospital. Two-thirds of all injuries occur in home and leisure environments - a trend that is on the increase across Europe. Detailed injury data (in particular on external circumstances as activities, settings, products involved) makes it possible to develop prevention measures, monitor injury trends, prioritise issues, guide policies and evaluate the success of interventions designed to reduce injuries.



<i>Remarks</i>	<ul style="list-style-type: none"> <li>The development of the IDB methodology as well as the implementation in new countries has been co-funded by DG SANCO (since 1999). SANCO also hosts the IDB database. Expenditures for national data collection are covered by Member State organizations. IDB is based on Accident and Emergency department data from selected Member State hospitals (sentinel network).</li> <li>A call for a joint action on injury data was launched in the SANCO work plan 2010. This may result in an expansion of geographical coverage of IDB. Also representativeness and comparability of the IDB estimates may be enhanced, as it is foreseen that during the Joint Action the methodology will be adapted in such a way that the data from the IDB reference hospital(s) will be linked with hospital discharge figures.</li> <li>IDB collects data according to the ICE-CI WHO standard (International Classification of External Causes of Injuries) that is compatible to the ICD-10 classification of injuries (see WHO ICD-10 and WHO ICD-11).</li> <li>In IDB methodology, all accidents, except for road traffic and occupational accidents, are considered as home and leisure accidents and as such fall into the scope of the HLA system. IDB allows for detailed analyses by providing the following breakdowns: circumstances of injury (home, school, leisure, sport, road, workplace, self-harm, interpersonal violence) and severity of injury (inpatient, outpatient). Please note that the European Health Interview Survey (EHIS) applies a somewhat different taxonomy; EHIS distinguishes road traffic accidents, accidents at work, accidents at school, home and leisure accidents (see indicator 29(a)).</li> <li>Hospital discharges (severely) underestimate the number of accidents occurring at home and during leisure activities. Therefore ECHIM has also defined a Health Interview Survey based incidence estimate (see indicator 29(a)).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">IDB database (integrated in HEIDI wiki)</a></li> <li><a href="#">IDB coding manual</a></li> <li><a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Monitor organizational and methodological developments IDB and their consequences for ECHI</li> </ul>

## 29b.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
220b01	Health status	29 B. Injuries: home/leisure/school (register- or project-based)	IDB or national data	Number of accidents at home and/or during leisure activities during the past 12 months, resulting in an injury that required treatment in a hospital, expressed per 100,000.
220b02				Number of accidents at home and/or during leisure activities during the past 12 months, resulting in an injury that required treatment in a hospital, expressed per 100,000, in men.
220b03				Number of accidents at home and/or during leisure activities during the past 12 months, resulting in an injury that required treatment in a hospital, expressed per 100,000, in women.
220b04				Number of accidents at home and/or during leisure activities during the past 12 months, resulting in an injury that required treatment in a hospital, expressed per 100,000, in age group 0-14.
220b05				Number of accidents at home and/or during leisure activities during the past 12 months, resulting in an injury that required treatment in a hospital, expressed per 100,000 in age group 15-24.
220b06				Number of accidents at home and/or during leisure activities during the past 12 months, resulting in an injury that required treatment in a hospital, expressed per 100,000 in age group 25-64.
220b07				Number of accidents at home and/or during leisure activities during the past 12 months, resulting in an injury that required treatment in a hospital, expressed per 100,000 in age group 65+.

## 30A. INJURIES: ROAD TRAFFIC, SELF-REPORTED INCIDENCE

### 30a.1. Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
<p>This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.</p>

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
<i>Relevant policy areas</i>	30(a). Injuries: road traffic: self-reported incidence <ul style="list-style-type: none"> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	<ol style="list-style-type: none"> <li>1) Proportion of individuals reporting to have had a road traffic accident, which resulted in injury during the past 12 months.</li> <li>2) Proportion of individuals reporting to have had a road traffic accident, which resulted in injury for which medical treatment was sought during the past 12 months.</li> </ol>
<i>Calculation</i>	<ol style="list-style-type: none"> <li>1) Proportion of individuals reporting to have had a road traffic accident during the past 12 months, derived from EHIS question HS.7: In the past 12 months, have you had any of the following type of accidents resulting in injury (external or internal)? 1. Road traffic accident (yes / no).</li> <li>2) Proportion of individuals reporting to have had a road traffic accident during the past 12 months, derived from EHIS: question HS.7 and HS.8: HS.7 In the past 12 months, have you had any of the following type of accidents resulting in injury (external or internal)? 1. Road traffic accident (yes / no). If yes, select respondents who answered positively to HS.8; HS.8: Did you visit a doctor, a nurse or an emergency department of a hospital as a result of this accident? (Yes, I visited a doctor or nurse / Yes, I went to an emergency department / No consultation or intervention was necessary). EHIS data will not be age standardized.</li> </ol>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-24; 25-64; 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	The EU IDB estimates that road injuries account for 10% of all hospital treated injuries or a total of 4.3 million victims annually. Though preventive measures have been proven effective, resulting in declining incidence rates, large health gains can still be achieved and inequalities between Member States can still be diminished.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• EHIS allows for the computation of person-incidence, i.e. the number of persons who have had one or more accidents during the last year. It would be preferable to know the case-incidence, i.e. the number of accidents that occurred during the last year, as this gives a more precise estimate of the occurrence of injuries. Register data generally do allow for the measurement of case-incidence. Therefore ECHIM has also defined a register based incidence operationalization (see indicator 30(b)). However, the disadvantage of road traffic registers is that they are generally based on hospital records and/or police files. Therefore they result in an underestimation of incidence figures.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

### 30a.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
221a01	Health status	30 A. Injuries: road traffic (self-reported)	Eurostat (EHIS) or national HIS	Proportion of individuals aged 15+ reporting to have had a road traffic accident during the past 12 months, which resulted in injury.
221a02				Proportion of men aged 15+ reporting to have had a road traffic accident during the past 12 months, which resulted in injury.
221a03				Proportion of women aged 15+ reporting to have had a road traffic accident during the past 12 months, which resulted in injury.
221a04				Proportion of individuals aged 15-24 reporting to have had a road traffic accident during the past 12 months, which resulted in injury.
221a05				Proportion of individuals aged 25-64 reporting to have had a road traffic accident during the past 12 months, which resulted in injury.
221a06				Proportion of individuals aged 65+ reporting to have had a road traffic accident during the past 12 months, which resulted in injury.
221a07				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have had a road traffic accident during the past 12 months, which resulted in injury.
221a08				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to have had a road traffic accident during the past 12 months, which resulted in injury.
221a09				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to have had a road traffic accident during the past 12 months, which resulted in injury.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
221a10				Proportion of individuals aged 15+ reporting to have had a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.
221a11				Proportion of men aged 15+ reporting to have had an accident a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.
221a12				Proportion of women aged 15+ reporting to have had a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.
221a13				Proportion of individuals aged 15-24 reporting to have had a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.
221a14				Proportion of individuals aged 25-64 reporting to have had a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.
221a15				Proportion of individuals aged 65+ reporting to have had a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.
221a16				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have had a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.
221a17				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to have had a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.
221a18				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to have had a road traffic accident during the past 12 months, which resulted in injury for which medical treatment was sought.

## 30B. INJURIES: ROAD TRAFFIC, REGISTER-BASED INCIDENCE

### 30b.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 30(b). Injuries: road traffic: register-based incidence
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Number of non-fatal injuries caused by a road traffic accident, per 100,000 inhabitants.
<i>Calculation</i>	According to UNECE methodology (see preferred source and remarks), 'injured' is defined as any person, who was not killed, but sustained one or more serious or slight injuries as a result of the accident.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex (see data availability)</li> <li>• Age group (0-14, 15-24, 25-64, 65+)</li> <li>• Socio-economic status (see data availability)</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Administrative sources (hospital records, police files, insurance records) Preferred source: United Nations Economic Commission for Europe (UNECE) road traffic database
<i>Data availability</i>	The UNECE road traffic database contains data for all 27 EU Member States (and many other countries belonging to the WHO-EURO region). For most country data are available for the period 1993-2008, though some countries are lagging behind a couple of years. Data (absolute numbers) are available by age. Data are not available by sex, socio-economic status and/or region. The ISARE project on regional data has collected data for road traffic accidents (indicators 'number of persons injured or killed in road traffic accidents', and 'number of persons injured or killed in road traffic accidents per 100,000 population').
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	The EU IDB estimates that road injuries account for 10% of all hospital treated injuries or a total of 4.3 million victims annually. Though preventive measures have been proven effective, resulting in declining incidence rates, large health gains can still be achieved and inequalities between Member States can still be diminished.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Rates in the UNECE database are presented per 1,000,000 inhabitants. To enhance comparability with other shortlist indicators, ECHI presents the numbers per 100,000.</li> <li>• Only very limited background information (e.g. on original sources, on comparability) is available in the UN ECE database.</li> <li>• For many Member States data in the UN ECE database from 2005 onwards come from the Community database on Accidents on the Roads in Europe (CARE).</li> <li>• The UN ECE database provides detailed breakdowns according to accident type, nature of accident, influence of alcohol, location, timing (which week, which day of the week), light condition, road condition, and type of road user.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">UNECE road traffic database</a></li> <li>• <a href="#">CARE database</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Check metadata CARE database for possible comparability problems</li> <li>• Contact UNECE to acquire more meta-information on the road traffic accident data</li> </ul>

## 30b.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
221b01	Health status	30 B. Injuries: road traffic (register- or project-based)	UNECE or national data	Number of persons not fatally injured in a road traffic accident, per 100,000 inhabitants.
221b02				Number of persons not fatally injured in a road traffic accident, per 100,000 inhabitants, for age group 0-14.
221b03				Number of persons not fatally injured in a road traffic accident, per 100,000 inhabitants, for age group 15-24.
221b04				Number of persons not fatally injured in a road traffic accident, per 100,000 inhabitants, for age group 25-64.
221b05				Number of persons not fatally injured in a road traffic accident, per 100,000 inhabitants, for age group 65+.

## 31. INJURIES: WORKPLACE

### 31.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b> 31. Injuries: workplace
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Occupational health</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Standardised incidence rate of serious accidents at work.
<i>Calculation</i>	The standardised incidence rate of serious accidents at work is the number of persons involved in accidents at work resulting in more than 3 days' absence per 100,000 persons in employment. An accident at work is a discrete occurrence in the course of work which leads to physical or mental harm. This includes accidents in the course of work outside the premises of one's business, even if caused by a third party (on clients' premises, on another company's premises, in a public place or during transport, including road traffic accidents) and cases of acute poisoning. Occurrences having only a medical origin, occupational diseases and accidents on the way to work are excluded. A serious accident is one that causes more than three days absence from work excluding the day of the accident. The incident rates are standardised by economic activity to eliminate differences due to different distributions of the national workforce across the high-risk and low-risk industries. This is achieved by giving each aggregated NACE branch the same weight at national level as in the European Union total (see remarks and references for more information on NACE and the standardisation procedure).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Sex</li> <li>• Age group (18-24, 25-64 and 65+)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Administrative data (insurance-based systems and labour inspectorate-based reporting) Preferred source: Eurostat, European Statistics on Accidents at Work (ESAW)

<i>Data availability</i>	In the Eurostat database data are available for all EU-15 members (from 1994 onwards), Norway (from 1995 onwards) and Switzerland (from 2004 onwards). Data are also collected for the new Member States, and these are published as of 2008. Breakdowns by age group and sex are available, though age groups as preferred by ECHIM need to be compiled from the more detailed breakdowns provided by Eurostat. Breakdowns by region (NUTS 2 level for most countries) are not yet published. The ISARE project on regional data has collected data on accidents at work (indicators: 'number of accidents related to work', and 'number of accidents related to work per 100,000 active population).
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	This indicator provides information about the risk of the occurrence of a serious accident at work. This is regarded as an indication/determinant of the (occupational) health and an indication of safety regulations in a country.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Indicator “Serious accidents at work” is one of the EU Sustainable Development Indicators and “Serious accidents at work by gender” also is an EU Structural Indicator.</li> <li>• Eurostat/ESAW was recommended as preferred data source for ECHIM by the WORKHEALTH project.</li> <li>• Eurostat metadata: the national ESAW sources are the declarations of accidents at work, either to the public (Social Security) or private specific insurance for accidents at work, or to other relevant national authority (Labour Inspection, etc.) for countries having a “universal” Social Security system. For the Netherlands only survey data are available for the non-fatal accidents at work (a special module in the national labour force survey).</li> <li>• Eurostat notes: In general the employees in the private sector are covered by all national reporting systems. However some important sectors are not covered by all Member States and the coverage of the self-employed is very diverse. The specification of the sectors is given according to the NACE classification (NACE = Nomenclature statistique des activités économiques dans la Communauté Européenne). The incidence rate is calculated for the total of the so-called 9 common branches according NACE, version Rev1 until 2007 and for 13 common branches according to NACE, version Rev2 (NACE sectors A_C-N) from 2008 onwards (see references for more information about NACE).</li> <li>• There is a difference between the Member States in the reporting of accidents at work. In some countries payment of benefits depends on reports submitted to the insurer whereas in other countries there is a legal obligation to notify accidents, yet benefits do not depend on them being reported first. This may result in a restricted level of comparability across countries. Many countries provide weights or reporting rates to correct for under-reporting.</li> <li>• According to the metadata description Eurostat also provides data on accidents at work according to the following breakdowns: occupation (ISCO-COM 2-digit) and employment status (from ICSE 1993) of the victim; economic activity (NACE 2-digit) and size of the local unit of the enterprise; type and part of body of the injury; date and time of the accident. However, such disaggregations are too detailed for ECHIM purposes.</li> <li>• From 2011 onwards the international standard of occupation (ISCO-88) will be used for the statistic of Accidents at work and occupational diseases.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat, Standardised incidence rate of accidents at work by economic activity, severity and sex</a></li> <li>• <a href="#">Eurostat, Standardised incidence rate of accidents at work by economic activity, severity and age</a></li> <li>• <a href="#">Eurostat, Accidents at work by sex and age, 2008 data including new Member States:</a></li> <li>• <a href="#">Metadata Accidents at work ESAW</a></li> <li>• <a href="#">Eurostat, Document on standardised incidence rates in ESAW, for more detailed information on the standardisation procedure</a></li> <li>• <a href="#">EU Sustainable Development Indicators, Eurostat website</a></li> <li>• <a href="#">EU Structural Indicators, Eurostat website</a></li> <li>• <a href="#">Nomenclature statistique des activités économiques dans la Communauté Européenne (NACE), version Rev2</a></li> </ul>
<i>Work to do</i>	

### 31.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
22201	Health status	31. Injuries: workplace	Eurostat (ESAW)	Standardises incidence rate of accidents at work per 100,000 workers.
				Standardises incidence rate of accidents at work affecting men per 100,000 male workers.
				Standardises incidence rate of accidents at work affecting women per 100,000 female workers.
				Standardises incidence rate of accidents at work per 100,000 workers, age group 18-24.
				Standardises incidence rate of accidents at work per 100,000 workers, age group 25-64.
				Standardises incidence rate of accidents at work per 100,000 workers, age group 65+.

### 31.3. Remarks on comparability

31. Workplace injuries
<p><b>Comparability between countries</b></p> <p>To ensure comparability across countries, common definitions and classifications have been developed for the European Statistics on Accidents at Work (ESAW) data. Because the frequency of work accidents is higher in some branches (high-risk sectors), Eurostat standardises the incident rates by economic activity to eliminate differences due to different distributions of the national workforce across the high-risk and low-risk industries. The standardisation is achieved by giving each aggregated NACE (Nomenclature statistique des activités économiques dans la Communauté Européenne) branch the same weight at national level as in the European Union total.</p> <p>Despite of these common definitions/classifications and standardisation, according to Eurostat metadata, the comparability across countries for data on non fatal accidents is restricted. This is because two different basic types of data collection systems are used; insurance systems and labour inspectorate reporting systems. Insurance based data collection systems rely on declarations of accidents at work, either to public or private insurance companies for accidents at work (BE, DE, EL, ES, FR, IT, LU, AT, PT, FI and CH). For Member States having a 'universal Social Security system' notifications to the relevant national authority (usually Labour Inspectorate) form the basis of the data collection system (BG, CZ, DK, EE, IE, CY, LV, LT, HU, MT, NL, PL, RO, SI, SK, SE, UK and NO). For the Netherlands only survey data are available for the non-fatal accidents at work (a special module in the national labour force survey).</p> <p>Different levels of underreporting limit comparability between countries. Comparability is especially limited between the two groups (insurance-based system and universal Social Security system), because the two systems could lead to different levels of underreporting. For about one third of countries adjustments are made on the basis of reporting levels to correct for underreporting. For Latvia, Poland and Romania Eurostat metadata explicitly mentions that data on non-fatal accidents include a certain level of underreporting.</p> <p>In principle, all occupational groups and sectors should be covered by all national reporting systems. However, some important sectors are not covered by all Member States. Self-employed and family members, as well as Fishing, Mining and Public sectors are not covered by some of them. In the UK accidents at work occurring in road traffic (during work) are not covered by the reporting system.</p> <p><b>Comparability over time</b></p> <p>Time trends are not yet available from 2008 onwards because of new dissemination tables starting in 2008.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <a href="#">chapter 2.4</a> of this report.</p> <p><b>References and further reading</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Eurostat metadata. Accidents at work (ESAW) - 2008 onwards ( Last update 4 April 2012)</a></li> <li>• <a href="#">Eurostat. Document on standardised incidence rates in ESAW</a></li> <li>• <a href="#">Country specific metadata</a></li> <li>• <a href="#">More information is available in Circa</a></li> </ul>



## 32. SUICIDE ATTEMPT

### 32.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 32. Suicide attempt
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Mental health</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	To be developed: Proportion of persons having ever attempted suicide.
<i>Key issues and problems</i>	No consensus yet on best type of data source; special mental health surveys or administrative sources? There are no prospects that suitable international data collections will be developed in the future.
<i>Preferred data type and data source</i>	Preferred data type: ? Preferred data source: ?
<i>Data availability</i>	Hospital discharge data are available but these are considered not appropriate by experts. Some interview-based data are available from the Mental Health Indicators pilot survey 2001: DE, FI, FR, GR (Korkeila et al., 2001). These data are available in the MINDFUL database.
<i>Rationale</i>	Suicide is an important public health issue and highlights mental health priority. Data on suicide attempts supplement the information already provided by mortality data (see indicator 13 disease-specific mortality).
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Health information surveys (HIS) will probably underestimate the number of suicide attempts due to small sample sizes and reporting bias. Therefore it is preferable to have a special survey such as CIDI (The Composite International Diagnostic Interview):             <ol style="list-style-type: none"> <li>1) Percentage of those who gave a positive answer to the CIDI question: "Have you ever attempted suicide?" (variant 1a is preferred)                 <ol style="list-style-type: none"> <li>a) question about suicide attempts asked from all respondents</li> <li>b) question about suicide attempts asked only if depression sieve is passed.</li> </ol> </li> </ol> <p>Question about suicide attempt asked from every respondent is more widely used.</p> </li> <li>• Indicator of mental health of children in Child Health Indicators of Life and Development (CHILD) project: Annual incidence of attempted suicide, defined by inpatient hospital stays with a discharge diagnosis of attempted suicide, per 100,000 population, by male, female, and total, in age-groups 10-14 and 15-17, and by socio-economic group when available.</li> <li>• In the ongoing multinational WHO/Euro parasuicide epidemiological monitoring studies, parasuicide is defined as "an act with nonfatal outcome, in which an individual deliberately initiates a non-habitual behaviour that, without intervention from others, will cause self-harm, or deliberately ingests a substance in excess of the prescribed therapeutic dosage, and which is aimed at realizing changes which the subject desired via the actual or expected physical consequences".</li> <li>• Not all attempters do intend to die, should population surveys therefore also measure intent to die? Some experts however object to having a question on intention to die in general Health Interview Surveys, as they deem such a question inappropriate.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">MINDFUL project (2004-2006)</a></li> <li>• Korkeila J et al: Piloting a minimum data set of mental health indicators for Europe. 2001</li> <li>• <a href="#">CIDI: The Composite International Diagnostic Interview</a></li> <li>• <a href="#">Child Health Indicators of Life and Development (CHILD) project</a></li> <li>• Bille-Brahe et al. Background and introduction to the WHO/EURO Multicentre Study on Parasuicide. <i>Crisis</i>. 1995;16(2):72-8, 84</li> <li>• De Leo et al. Definitions of suicidal behavior: lessons learned from the WHO/EURO multicentre Study. <i>Crisis</i>. 2006;27(1):4-15</li> <li>• Welch SS. A review of the literature on the epidemiology of parasuicide in the general population. <i>Psychiatr Serv</i>. 2001 Mar;52(3):368-75. Review</li> <li>• <a href="#">The International Association for Suicide Prevention (IASP)</a></li> </ul>
<i>Work to do</i>	Contact experts to discuss and solve key issues and problems.

### 33. SELF-PERCEIVED HEALTH

#### 33.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 33. Self-perceived health
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Mental health</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Proportion of persons who assess their health to be (very) good.
<i>Calculation</i>	Proportion of persons who assess their health to be very good or good, based on EU-SILC question on self-perceived health ('How is your health in general?'), which contains five answering categories; 1) very good, 2) good, 3) fair, 4) bad, 5) very bad. Numbers of people assessing their health as either very good or good should be added and divided by the total number of people who were interviewed. Age-standardization: see remarks.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Sex</li> <li>• Age group (16-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6; see remarks).</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: <ul style="list-style-type: none"> <li>• Health Interview Survey (HIS)</li> </ul> Preferred source: <ul style="list-style-type: none"> <li>• Eurostat (EU-SILC. In future possibly EHIS (see remarks)).</li> </ul>
<i>Data availability</i>	For 2004, data are available from EU-SILC for twelve of the EU-15 Member States (no data for Germany, the UK and the Netherlands) as well as for Norway and Iceland. From 2005 onwards the data are available for all EU-25 Member States and for Iceland and Norway. Bulgaria and Turkey launched the SILC in 2006. Romania and Switzerland did it in 2007. Nevertheless, due to quality issues results from Turkey have not been yet disseminated. Results are available by sex, age group and educational level (ISCED).
<i>Data periodicity</i>	EU-SILC is carried out annually. Eurostat requests countries to provide the data within one year after data collection.
<i>Rationale</i>	Subjective health measurement is contributing to the evaluation of health problems, the burden of diseases and health needs at the population level. Perceived health status is not a substitute for more objective indicators but rather complements these measures. Studies have shown perceived health to be a good predictor of subsequent mortality.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Self-perceived general health (based on EU-SILC data) is one of the indicators of the health and long term care strand developed under the Open Method of Coordination (OMC).</li> <li>• Eurostat currently does not age-standardize EU-SILC data. For comparability reasons ECHIM would prefer age-standardized data, however.</li> <li>• Experts in health inequalities advice using four aggregated ISCED levels rather than three (see documentation sheet for indicator 6. Population by education). However, as all major international databases (Eurostat, WHO-HFA, OECD) currently apply an aggregation into 3 groups, for pragmatic reasons ECHIM follows that common methodology for now.</li> <li>• The EU-SILC question on self-perceived health is part of the Minimum European Health Module (MEHM), which is also included in the European Health Interview Survey (EHIS). Once EHIS is fully implemented the quality of the data on self-perceived health derived from EHIS should be assessed and compared to the quality of the data derived from EU-SILC. If the former is better, ECHIM may consider appointing EHIS as preferred source for this indicator. A disadvantage of EHIS is that EHIS will only be carried out once every five years, while EU-SILC is carried out annually.</li> <li>• Eurostat metadata: "The implementation of the health questions in SILC is not yet fully harmonized and, thus, the comparability of the results is to be further improved for some countries. New guidelines for this question were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years."</li> <li>• Eurostat metadata, SILC variables on health status: The reference is to health in general rather than the present state of health, as the question is not intended to measure temporary health problems. It is expected to include the different dimensions of health, i.e. physical, social and emotional function and biomedical signs and symptoms. It omits any reference to an age. It is not time limited.</li> <li>• Target population of EU-SILC are individuals aged 16 years old and over living in private households. People living in institutions (elderly people, disabled people) are therefore excluded from the survey. This will bias the survey outcomes.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, data set 'Self-perceived health by sex, age and educational level (%) [hlth_silc_02]'</a></li> <li>• <a href="#">Eurostat metadata 'Health status : indicators from the SILC survey (from 2004 onwards)'</a></li> <li>• <a href="#">Eurostat metadata, SILC variables on health status</a></li> <li>• <a href="#">Eurostat, Description of target variables, Cross-sectional and Longitudinal, 2010 operation (Version February 2010) for SILC</a></li> <li>• <a href="#">All national questionnaires used in SILC</a></li> <li>• <a href="#">OMC, indicators of the health and long term care strand, Eurostat website</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Follow EHIS developments</li> <li>• Discuss with Eurostat possibility to age-standardize the health variables from EU-SILC</li> </ul>

### 33.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
22401	Health status	33. Self-perceived health	Eurostat (EU-SILC)	Proportion of persons who assess their health to be very good or good.
22402				Proportion of men who assess their health to be very good or good.
22403				Proportion of women who assess their health to be very good or good.
22404				Proportion of persons aged 15-64 who assess their health to be good or very good.
22405				Proportion of persons aged 65+ who assess their health to be good or very good.
22406				Proportion of people whose highest completed level of education is ISCED class 0 or 1, who assess their health to be good or very good.
22407				Proportion of people whose highest completed level of education is ISCED class 2, who assess their health to be good or very good.
22408				Proportion of people whose highest completed level of education is ISCED class 3 or 4, who assess their health to be good or very good.
22409				Proportion of people whose highest completed level of education is ISCED class 5 or 6, who assess their health to be good or very good.

### 33. Self-perceived health

#### Comparability between countries

Since 2004 the data on self-perceived health are provided by a health question from the EU-SILC (EU-Statistics on Income and Living Condition). EU-SILC aims ensuring standardisation at different levels through the use of common definitions, recommendations for design and sample size and common requirements for sampling. Furthermore, specific fieldwork aspects are also controlled for, e.g. follow up rules of individuals and households in case of refusals and non-contact. At the same time flexibility is a key aspect, to allow country's specificities to be taken into account in order to maximise quality of data.

Although Member States are urged to use standardised questionnaires, between 2004 and 2008 the implementation of the health questions in the different SILC questionnaires in national languages was not yet fully harmonised which may limit the comparability of the results in some cases. A problem with the question on self-perceived health is that some differences exist in the response categories, especially relating to the "fair" answer category (which should be translated into a neutral term).

The detailed wording of the health question on self-perceived health in the successive waves of SILC for each Member State is available on the EurOhex website (EHLEIS, 2011; see references and further reading below). New guidelines for the health questions in EU-SILC were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years. The health questions used in SILC have benefited from this from 2008 onwards. Furthermore, a data translation protocol has been elaborated in order to check data comparability in all languages.

In addition to problems with question standardisation, cultural differences between countries might influence the interpretation of, and answers to, the question on self-perceived health. Respondents from different countries may not only have different reference levels of health, but due to differences in habitual language use, response categories may also have different connotations (Sen, 2002; Börsch-Supan et al., 2005).

Furthermore, the institutionalised population is excluded from the EU-SILC study sample. This could result in an overestimation of self-perceived health in countries with a high proportion of institutionalised people compared with countries with a low proportion of institutionalised people. Finally, Eurostat currently does not age-standardise EU-SILC data. This hampers comparing countries with a different age structure of the population. This is especially the case for indicators that are influenced by age, such as self-perceived health.

#### Comparability over time

From 2007 onwards, Finland changed the answer categories for the question of the self-perceived health and now it corresponds to the standard version of Questionnaire. However, this causes a break in trend for the Finnish data before and after 2007.

#### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

#### References and further reading

- Börsch-Supan A, Hank K, Jürges H. A new comprehensive and international view on ageing: Introducing the 'Survey of Health, Ageing and Retirement in Europe'. *European Journal of Ageing*, 2005; 2: 245-253.
- EHLEIS team, 2011. [EU-SILC health questions 2004-2009 in national languages and back translations to English by the country experts](#). EHLEIS Technical report 2011 4.5 December 2011
- Eurostat 2008. [Note on the harmonisation of SILC and EHIS questions on health](#)
- Eurostat metadata [Health status indicators from the SILC survey \(last update 10 February 2012\)](#)
- Sen A. Health: perception versus observation. *BMJ*. 2002 Apr 13;324(7342):860-1.

## 34. SELF-REPORTED CHRONIC MORBIDITY

### 34.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 34. Self-reported chronic morbidity
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Mental health</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Proportion of people reporting that they have any long-standing chronic illness or long-standing health problem.
<i>Calculation</i>	Proportion of persons who answer 'yes' to EU-SILC question: do you have any longstanding illness or longstanding health problem? Longstanding = illnesses or health problems which have lasted, or are expected to last, for 6 months or more. Age-standardization: see remarks.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Sex</li> <li>• Age group (16-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6; see remarks).</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: <ul style="list-style-type: none"> <li>• Health Interview Survey (HIS)</li> </ul> Preferred source: <ul style="list-style-type: none"> <li>• Eurostat (EU-SILC. In future possibly EHIS (see remarks)).</li> </ul>
<i>Data availability</i>	For 2004, data are available from EU-SILC for twelve of the EU-15 Member States (no data for Germany, the UK and the Netherlands) as well as for Norway and Iceland. From 2005 onwards the data are available for all EU-25 Member States and for Iceland and Norway. Bulgaria and Turkey launched the SILC in 2006. Romania and Switzerland did it in 2007. Nevertheless, due to quality issues results from Turkey have not been yet disseminated. Results are available by sex, age group and educational level (ISCED).
<i>Data periodicity</i>	EU-SILC is carried out annually. Eurostat requests countries to provide the data within one year after data collection.
<i>Rationale</i>	Widely used measure of general health, contributing to the evaluation of health problems, the burden of diseases and health needs at the population level.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Eurostat currently does not age-standardize EU-SILC data. For comparability reasons ECHIM would prefer age-standardized data, however.</li> <li>• Experts in health inequalities advice using four aggregated ISCED levels rather than three (see documentation sheet for indicator 6. Population by education). However, as all major international databases (Eurostat, WHO-HFA, OECD) currently apply an aggregation into 3 groups, for pragmatic reasons ECHIM follows that common methodology for now.</li> <li>• EU-SILC data on self-reported chronic morbidity are being used for the computation of the Health Expectancy indicator (see the documentation sheet for indicator 41. Health Expectancy, others).</li> <li>• The EU-SILC question on longstanding illness/health problem (chronic morbidity) is part of the Minimum European Health Module (MEHM), which is also included in the European Health Interview Survey (EHIS). Once EHIS is fully implemented the quality of the data on chronic morbidity derived from EHIS should be assessed and compared to the quality of the data derived from EU-SILC. If the former is better, ECHIM may consider appointing EHIS as preferred source for this indicator. A disadvantage of EHIS is that EHIS will only be carried out once every five years, while EU-SILC is carried out annually. Another issue that should be taken into account is that the EU-SILC data are being used in the computation of the 'Health Expectancy, others' indicator (see above). From a consistency point of view it would therefore be preferable to keep EU-SILC as the preferred source for this ECHI indicator (chronic morbidity).</li> <li>• Eurostat metadata: "The implementation of the health questions in SILC is not yet fully harmonized and, thus, the comparability of the results is to be further improved for some countries. New guidelines for this question were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years."</li> <li>• Eurostat metadata, SILC variables on health status: The main characteristics of a chronic condition are that it is permanent and may be expected to require a long period of supervision, observation or care. Rather than adding further details to the question wording, interviewers should be instructed to be as inclusive as possible in answering the question. This means that the following would all be included: <ul style="list-style-type: none"> <li>- problems that are seasonal or intermittent, even where they 'flare up' for less than six months at a time;</li> <li>- problems not seem by the respondent as very serious (hay fever again): the item on severity or limitation would 'screen out' less serious problems at the second stage;</li> <li>- problems that have not been diagnosed by a doctor (to exclude these would mean permitting those with better access to medical services to declare more problems);</li> <li>- problems that the respondent treats himself or herself (e.g. with over-the-counter drugs);</li> <li>- problems that have lasted (or recurred), or are expected to last (recur) over a six month period or longer.</li> </ul> </li> <li>• Target population of EU-SILC are individuals aged 16 years old and over living in private households. People living in institutions (elderly people, disabled people) are therefore excluded from the survey. This will bias the survey outcomes.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, data set 'People having a long-standing illness or health problem, by sex, age and educational level (%) [hlth_silc_05]'</a></li> <li>• <a href="#">Eurostat metadata 'Health status : indicators from the SILC survey (from 2004 onwards)'</a></li> <li>• <a href="#">Eurostat metadata, SILC variables on health status</a></li> <li>• <a href="#">Eurostat, Description of target variables, Cross-sectional and Longitudinal, 2010 operation (Version February 2010) for SILC</a></li> <li>• <a href="#">All national questionnaires used in SILC</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Follow EHIS developments</li> <li>• Discuss with Eurostat possibility to age-standardize the health variables from EU-SILC</li> </ul>

## 34.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
22501	Health status	34. Self-reported chronic morbidity	Eurostat (EU-SILC)	Proportion of people reporting that they have any long-standing chronic illness or long-standing health problem.
22502				Proportion of men reporting that they have any long-standing chronic illness or long-standing health problem.
22503				Proportion of women reporting that they have any long-standing chronic illness or long-standing health problem.
22504				Proportion of people aged 15-64women reporting that they have any long-standing chronic illness or long-standing health problem.
22505				Proportion of people aged 64+ reporting that they have any long-standing chronic illness or long-standing health problem.
22506				Proportion of people whose highest completed level of education is ISCED class 0 or 1, reporting that they have any long-standing chronic illness or long-standing health problem.
22507				Proportion of people whose highest completed level of education is ISCED class 2, reporting that they have any long-standing chronic illness or long-standing health problem.
22508				Proportion of people whose highest completed level of education is ISCED class 3 or 4, reporting that they have any long-standing chronic illness or long-standing health problem.
22509				Proportion of people whose highest completed level of education is ISCED class 5 or 6, reporting that they have any long-standing chronic illness or long-standing health problem.

### 34. Self-reported chronic morbidity

#### Comparability between countries

Since 2004 the data on the prevalence of chronic morbidity are provided by a health question from the EU-SILC (EU-Statistics on Income and Living Condition). EU-SILC aims ensuring standardisation at different levels through the use of common definitions, recommendations for design and sample size and common requirements for sampling. Furthermore, specific fieldwork aspects are also controlled for, e.g. follow up rules of individuals and households in case of refusals and non-contact. At the same time flexibility is a key aspect, to allow country's specificities to be taken into account in order to maximise quality of data.

Although Member States are urged to use standardised questionnaires, between 2004 and 2008 the implementation of the health questions in the different SILC questionnaires in national languages was not yet fully harmonised which may limit the comparability of the results in some cases. Examples of problems for the question on chronic morbidity are differences between languages in whether the word "longstanding" is used, whether the words "illness" and "health problem" are both used and whether the explanation on the 6 months duration was included in the question (if needed in national language).

The detailed wording of the health question on self-reported chronic morbidity in the successive waves of SILC for each Member State is available on the EurOhex website (EHLEIS, 2011; see references and further reading below). New guidelines for the health questions in EU SILC were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years. The health questions used in SILC have benefited from this from 2008 onwards. Furthermore, a data translation protocol has been elaborated in order to check data comparability in all languages.

In addition to problems with question standardisation, cultural differences between countries might influence the interpretation of, and answers to, the question on self-reported chronic morbidity. Respondents from different countries may not only have different reference levels of health, but due to differences in habitual language use, response categories may also have different connotations (Sen, 2002; Börsch-Supan et al., 2005).

Furthermore, the institutionalised population is excluded from the EU-SILC study sample. This could result in an underestimation of self-reported chronic morbidity in countries with a high proportion of institutionalised people compared with countries with a low proportion of institutionalised people. Finally, Eurostat currently does not age-standardise EU-SILC data. This hampers comparing countries with a different age structure of the population. This is especially the case for indicators that are influenced by age, such as self-reported chronic morbidity.

#### Comparability over time

No break in series (trends) are reported.

#### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

#### References and further reading

- Börsch-Supan A, Hank K, Jürges H. A new comprehensive and international view on ageing: Introducing the 'Survey of Health, Ageing and Retirement in Europe'. *European Journal of Ageing*, 2005; 2: 245-253
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- Eurostat metadata [Health status indicators from the SILC survey \(last update 10 February 2012\)](#)
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## 35. LONG-TERM ACTIVITY LIMITATIONS

### 35.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 35. Long-term activity limitations
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Proportion of people reporting that they have long-term restrictions in daily activities.
<i>Calculation</i>	Proportion of people who answer “yes strongly limited” or “yes limited” to EU-SILC question: For at least the past 6 months, to what extent you have been limited because of a health problem in activities people usually do? (Answering categories; yes strongly limited, yes limited, no not limited). Numbers of people answering “yes strongly limited” or “yes limited” should be added and divided by the total number of people who were interviewed. Age-standardization: see remarks.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Sex</li> <li>• Age group (16-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6; see remarks).</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: <ul style="list-style-type: none"> <li>• Health Interview Survey (HIS)</li> </ul> Preferred source: <ul style="list-style-type: none"> <li>• Eurostat (EU-SILC. In future possibly EHIS (see remarks)).</li> </ul>
<i>Data availability</i>	For 2004, data are available from EU-SILC for twelve of the EU-15 Member States (no data for Germany, the UK and the Netherlands) as well as for Norway and Iceland. From 2005 onwards the data are available for all EU-25 Member States and for Iceland and Norway. Bulgaria and Turkey launched the SILC in 2006. Romania and Switzerland did it in 2007. Nevertheless, due to quality issues results from Turkey have not been yet disseminated. Results are available by sex, age group and educational level (ISCED).
<i>Data periodicity</i>	EU-SILC is carried out annually. Eurostat requests countries to provide the data within one year after data collection.
<i>Rationale</i>	Widely used measure of general health, contributing to the evaluation of health problems, the burden of diseases and health needs at the population level.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• ‘Self-perceived limitations in daily activities (activity restriction for at least the past 6 months)’ based on EU-SILC data is one of the indicators of the health and long-term care strand of the Social Protection Committee under the Open Method of Coordination (OMC).</li> <li>• EU-SILC data on long-term activity limitations are being used for the computation of the Healthy Life Years indicator (see the documentation sheet for indicator 40. Health Expectancy: Healthy Life Years (HLY)).</li> <li>• Eurostat currently does not age-standardize EU-SILC data. For comparability reasons ECHIM would prefer age-standardized data, however.</li> <li>• Experts in health inequalities advice using four aggregated ISCED levels rather than three (see documentation sheet for indicator 6. Population by education). However, as all major international databases (Eurostat, WHO-HFA, OECD) currently apply an aggregation into 3 groups, for pragmatic reasons ECHIM follows that common methodology for now.</li> <li>• The EU-SILC question on long-term activity restrictions is part of the Minimum European Health Module (MEHM), which is also included in the European Health Interview Survey (EHIS). Once EHIS is fully implemented the quality of the data on activity restrictions derived from EHIS should be assessed and compared to the quality of the data derived from EU-SILC. If the former is better, ECHIM may consider appointing EHIS as preferred source for this indicator. A disadvantage of EHIS is that EHIS will only be carried out once every five years, while EU-SILC is carried out annually. Another issue that should be taken into account is that the EU-SILC data are being used in the computation of the Healthy Life Years (HLY) indicator (see above). From a consistency point of view it would therefore be preferable to keep EU-SILC as the preferred source for this ECHI indicator (activity limitations).</li> <li>• Eurostat metadata: “The implementation of the health questions in SILC is not yet fully harmonized and, thus, the comparability of the results is to be further improved for some countries. New guidelines for this question were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years.”</li> <li>• Eurostat metadata, SILC variables on health status: The purpose of the instrument is to measure the presence of long-standing limitations, as the consequences of these limitations (e.g. care, dependency) are more serious. A 6 months period is often used to define chronic or long-standing diseases in surveys. [...] The answer to this question is yes (answering categories 1 or 2) if the person is currently limited and has been limited in activities for at least the last 6 months.</li> <li>• Target population of EU-SILC are individuals aged 16 years old and over living in private households. People living in institutions (elderly people, disabled people) are therefore excluded from the survey. This will bias the survey outcomes.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, data set ‘Self-perceived limitations in daily activities (activity restriction for at least the past 6 months) by sex, age and educational level (%) [hlth_silc_07]’</a></li> <li>• <a href="#">Eurostat metadata ‘Health status : indicators from the SILC survey (from 2004 onwards)</a></li> <li>• <a href="#">Eurostat metadata, SILC variables on health status</a></li> <li>• <a href="#">Eurostat, Description of target variables, Cross-sectional and Longitudinal, 2010 operation (Version February 2010) for SILC</a></li> <li>• <a href="#">All national questionnaires used in SILC</a></li> <li>• <a href="#">OMC, indicators of the health and long term care strand, Eurostat website</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Follow EHIS developments</li> <li>• Discuss with Eurostat possibility to age-standardize the health variables from EU-SILC</li> </ul>

## 35.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
22601	Health status	35. Long-term activity limitations	Eurostat (EU-SILC)	Proportion of people reporting that they have long-term restrictions in daily activities.
22602				Proportion of men reporting that they have long-term restrictions in daily activities.
22603				Proportion of women reporting that they have long-term restrictions in daily activities.
22604				Proportion of people aged 15-64 reporting that they have long-term restrictions in daily activities.
22605				Proportion of people aged 65+ reporting that they have long-term restrictions in daily activities.
22606				Proportion of people whose highest completed level of education is ISCED class 0 or 1, reporting that they have long-term restrictions in daily activities.
22607				Proportion of people whose highest completed level of education is ISCED class 2, reporting that they have long-term restrictions in daily activities.
22608				Proportion of people whose highest completed level of education is ISCED class 3 or 4, reporting that they have long-term restrictions in daily activities.
22609				Proportion of people whose highest completed level of education is ISCED class 5 or 6, reporting that they have long-term restrictions in daily activities.

## 35.3 Remarks on comparability

35. Long-term activity limitations
<p><b>Comparability between countries</b></p> <p>Since 2004 the disability prevalence data used for this indicator are provided by the GALI (Global Activity Limitation Indicator) question from the EU-SILC (EU- Statistics on Income and Living Condition). EU-SILC aims ensuring standardisation at different levels through the use of common definitions, recommendations for design and sample size and common requirements for sampling. Furthermore, specific fieldwork aspects are also controlled for, e.g. follow up rules of individuals and households in case of refusals and non-contact. At the same time flexibility is a key aspect, to allow country's specificities to be taken into account in order to maximise quality of data.</p> <p>The GALI was developed specifically for comparing the health status of the EU Members States and is one of the few survey instruments which underwent a long conceptual development phase, cognitive and field trials, a scientific translation (with several back translations) and several validation studies in order to assess and improve its comparability (Robine and Jagger, 2003; Van Oyen et al., 2006; Cox et al., 2009; Jagger et al., 2010; EHEMU team, 2010).</p> <p>Although Member States are urged to use standardised questionnaires, between 2004 and 2008 the implementation of the GALI question in the SILC questionnaires in national languages was not yet fully harmonised which limits the comparability of the results. Examples of problems in the question implementation are:</p> <ul style="list-style-type: none"> <li>• the 6 months period is considered as a reference period and not as the minimum duration of the limitation</li> <li>• the reference is to the respondent's own daily activities and not to the ones that people usually do</li> <li>• the use of 2 answer categories instead of 3 (e.g. Denmark)</li> <li>• only persons who declare having a longstanding illness or health problem answer to this question instead of all persons irrespective of having or not a longstanding illness or health problem (also Denmark)</li> </ul> <p>These problems are not related to the GALI question as such but to the incorrect use of it. The detailed wording of the GALI question in the successive waves of SILC for each Member State is available on the EurOhex website (EHLEIS, 2011; see references and further reading below).</p>

New guidelines for the GALI question were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years. Furthermore also in the preparation of the European Health Interview Survey (EHIS) special attention has been given to ensure a high degree of harmonisation of the GALI question through the provision of translation guidelines. The GALI question used in SILC has benefited from this improvement from 2008 onwards.

In addition to problems with question standardisation, cultural differences between countries might influence the interpretation of, and answers to, the question on activity limitations. Respondents from different countries may not only have different reference levels of health, but due to differences in habitual language use, response categories may also have different connotations (Sen, 2002; Börsch-Supan et al., 2005). However, the GALI (used in EU-SILC since 2004) appears to satisfactorily reflect levels of function and disability as assessed by long-standing objective and subjective measures, both across Europe and in a similar way between countries (Jagger et al., 2010).

Furthermore, the institutionalised population is excluded from the EU-SILC study sample. This could result in an underestimation of activity limitations in countries with a high proportion of institutionalised people compared with countries with a low proportion of institutionalised people. However, this limitation is not related to the indicator as such but to study methodology. Furthermore, simulations carried out by Eurostat and EHLEIS/EHEMU have shown that the effect of this issue for the indicator Healthy Life Years at birth (based on mortality data and data on activity limitation) is very limited and not significant (EHEMU team, 2009).

Finally, Eurostat currently does not age-standardise EU-SILC data. This hampers comparing countries with a different age structure of the population. This is especially the case for indicators that are influenced by age, such as activity limitations.

### **Comparability over time**

Several countries changed their SILC question on limitation in activities due to health problems, which might lead to break in series. In more detail countries can be grouped into:

- 1) Countries whose question was identical over the time period 2004-8: Austria, Belgium, France, Ireland, Luxembourg, Malta, Romania and Slovenia
- 2) Countries with changes in question between 2004-8 (question is now correct): Cyprus (change 2006); Czech Republic (slight change 2007 and 2008); Denmark (change 2008); Estonia (change 2006 and 2008); Italy (slight change 2005 and 2007); Latvia (slight change 2006); Poland (slight change 2006); Slovakia (change 2006 and 2008); Spain (change 2008)
- 3) Countries with changes in question over 2004-8 (question is still incorrect): Hungary (slight change 2007, more 2008 - duration 6 months rather than 'at least 6 months'); Netherlands (change 2008 - no duration of at least 6 months specified); Portugal (change 2005 and 2008 - daily activities not activities people usually do)
- 4) Countries with changes to question in 2004-8 (but unknown whether question is now correct or not): Finland (change 2007 and 2008); Germany (change 2006 and 2008); Greece (slight change 2007); Lithuania (change 2006 and 2007); UK (no change 2004-7 but form of 2008 question unknown).
- 5) In 2010 the GALI question was modified in Italy, Romania and Slovenia.

### **General note on comparability with national data**

See textbox 4 in *chapter 2.4* of this report.

### **References and further reading**

- Börsch-Supan A, Hank K, Jürges H. A new comprehensive and international view on ageing: Introducing the 'Survey of Health, Ageing and Retirement in Europe'. *European Journal of Ageing*, 2005; 2: 245-253.
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- Robine J-M, Jagger C, group E-R. Creating a coherent set of indicators to monitor health across Europe: the Euro-REVES 2 project. *Eur J Public Health*. 2003;13(3):6-14.
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## 36. PHYSICAL AND SENSORY FUNCTIONAL LIMITATIONS

### 36.1 Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
<p>This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave I. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.</p>

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>  36. Physical and sensory functional limitations
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	The percentage of people who declare having physical and sensory functional limitations (concerning seeing, hearing, mobility, speaking, biting/chewing, and agility).
<i>Calculation</i>	<p>Prevalence of physical and sensory functional limitations measured by the European Health Interview Survey (EHIS) instrument derived from the following questions PL.1-PL.11:</p> <p>PL1: Do you wear glasses or contact lenses? (Yes / No / I am blind cannot see)</p> <p>PL2: Can you see newspaper print?</p> <p>PL3: Can you see the face of someone 4 metres away (across a road)?</p> <p>PL4: Do you wear a hearing aid? (Yes / No / I am profoundly deaf)</p> <p>PL5: Can you hear what is said in a conversation with several people</p> <p>PL6: Can you walk 500 metres on a flat terrain without a stick or other walking aid or assistance?</p> <p>PL7: Can you walk up and down a flight of stairs without a stick, other walking aid, assistance or using a banister?</p> <p>PL8: Can you bend and kneel down without any aid or assistance?</p> <p>PL9: Using your arms, can you carry a shopping bag weighting 5 kilos for at least 10 metres without any aid or assistance?</p> <p>PL10: Can you use your fingers to grasp or handle a small object like a pen without any aids?</p> <p>PL11: Can you bite and chew on hard foods such as firm apple without any aid (for example, denture)?</p> <p>Answer categories: Yes, with no difficulty / With some difficulty / With a lot of difficulty / Not at all.</p> <p>In the calculation of the indicator, the questions on the use of glasses/contact lenses (PL1) and of a hearing aid (PL4) are not considered. People are considered as</p> <p>a) not limited if the responses for all the remaining questions is always “Yes, with not difficulty”,</p> <p>b) moderately limited in case the response of at least one question is “Yes, with some difficulty” (and for none of the questions the response is “With a lot of difficulty” or “not at all”).</p> <p>c) severely limited if the response of at least one question is “With a lot of difficulty” or “Not at all”.</p> <p>EHIS data will not be age standardized.</p>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• Socio-economic status (educational level, ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.

<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Western societies are confronted with a growing life expectancy. This rise in life expectancy is linked with a growing number of people with limitations and functional incapacities. Assessing functioning is particularly important in the elderly, as the prevalence of functional disability increases with age. Growing interest is emerging in different aspects of functioning, as adequate physical function plays a prominent role in maintaining independence of older adults and in the ability of people to participate and contribute to society. Declining physical functioning associated with increasing age and chronic diseases, contributes to the need of assistance in performing basic tasks and to increased rates of institutionalization.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The aim of the questions is to measure long-term (chronic) limitations, temporary limitations are not taken into account. Physical and/or sensory functional limitations are measured through reference to some actions/situations (walking 500 meters, carry shopping bags, seeing newspaper print, etc.). These actions/situations are only there to help to assess the level of functioning and should not be taken literally. Since it is possible that respondents are not obliged to do the listed actions/are not confronted with the listed situations, the functional limitation is measured in terms of capacity to undertake the task, rather than the performance.</li> <li>• In the questions, it is stressed that the capacity to undertake the task without any aid should be estimated (to be sure that the limitation is not due to financial restrictions). Yet, for the sensory functional limitations (seeing and hearing), the capacities are estimated with the normal use of aids (glasses or contact lenses, hearing aid).</li> <li>• The Budapest Initiative (UNECE) of the Washington Group on Disability Statistics also developed HIS questions for measuring functional limitations. The time schedule of the Budapest Initiative development was not in line with the EHIS developments and hence its results could not be incorporated in the questionnaire for EHIS wave I. Possibly outcomes of the Budapest Initiative will be incorporated in the questionnaire for EHIS wave II.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">The Budapest Initiative (UNECE) of the Washington Group on Disability Statistics</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

### 36.2 Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
22701	Health status	36. Physical and sensory functional limitations	Eurostat (EHIS)	Proportion of people aged 15+ reporting to have physical and/or sensory functional limitations
22702				Proportion of men aged 15+ reporting to have physical and/or sensory functional limitations
22703				Proportion of women aged 15+ reporting to have physical and/or sensory functional limitations
22704				Proportion of people aged 15-64 reporting to have physical and/or sensory functional limitations
22705				Proportion of people aged 65+ reporting to have physical and/or sensory functional limitations
22706				Proportion of people aged 15+ whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have physical and/or sensory functional limitations

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
22707				Proportion of people aged 15+ whose highest completed level of education is ISCED class 3 or 4, reporting to have physical and/or sensory functional limitations
22708				Proportion of people aged 15+ whose highest completed level of education is ISCED class 5 or 6, reporting to have physical and/or sensory functional limitations

## 37. GENERAL MUSCULOSKELETAL PAIN

### 37.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>B) Health status</b>
	37. General musculoskeletal pain
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>(Preventable) Burden of Disease (BoD)</li> </ul>
<i>Definition</i>	Prevalence of general musculoskeletal pain, measured by means of health interview survey using representative population sample.
<i>Key issues and problems</i>	<p>Topic needs further development:</p> <ul style="list-style-type: none"> <li>No instruments for monitoring musculoskeletal problems in HISs have been properly validated in an international setting. For example, SF-36 includes pain in general, not musculoskeletal pain.</li> <li>The European Health Interview Survey (EHIS) has no question on musculoskeletal pain, just a general question on any physical pain or discomfort (SF.1) (wave I, 2006-2010). For the questionnaire that is being developed for EHIS wave II (envisaged for 2014), a recommendation for questions on musculoskeletal pain developed by the <a href="#">EUMUSC.NET</a> project (see remarks) was submitted on behalf of ECHIM. Preliminary versions of the questionnaire under development for wave II show that this recommendation was not taken over, meaning that there will be no question on general musculoskeletal pain in EHIS wave II either.</li> <li>Few national HISs have a question specifically on musculoskeletal pain. Some HISs include specific questions on diagnosis, such as “has a doctor ever told you that you have osteoporosis?”, but such questions are not considered relevant for monitoring unspecified musculoskeletal problems.</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Health Interview Survey Preferred source: ?
<i>Data availability</i>	No data available in the international databases.
<i>Rationale</i>	High-burden health problem. Musculoskeletal conditions (MSC) are a heterogeneous group of well-defined diseases like rheumatoid arthritis, as well as more unspecific conditions like chronic widespread musculoskeletal pain and low back pain. The conditions are rarely life threatening, but the major cause of sickness absence and disability pension. Prevention, treatment and rehabilitation of persons with MSC are often insufficient.

<p><i>Remarks</i></p>	<p>- Representativeness of surveys is not always optimal due to the lack of inclusion of the institutionalized population.</p> <p>- Project musculoskeletal disorders recommendation for HIS-question: 1. During the last week, have you had any pain affecting your muscles, joints, neck or back which has occurred on most days and which has affected your ability to carry out the activities of daily living? If Yes, please tick the region(s) in the grid (column a). 2. Has this pain (or pains) lasted for 3 months or more? If Yes, please tick the region(s) in the grid (column b). Head – Neck - Shoulder(s) - Upper back - Elbows - Wrist(s) / hand(s) - Low back - Hip(s) / thigh(s) - Knee(s) - Ankles / foot/feet.</p> <p>- EUMUSC.NET project recommendation for HIS-question: This question aims to identify those with a significant musculoskeletal problem, to ascertain whether it is a long term problem and, where possible, the diagnosis. The clinical manifestation of osteoporosis is a fracture following low trauma and the impact of these need capturing.</p> <p>1) In the last 4 weeks have you had any pain or discomfort affecting your muscles, joints, neck or back which affected your ability to carry out your activities of daily living? <b>Yes / No</b></p> <p>2) Has this problem lasted for 3 months or more? <b>Yes / No</b></p> <p>If yes please tick where you felt the pain a) in last 4 weeks b) if the problem has lasted for 3 months or more</p> <table border="1"> <thead> <tr> <th></th> <th>a) Pain during last 4 week</th> <th>b) Problem lasted for three months or more</th> </tr> </thead> <tbody> <tr><td>Neck</td><td></td><td></td></tr> <tr><td>Shoulder(s)</td><td></td><td></td></tr> <tr><td>Upper back</td><td></td><td></td></tr> <tr><td>Elbow(s)</td><td></td><td></td></tr> <tr><td>Wrist(s)</td><td></td><td></td></tr> <tr><td>Hand(s)</td><td></td><td></td></tr> <tr><td>Low back</td><td></td><td></td></tr> <tr><td>Hip(s) / thigh(s)</td><td></td><td></td></tr> <tr><td>Knee(s)</td><td></td><td></td></tr> <tr><td>Ankle(s)</td><td></td><td></td></tr> <tr><td>Foot / feet</td><td></td><td></td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Diagnosis</th> <th>Please tick the diagnosis you were given</th> </tr> </thead> <tbody> <tr><td>Rheumatoid arthritis (inflammation of the joints)</td><td><input type="radio"/></td></tr> <tr><td>Osteoarthritis (arthrosis, joint degeneration, “wear and tear”)</td><td><input type="radio"/></td></tr> <tr><td>Gout</td><td><input type="radio"/></td></tr> <tr><td>Fibromyalgia</td><td><input type="radio"/></td></tr> <tr><td>Sprain or strain</td><td><input type="radio"/></td></tr> <tr><td>Other (please state)</td><td></td></tr> </tbody> </table> <p>3) For this problem, have you been told by a medical doctor what the diagnosis is? <b>Yes / No</b></p> <p>If you were given a diagnosis please tick the diagnosis you were given. If your diagnosis is not listed please write it in the space provided</p> <p>4) Have you fractured or broken a bone as a result of a fall in the last 12 months <b>Yes / No</b></p> <p>If yes, was it your hip (proximal femur) <b>Yes / No</b></p>		a) Pain during last 4 week	b) Problem lasted for three months or more	Neck			Shoulder(s)			Upper back			Elbow(s)			Wrist(s)			Hand(s)			Low back			Hip(s) / thigh(s)			Knee(s)			Ankle(s)			Foot / feet			Diagnosis	Please tick the diagnosis you were given	Rheumatoid arthritis (inflammation of the joints)	<input type="radio"/>	Osteoarthritis (arthrosis, joint degeneration, “wear and tear”)	<input type="radio"/>	Gout	<input type="radio"/>	Fibromyalgia	<input type="radio"/>	Sprain or strain	<input type="radio"/>	Other (please state)	
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<p><i>References</i></p>	<ul style="list-style-type: none"> <li>• <a href="#">Project Indicators for Monitoring Musculoskeletal Conditions, final report “Musculoskeletal Problems and Functional Limitation. The Great Public Health Challenge for the 21st Century” (2003) and project overview.</a></li> <li>• <a href="#">EUMUSC.NET project</a></li> <li>• <a href="#">European Union Health Surveys Information Database, EUHSID</a></li> </ul>																																																		
<p><i>Work to do</i></p>	<ul style="list-style-type: none"> <li>• Develop further together with experts and international data collectors.</li> </ul>																																																		



## 38. PSYCHOLOGICAL DISTRESS

### 38.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 38. Psychological distress
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Mental health</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	To be developed, e.g. occurrence and extent of psychological distress during past month.
<i>Key issues and problems</i>	<p>Topic needs further development:</p> <ul style="list-style-type: none"> <li>• In the European Health Interview Survey (EHIS) wave I, variables for computing psychological distress were gathered by means of the Mental Health Index (MHI-5) scale of the RAND Short Form 36. Though this is a well-validated instrument in Western countries, problems were encountered with its application in Eastern European countries. Based on these experiences, the plan for EHIS wave II is to drop the MHI-5 scale from the questionnaire and to not replace it with an alternative for measuring generic mental health.</li> <li>• What instrument should we use for gathering data on psychological distress in Europe, now that the MHI-5 has proven inadequate in practice?</li> <li>• What data source to use now that EHIS will no longer provide data?</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Health Interview Survey Preferred source: ?
<i>Data availability</i>	No data available in the international databases.
<i>Rationale</i>	Psychological distress is associated with high use of health services and decreased level of functioning. It is also predictor of mortality. Promotion and prevention activities may decrease the level of psychological distress.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Perceived psychological distress is a non-specific dimension of psychopathology and it indicates that something is wrong but has not yield diagnostic assessment. It does not necessarily involve a mental illness or require services from the mental health system. However, cultural variations in experiencing and expressing the inner feelings and emotions have to be taken into account when interpreting the results.</li> <li>• EHIS wave I questions (corresponding to the Mental Health Index (MHI-5) score from the RAND Short Form 36), SF.2-SF.10: How much of the time, during the past 4 weeks: SF.3 Have you been very nervous? SF.4 Have you felt so down in the dumps that nothing could cheer you up? SF.5 Have you felt calm and peaceful? SF.7 Have you felt down-hearted and depressed? SF.9 Have you been happy? The five response categories are: 1. All of the time; 2. Most of the time; 3. Some of the time; 4. A little of the time; 5. None of the time.</li> <li>• Recommendation by Mindful/Working Party Mental Health: A mean score of 56 or less on the Mental Health Index (MHI-5) score (from the RAND Short Form 36 (SF-36 v1.0) questionnaire) is taken to indicate a case of mental ill-health. The score for the MHI-5 is computed by adding the scores of each question item and then transforming the raw scores to a 0–100-point scale. NB: SF-36 uses six answering categories, EHIS wave I used 5.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">MINDFUL project</a></li> <li>• <a href="#">RAND SF-36</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Investigate whether any existing tool is suitable for measuring psychological distress across EU countries, if not, a new tool has to be developed and validated.</li> <li>• Incorporate (new) tool into regular data collections (→ discuss with international stakeholders).</li> </ul>

## 39. PSYCHOLOGICAL WELL-BEING

### 39.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 39. Psychological well-being
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• Mental health</li> </ul>
<i>Definition</i>	To be developed, e.g. occurrence and extent of psychological well-being during past month.
<i>Key issues and problems</i>	<p>Topic needs further development:</p> <ul style="list-style-type: none"> <li>• In the European Health Interview Survey (EHIS) wave I, variables for computing psychological distress were gathered by means of the Energy and Vitality Index (EVI) scale of the RAND Short Form 36. Though this is a well-validated instrument in Western countries, problems were encountered with its application in Eastern European countries. Based on these experiences, the plan for EHIS wave II is to drop the EVI scale from the questionnaire and to not replace it with an alternative for measuring generic mental health.</li> <li>• What instrument should we use for gathering data on psychological well-being in Europe, now that the EVI has proven inadequate in practice?</li> <li>• What data source to use now that EHIS will no longer provide data?</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Health Interview Survey Preferred source: ?
<i>Data availability</i>	No data available in the international databases.
<i>Rationale</i>	Psychological well-being is an important indicator of positive mental health and thus one of the core indicators to cover the mental health issue. Psychological well-being is linked to better general and mental health. Promotion and prevention activities may increase the level of well-being.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Perceived experience of energy and vitality is an important indicator of psychological well-being and positive mental health. However, cultural variations in experiencing and expressing the inner feelings and emotions have to be taken into account when interpreting the results.</li> <li>• EHIS wave I questions (corresponding to the EVI score from the RAND Short Form 36) SF.2-SF.10: How much of the time, during the past 4 weeks: SF.2 Did you feel full of life? SF.6 Did you have a lot of energy? SF.8 Did you feel worn out? SF.10 Did you feel tired? The five response categories are: 1. All of the time; 2. Most of the time; 3. Some of the time; 4. A little of the time; 5. None of the time.</li> <li>• Recommendation by Mindful/Working Party Mental Health: a mean score of 62 or less on the Energy and Vitality Index (EVI) score (from the RAND Short Form 36 (SF-36 v1.0) questionnaire) is taken to indicate Psychological well-being. The score for EVI is computed by adding the scores of each question item and then transforming the raw scores to a 0–100-point scale. NB: SF-36 uses six answering categories, EHIS wave I used 5.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">MINDFUL project</a></li> <li>• <a href="#">RAND SF-36</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Investigate whether any existing tool is suitable for measuring psychological well-being across EU countries, if not, a new tool has to be developed and validated.</li> <li>• Incorporate (new) tool into regular data collections (→ discuss with international stakeholders).</li> </ul>

## 40. HEALTH EXPECTANCY: HEALTHY LIFE YEARS (HLY)

### 40.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 40. Health Expectancy: Healthy Life Years (HLY)
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, ageing population</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Expected remaining years lived from a particular age without long-term activity limitation. This is the Structural Indicator named 'Healthy Life Years' (HLY).
<i>Calculation</i>	HLY is computed as the life expectancy from which the expected number of years lived with long-term activity limitations is subtracted. It is calculated by the Sullivan method based on life table data and age-specific period prevalence data on long-term activity limitations (according to the Euro-REVES General Activity Limitation Indicator (GALI)). For more information on long-term activity limitations see Documentation Sheet 35.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations).</li> <li>• Sex</li> <li>• Age group (at birth and at age 65).</li> <li>• Socio-economic status (see availability and remarks)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: For calculating HLY both mortality and data on activity limitation (disability) are needed. Age-specific mortality (probability of dying between exact ages <math>x</math> and <math>x+5</math>) and life tables are obtained from official national population estimates and death counts. Data on activity limitation (disability) are obtained from surveys (since 2004 EU-SILC (Community statistics on income and living conditions), before 2004 ECHP (European Community Household Panel)).</p> <p>Preferred source: Eurostat and Joint Action for EHLEIS</p>
<i>Data availability</i>	<p>Currently data are available for all EU Member States. Concerning the Candidate and EFTA countries data are available for Iceland, Norway, Switzerland and Turkey, but due to quality issues results for Turkey and Switzerland have not been disseminated yet. No data are available for Croatia, the Former Yugoslav Republic of Macedonia and Liechtenstein. Not all countries started the implementation of EU-SILC in 2004. Therefore, for 2004, data are available based on EU-SILC for twelve of the 'old' EU15 Member States (no data for Germany, the UK and the Netherlands) as well as for Estonia and Norway. From 2005 onwards the data are available for all EU25 Member States and for Iceland and Norway. Bulgaria and Turkey launched the SILC in 2006. Romania and Switzerland did it in 2007.</p> <p>For the 'old' EU15 Member States (excl. Luxembourg) trend data for the years 1995-2001 are obtained from the ECHP (European Community Household Panel) and data for 2002-2003 are linearly extrapolated from the previous years. Data are available for both sexes and both age groups (at birth and at age 65), but regional data and data by socio-economic status are not (yet) available (data by socio-economic status; see remarks and reference to Eurostat OMC web page on indicators of the health and long term care strand. Data by region; see remarks).</p>
<i>Data periodicity</i>	The SILC is carried out annually and HLY have been calculated annually by Eurostat and the EHEMU (2004-2007) and EHLEIS project (2007-2010) since 2004. The Joint Action for EHLEIS (2011-2014) continues the EHEMU and EHLEIS projects.
<i>Rationale</i>	Health Expectancies extend the concept of life expectancy to morbidity and disability in order to assess the quality of years lived. It is a summary measure of population health (SMPH) that takes into account both mortality and disability, providing more information on burden of poor health in the population than life expectancy alone. Monitoring time trend of life expectancy and healthy life years together allows assessing whether years of life gained are healthy years or not.

<p><i>Remarks</i></p>	<ul style="list-style-type: none"> <li>• The indicator “Healthy life years at birth” has been specifically developed by the European Commission as a Structural Indicator within the Lisbon Strategy (2000-2010) to monitor whether increase in life expectancy is accompanied or not by a corresponding increase in healthy active life, and whether health inequalities between Member States are reducing or not.</li> <li>• HLY is also an indicator in the flagship initiative ‘Innovation Union’ which is one of the seven flagship initiatives in the new strategy Europe 2020 (2011-2020). The Pilot European Innovation Partnership on Active and Healthy Ageing (EIPAH) aims to add an average of two years of healthy life for everyone in Europe.</li> <li>• HLY (both at birth and at age 65) is also the headline indicator for public health alongside life expectancy at birth within the list of Sustainable development indicators.</li> <li>• HLY is at the core of a Joint Action between the Commission and the Member States, for a European Health and Life Expectancy Information System (EHLEIS), to extend its use for monitoring social and regional health inequalities among Member States.</li> <li>• Within the health and long-term care strand of the Open Method of Coordination on Social Inclusion and Social Protection data on Healthy life years by socio-economic status are under preparation.</li> <li>• The Joint Action for EHLEIS (2011-2014) may result in a sustained data collection for this indicator. EHLEIS (2007-2010) and its predecessor EHEMU (2004-2007) were projects so in fact not a good (=sustainable) data sources for ECHIM. However, it is the only source currently available.</li> <li>• The Joint Action EHLEIS will work together with the United States and Japan to propose a new measure to replace the General Activity Limitation Indicator GALI.</li> <li>• Together with questions on perceived health and longstanding health problem, the GALI question comprises the Mini European Health Module, for which data are collected annually within the EU SILC in all Members States (see Documentation Sheet 33, 34 and 35).</li> <li>• The European Health Interview Survey (EHIS) also contains a question on activity limitations. However EHIS will not become the source in the future because it’s not a yearly source.</li> <li>• Healthy Life Years is one specific health expectancy and others can be calculated based on for example self-perceived health or self-reported chronic morbidity (see Documentation Sheet 41).</li> <li>• It would be informative to have information on this indicator at regional level. Currently however this indicator is calculated based on data derived from national surveys. Regional level data therefore would require separate regional data collections.</li> <li>• The wording of the questions for activity limitations differ between ECHP and EU-SILC. Therefore, the change of the data source from ECHP to EU-SILC in 2004 created a break in series for all countries. This break in series limits the comparability between the pre-2004 data and the data for 2004 onwards notably. The Task Force on Health Expectancy decided that the ECHP series and the SILC series should not be assembled as a unique chronological series.</li> <li>• Healthy Life Years is a different concept than the HALE (Health-Adjusted Life Expectancy) and DALE (Disability-Adjusted Life Expectancy) both used by the WHO. The HALE is the number of expected years of life equivalent to years lived in full health and the DALE uses disability weights in the calculation, thus part of the life expectancy with disability is added to disability free life expectancy to obtain the latter. Since the HALE and HLY calculations use different basic data, assumptions and methodologies, their outcomes are different.</li> </ul>
<p><i>References</i></p>	<ul style="list-style-type: none"> <li>• <a href="#">For HLY as a structural indicator data are available from the Eurostat database, Structural indicators on health</a></li> <li>• <a href="#">For HLY as a Sustainable indicator data</a></li> <li>• <a href="#">At DG Health &amp; consumers most recent data</a></li> <li>• <a href="#">Eurostat: Structural indicators on health. Reference Metadata in Euro SDMX Metadata Structure (ESMS)</a></li> <li>• <a href="#">Joint Action EHLEIS</a></li> <li>• <a href="#">EHEMU: Health Expectancy Calculation by the Sullivan Method: A Practical Guide</a></li> <li>• <a href="#">DG Sanco: Healthy Life Years</a></li> <li>• More information about HLY is also accessible at: <ul style="list-style-type: none"> <li>- <a href="#">Eurostat Statistics Explained:</a></li> <li>- <a href="#">The general public website on HLY</a></li> <li>- <a href="#">HLY at Wikipedia</a></li> <li>- <a href="#">EU Task Force on Health Expectancy</a></li> </ul> </li> <li>• <a href="#">OMC, indicators of the health and long term care strand, Eurostat website</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">The Pilot European Innovation Partnership on Active and Healthy Ageing</a></li> <li>• <a href="#">Eurostat metadata on EU-SILC</a></li> <li>• <a href="#">Eurostat: Note on the harmonisation of SILC and EHIS questions on health.</a></li> <li>• Ekholm O, Bronnum-Hansen H. Cross-national comparisons of non-harmonised indicators may lead to more confusion than clarification. Scand J Public Health, 2009</li> </ul>
<p><i>Work to do</i></p>	<ul style="list-style-type: none"> <li>• Monitor developments within the JA for EHLEIS and the Open Method of Coordination regarding Healthy Life Years by socio-economic status</li> </ul>

## 40.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
23101	Health status	40. Health expectancy: Healthy Life Years (HLY)	Eurostat (EU-SILC & mortality data)	Healthy life years (= life expectancy without activity limitations), total population, at birth.
23102				Healthy life years (= life expectancy without activity limitations), total population, at age 65.
23103				Healthy life years (= life expectancy without activity limitations), male population, at birth.
23104				Healthy life years (= life expectancy without activity limitations), male population, at age 65.
23105				Healthy life years (= life expectancy without activity limitations), female population, at birth.
23106				Healthy life years (= life expectancy without activity limitations), female population, at age 65.

## 40.3. Remarks on comparability

40. Health Expectancy: Healthy Life Years (HLY)
<p><b>Comparability between countries</b></p> <p>The Healthy life years (HLY) has been purposely developed by the European Commission for comparing the health status of the EU Members States and therefore comparability is maximised. The HLY indicator is calculated using the same method (Sullivan's) for all countries. For calculating HLY both mortality data and data on activity limitation (disability) are needed. Indicators based on mortality remain the best indicators in term of comparability between countries. For issues regarding the comparability of mortality data see remarks for disease specific mortality.</p> <p>Data on activity limitations are obtained from surveys. Since 2004 the disability prevalence data used in the calculation of the HLY indicator are provided by the GALI (Global Activity Limitation Indicator) question from the EU-SILC (EU-Statistics on Income and Living Condition). EU-SILC aims ensuring standardisation at different levels through the use of common definitions, recommendations for design and sample size and common requirements for sampling. Furthermore, specific fieldwork aspects are also controlled for, e.g. follow up rules of individuals and households in case of refusals and non-contact. At the same time flexibility is a key aspect, to allow country's specificities to be taken into account in order to maximise quality of data.</p> <p>The GALI was developed specifically for comparing the health status of the EU Members States and is one of the few survey instruments which underwent a long conceptual development phase, cognitive and field trials, a scientific translation (with several back translations) and several validation studies in order to assess and improve its comparability (Robine and Jagger, 2003; Van Oyen et al., 2006; Cox et al., 2009; Jagger et al., 2010; EHEMU team, 2010).</p> <p>Although Member states are urged to use standardised questionnaires, between 2004 and 2008 the implementation of the GALI question in the SILC questionnaires in national languages was not yet fully harmonised which limits the comparability of the results. Examples of problems in the question implementation are:</p> <ul style="list-style-type: none"> <li>• the 6 months period is considered as a reference period and not as the minimum duration of the limitation</li> <li>• the reference is to the respondent's own daily activities and not to the ones that people usually do</li> <li>• the use of 2 answer categories instead of 3 (e.g. Denmark)</li> <li>• only persons who declare having a longstanding illness or health problem answer to this question instead of all persons irrespective of having or not a longstanding illness or health problem (also Denmark)</li> </ul> <p>These problems are not related to the GALI question as such but to the incorrect use of it. The detailed wording of the GALI question in the successive waves of SILC for each Member State is available on the EurOhex website (EHLEIS, 2011; see references and further reading below).</p> <p>New guidelines for the GALI question were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years. Furthermore, also in the preparation of the European Health Interview Survey (EHIS) special attention has been given to ensure a high degree of harmonisation of the GALI question through the provision of translation guidelines. The GALI question used in SILC has benefited from this improvement from 2008 onwards.</p>

In addition to problems with question standardisation, cultural differences between countries might influence the interpretation of, and answers to, the question on activity limitations. Respondents from different countries may not only have different reference levels of health, but due to differences in habitual language use, response categories may also have different connotations (Sen, 2002; Börsch-Supan et al., 2005). However, the GALI (used in EU-SILC since 2004) appears to satisfactorily reflect levels of function and disability as assessed by long-standing objective and subjective measures, both across Europe and in a similar way between countries (Jagger et al., 2010).

Furthermore, the institutionalised population is excluded from the EU-SILC study sample. This could result in an overestimation of HLY in countries with a high proportion of institutionalised people compared with countries with a low proportion of institutionalised people. However, this limitation is not related to the indicator as such but to study methodology. Furthermore, simulations carried out by Eurostat and EHLEIS/EHEMU have shown that the effect of this issue for the indicator HLY at birth is very limited and not significant (EHEMU team, 2009).

#### **Comparability over time**

Several countries changed their SILC question on limitation in activities due to health problems, which might lead to break in series. In more detail countries can be grouped into:

- 1) Countries whose question was identical over the time period 2004-8: Austria, Belgium, France, Ireland, Luxembourg, Malta, Romania and Slovenia
- 2) Countries with changes in question between 2004-8 (question is now correct): Cyprus (change 2006); Czech Republic (slight change 2007 and 2008); Denmark (change 2008); Estonia (change 2006 and 2008); Italy (slight change 2005 and 2007); Latvia (slight change 2006); Poland (slight change 2006); Slovakia (change 2006 and 2008); Spain (change 2008)
- 3) Countries with changes in question over 2004-8 (question still incorrect): Hungary (slight change 2007, more 2008 - duration 6 months rather than 'at least 6 months'); Netherlands (change 2008 - no duration of at least 6 months specified); Portugal (change 2005 and 2008 - daily activities not activities people usually do)
- 4) Countries with changes to question in 2004-8 (but unknown whether now correct or not): Finland (change 2007 and 2008); Germany (change 2006 and 2008); Greece (slight change 2007); Lithuania (change 2006 and 2007); UK (no change 2004-7 but form of 2008 question unknown).
- 5) In 2010 the GALI question was modified in Italy, Romania and Slovenia.

#### **General note on comparability with national data**

See textbox 4 in *chapter 2.4* of this report.

#### **References and further reading**

- Börsch-Supan A, Hank K, Jürges H. A new comprehensive and international view on ageing: Introducing the 'Survey of Health, Ageing and Retirement in Europe'. *European Journal of Ageing*, 2005; 2: 245-253.
- Cox B., Van Oyen H., Cambois E., Jagger C., Le Roy S., Robine J-M., Romieu I. The reliability of the minimum European health module. *International Journal of Public Health* 2009;54(2):55-60.
- [DG SANCO: Healthy Life Years on DG SANCO website](#)
- [EHEMU team, 2009. The impact of disability in institution on the general population estimates of disability: The example of HLY. Technical report 2009\\_4\\_2, June 2009](#)
- [EHLEIS team, 2011. EU-SILC health questions 2004-2009 in national languages and back translations to English by the country experts. EHLEIS Technical report 2011\\_4.5 December 2011](#)
- [Eurostat metadata Structural indicators on health \(last update 09 March 2011\)](#)
- [Eurostat metadata Health status indicators from the SILC survey \(last update 10 February 2012\)](#)
- [Eurostat 2008. Note on the harmonisation of SILC and EHIS questions on health](#)
- [Eurostat Statistics Explained](#)
- [Interpreting health expectancies](#)
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## 41. HEALTH EXPECTANCY, OTHERS

### 41.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>B) Health status</b> 41. Health Expectancy, others
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Healthy ageing, ageing population</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Expected remaining years lived at a particular age a) in good perceived health and b) without self-reported chronic morbidity.
<i>Calculation</i>	Health Expectancy is computed as the life expectancy from which the expected number of years lived in a) less than good perceived health or b) with self-reported chronic morbidity is subtracted. It is calculated by the Sullivan method based on life table data and age-specific period prevalence data of the health state in question. For more information on the details of the computation method, see references. For more information on self-perceived health and self-reported chronic morbidity see the documentation sheets for indicators 33. Self-perceived health and 34. Self-reported chronic morbidity.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Sex</li> <li>• Age group (at birth and at age 65)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: For calculating health expectancy both mortality and morbidity data are needed. Age-specific mortality (probability of dying between exact ages x and x+5) and life tables are obtained from official national demographic and mortality statistics. Morbidity data (self-perceived health and self-reported chronic morbidity) are obtained from surveys (currently EU-SILC, in the past ECHP).</p> <p>Preferred source: EurOhex Database (Joint Action for EHLEIS)</p>
<i>Data availability</i>	For 2004, data are available from the EurOhex database (based on EU-SILC) for eleven of the EU-15 Member States (no data for Germany, the UK, Italy and the Netherlands). From 2005 onwards the data are available for all EU-25 Member States. Bulgaria and Turkey launched the SILC in 2006. Romania and Switzerland did it in 2007. Nevertheless, due to quality issues results from Turkey have not been yet disseminated. This implies that concerning the Candidate and EFTA countries no data are available for Iceland, Norway, Croatia, the Former Yugoslav Republic of Macedonia and Liechtenstein. Data are available for the age group 65 for both sexes separately, but not for total population. Furthermore, health expectancy at birth is not available. Also regional data is not available. The ISARE project on regional data has not collected data on remaining life years at a particular age in good perceived health and without self-reported chronic morbidity. Also see remarks.
<i>Data periodicity</i>	The SILC is carried out annually and health expectancies have been calculated annually by the EHEMU (European Health Expectancy Monitoring Unit 2004-2007) and EHLEIS project (European Health and Life Expectancy Information Systems 2007-2010) since 2004. The Joint Action for EHLEIS (2011-2014) continues the EHEMU and EHLEIS projects.
<i>Rationale</i>	Health expectancies extend the concept of life expectancy to self perceived health, morbidity and disability in order to assess the quality of years lived. It is a composite indicator of health that takes into account both mortality data and data referring to health status, such as poor self-perceived health and chronic morbidity, providing more information on burden of diseases in the population than life expectancy alone. Monitoring time trend of life expectancy and healthy life years together allows assessing whether years of life gained are healthy years or not.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The Joint Action for EHLEIS (2011-2014) may result in a sustained data collection for this indicator. EHLEIS (2007-2010) and its predecessor EHEMU (2004-2007) were projects so in fact not a good (=sustainable) data sources for ECHIM. However, it is the only source currently available.</li> <li>• The European Health Interview Survey (EHIS) also contains a question on self-perceived health and self-reported chronic morbidity. However EHIS will not become the preferred source for this indicator in the future because EHIS will only be conducted once every five years. Using EU-SILC data allows for yearly computation of the indicator.</li> <li>• For the 'old' EU-15 Member States (excl. Luxembourg) trend data for the years 1995-2001 are obtained from the ECHP (European Community Household Panel).</li> <li>• It would be informative to have information on this indicator at regional level. Currently however this indicator is calculated based on data derived from national surveys. Regional level data therefore would require separate regional data collections.</li> <li>• Healthy Life Years is another measure of health expectancy and is calculated based on long-term activity limitations (see the documentation sheet for indicator 40. Healthy Life Expectancy: Healthy Life Years (HLY)).</li> <li>• Health Expectancy is a different concept from HALE (Health-Adjusted Life Expectancy) and DALE (Disability-Adjusted Life Expectancy) both used by the WHO. The HALE is the number of expected years of life equivalent to years lived in full health and the DALE uses disability weights in the calculation, thus part of the life expectancy with disability is added to disability free life expectancy to obtain the latter. Since the HALE and HLY calculations use different basic data, assumptions and methodologies, their outcomes are different.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Joint Action EHLEIS</a></li> <li>• <a href="#">EHEMU: Health Expectancy Calculation by the Sullivan Method: A Practical Guide</a></li> <li>• <a href="#">Eurostat metadata on EU-SILC</a></li> <li>• <a href="#">Eurostat: Note on the harmonisation of SILC and EHIS questions on health</a></li> <li>• Ekholm O, Bronnum-Hansen H. Cross-national comparisons of non-harmonised indicators may lead to more confusion than clarification. <i>Scand J Public Health</i>, 2009</li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Ask JA for EHLEIS to calculate health expectancy at birth and for total population (data only available for for health expectancy at age 65 and for men and women separately).</li> <li>• Monitor developments JA for EHLEIS</li> </ul>

#### 41.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
23201	Health status	41. Health expectancy, others	EHEMU	Life expectancy in good perceived health, male population, at age 65.
23202				Life expectancy in good perceived health, female population, at age 65.
23203				Life expectancy without chronic morbidity, male population, at age 65.
23204				Life expectancy without chronic morbidity, female population, at age 65.



#### 41. Health Expectancy, others

##### Comparability between countries

The health expectancies in good perceived health and without self-reported chronic morbidity are calculated using the same method (Sullivan's) for all countries. For calculating health expectancy both mortality and morbidity data are needed. Indicators based on mortality remain the best indicators in term of comparability between countries. For issues regarding the comparability of mortality data see remarks on comparability for disease specific mortality.

Morbidity data (self-perceived health and self-reported chronic morbidity) are obtained from surveys. Since 2004 the data on self-perceived health and the prevalence of chronic morbidity used in the calculation of the Health expectancies are provided by health questions from the EU-SILC (EU-Statistics on Income and Living Condition).

EU-SILC aims ensuring standardisation at different levels through the use of common definitions, recommendations for design and sample size and common requirements for sampling. Furthermore, specific fieldwork aspects are also controlled for, e.g. follow up rules of individuals and households in case of refusals and non-contact. At the same time flexibility is a key aspect, to allow country's specificities to be taken into account in order to maximise quality of data.

Although Member States are urged to use standardised questionnaires, between 2004 and 2008 the implementation of the health questions in the SILC questionnaires in national languages was not yet fully harmonised which may limit the comparability of the results in some cases. A problem with the question on self-perceived health is that some differences exist in the response categories, especially relating to the "fair" answer category (which should be translated into a neutral term). Examples of problems for the question on chronic morbidity are differences in whether the word "longstanding" is used, whether the words "illness" and "health problem" are both used and whether the explanation on the 6 months duration was included in the question (if needed in national language).

The detailed wording of the health questions on self-perceived health and self-reported chronic morbidity in the successive waves of SILC for each Member State is available on the EurOhex website (EHLEIS, 2011; see references and further reading below). New guidelines for these questions were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years. The health questions used in SILC have benefited from this from 2008 onwards. Furthermore, a data translation protocol has been elaborated in order to check data comparability in all languages.

In addition to problems with question standardization, cultural differences between countries might influence the interpretation of, and answers to, the question on self-perceived health and self-reported chronic morbidity. Respondents from different countries may not only have different reference levels of health, but due to differences in habitual language use, response categories may also have different connotations (Sen, 2002; Börsch-Supan et al., 2005).

Furthermore, the institutionalised population is excluded from the EU-SILC study sample. This could result in an overestimation of health expectancies in countries with a high proportion of institutionalised people compared with countries with a low proportion of institutionalised people.

##### Comparability over time

From 2007 onwards, Finland changed the answer categories for the question of the self-perceived health and now it corresponds to the standard version of Questionnaire. However, this causes a break in trend for the Finnish data before and after 2007.

##### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

##### References and further reading

- Börsch-Supan A, Hank K, Jürges H. A new comprehensive and international view on ageing: Introducing the 'Survey of Health, Ageing and Retirement in Europe'. *European Journal of Ageing*, 2005; 2: 245-253
- EHEMU. [Health Expectancy Calculation by the Sullivan Method: A Practical Guide](#)
- EHLEIS team, 2011. [EU-SILC health questions 2004-2009 in national languages and back translations to English by the country experts. EHLEIS Technical report 2011 4.5 December 2011](#)
- Eurostat 2008. [Note on the harmonisation of SILC and EHIS questions on health](#)
- Eurostat metadata [Health status indicators from the SILC survey \(last update 10 February 2012\)](#)
- Sen A. Health: perception versus observation. *BMJ*. 2002 Apr 13;324(7342):860-1
- EHEMU. [Interpreting health expectancies](#)

## 42. BODY MASS INDEX

### 42.1 Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM Indicator name</i>	<b>C) Health determinants</b>
	42. Body mass index
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is $\geq 30$ kg/m <sup>2</sup> .
<i>Calculation</i>	Body mass index (BMI), or Quetelet index, is defined as the individual's body weight (in kilograms) divided by the square of their height (in metres). Weight and height derived from European Health Interview Survey (EHIS) questions BMI01: How tall are you? (cm), and BMI02: How much do you weight without clothes and shoes? (kg). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (18-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Now: HIS In future: HES Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Excessive body weight predisposes to various diseases, particularly cardiovascular diseases, diabetes mellitus type 2, sleep apnoea and osteoarthritis. Obesity is a growing public health problem. Effective interventions exist to prevent and treat obesity. Many of the risks diminish with weight loss.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• This indicator is also one of the Health and Long Term Care Indicators of the Social Protection Committee. ‘Overweight people’ is listed as an indicator to be developed for the set of Sustainable Development Indicators.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• Data on BMI derived from HIS are subject to some biases; generally (very) slim people tend to overestimate their weight, while (very) overweight people tend to underestimate their weight. Data derived from HES will be more accurate and therefore preferable. However, comparable HES data at European level are currently lacking. In 2010 a pilot EHES covering 14 countries has started. When EHES will be fully implemented in a majority of EU Member States, ECHIM will switch to using EHES as preferred data source for the BMI indicator.</li> <li>• For children BMI is calculated the same way as for adults, but compared to typical values for other children of the same age. Different cut off points (e.g. 85th percentile, 95th percentile) are being used in national surveys. The International Obesity Task Force (IOTF) has recommended cut off points to be used in international comparisons of childhood obesity.</li> <li>• A BMI between 18.5 and 25 is considered to be normal. Overweight is usually defined as having a BMI of <math>\geq 25</math> and below 30. People with a BMI of <math>\geq 30</math> are considered obese.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">European Health Examination Survey (EHES)</a></li> <li>• <a href="#">Recommendations International Obesity Task Force on cut off points for childhood obesity</a></li> <li>• <a href="#">Indicators of the Social Protection Committee, health and long term care strand</a></li> <li>• <a href="#">Sustainable development indicators, public health</a></li> <li>• <a href="#">Sustainable development in the European Union - 2009 monitoring report of the EU sustainable development strategy (including list of indicators and indicators to be developed)</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat and EHES developments</li> <li>• Consult experts of Child Health Indicators of Life and Development (CHILD) project and Health Behaviour in School-aged Children (HBSC) survey on separate operationalisation for children.</li> </ul>

## 42.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30101	Health determ.	42. Body mass index	Eurostat (EHIS) or national HIS	Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is $\geq 30$ kg/m <sup>2</sup> .
30102				Proportion of adult men (18+) who are obese, i.e. whose body mass index (BMI) is $\geq 30$ kg/m <sup>2</sup> .
30103				Proportion of adult women (18+) who are obese, i.e. whose body mass index (BMI) is $\geq 30$ kg/m <sup>2</sup> .
30104				Proportion of adult persons who are obese, i.e. whose body mass index (BMI) is $\geq 30$ kg/m <sup>2</sup> , for age group 18-64.
30105				Proportion of adult persons who are obese, i.e. whose body mass index (BMI) is $\geq 30$ kg/m <sup>2</sup> , for age group 65+.
30106				Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is $\geq 30$ kg/m <sup>2</sup> , whose highest completed level of education is ISCED class 0, 1 or 2.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30107				Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is $\geq 30 \text{ kg/m}^2$ , , whose highest completed level of education is ISCED class 3 or 4.
30108				Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is $\geq 30 \text{ kg/m}^2$ , , whose highest completed level of education is ISCED class 5 or 6.

## 43. BLOOD PRESSURE

### 43.1. Documentation sheet

April 2012
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>C) Determinants of health</b>
	43. Blood pressure
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion of individuals reporting to have been diagnosed with high blood pressure which occurred during the past 12 months.
<i>Calculation</i>	Proportion of individuals reporting to have been diagnosed with high blood pressure (hypertension) which occurred during the past 12 months, derived from European Health Interview Survey (EHIS) questions HS.4/5/6: HS.4: Do you have or have you ever had any of the following diseases or conditions? High blood pressure (hypertension) (yes / no). If yes: HS.5: Was this disease/condition diagnosed by a medical doctor? (yes / no). HS.6: Have you had this disease/condition in the past 12 months? (yes / no). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (25-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Now: HIS In future: HES Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.

<i>Rationale</i>	Strong indicators of the risk of coronary heart disease, stroke and diabetes. Amenable to interventions. Small changes in the average blood pressure values of a population may be of considerable importance to public health.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• Data on blood pressure derived from HIS are not optimal for obtaining estimates of high blood pressure prevalence, as one can only derive proxies such as this indicator, or 'prevalence of antihypertensive drug treatment in the population'. Actual blood pressure measurements derived from HES are preferable; these capture both diagnosed and as yet undiagnosed cases, as well as patients receiving treatment and patients receiving no treatment. However, comparable HES data at European level are currently lacking. In 2010 a pilot EHES covering 14 countries has started. When EHES will be fully implemented in a majority of EU Member States, ECHIM will switch to using EHES as preferred data source for the blood pressure indicator.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">European Health Examination Survey (EHES)</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat and EHES developments</li> </ul>

#### 43.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30201	Health determ.	43. Blood pressure	Eurostat (EHIS) or national HIS	Proportion of individuals aged 25+ reporting to have been diagnosed with high blood pressure which occurred during the past 12 months.
30202				Proportion of men aged 25+ reporting to have been diagnosed with high blood pressure which occurred during the past 12 months.
30203				Proportion of women aged 25+ reporting to have been diagnosed with high blood pressure which occurred during the past 12 months.
30204				Proportion of individuals reporting to have been diagnosed with high blood pressure which occurred during the past 12 months, for age group 25-64.
30205				Proportion of individuals reporting to have been diagnosed with high blood pressure which occurred during the past 12 months, for age group 65+.
30206				Proportion of individuals aged 25+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have been diagnosed with high blood pressure which occurred during the past 12 months.
30207				Proportion of individuals aged 25+, whose highest completed level of education is ISCED class 3 or 4, reporting to have been diagnosed with high blood pressure which occurred during the past 12 months.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30208				Proportion of individuals aged 25+, whose highest completed level of education is ISCED class 5 or 6, reporting to have been diagnosed with high blood pressure which occurred during the past 12 months.

## 44. REGULAR SMOKERS

### 44.1. Documentation sheet

April 2012
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>C) Determinants of health</b>
	44. Regular smokers
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion of people reporting to smoke cigarettes daily.
<i>Calculation</i>	Percentage of respondents answering reporting to smoke cigarettes daily derived from EHIS questions SK.1 and SK.2; SK.1: Do you smoke at all nowadays? 1. Yes, daily; 2. Yes, occasionally; 3. Not at all. SK.2: What tobacco product do you smoke each day? 1. Manufactured cigarettes; 2. Hand-rolled cigarettes; 3. Cigars; 4. Pipefuls of tobacco; 5. Other. For the calculation of this indicator the answering categories “yes, daily” for EHIS question SK.1 should be combined with answering categories “manufactured cigarettes” and/or “hand-rolled cigarettes” for EHIS question SK2. EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Sex</li> <li>• Age group (15-24; 25-64; 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Tobacco use is one of the leading preventable causes of death and disease in our society. It is a major risk factor for diseases of the heart and blood vessels, chronic bronchitis and emphysema, cancers of the lung and other diseases. Passive smoking is also an important public health problem. Smoking is a modifiable lifestyle risk factor; effective tobacco control measures can reduce the occurrence of smoking in the population.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The percentage of daily cigarette smokers in the population aged 15+ also is one of the Health and Long Term Care Indicators of the Social Protection Committee. “Present smokers, by gender and age group” is one of the Sustainable Development Indicators under development.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• Only cigarette smokers are included in the above definition because pipe and cigar smoking has quite a different risk profile (less risk for the smoker due to less inhaling). Furthermore, cigarettes (including self-rolled ones) are the bulk of tobacco consumption.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">Indicators of the Social Protection Committee, health and long term care strand</a></li> <li>• <a href="#">Sustainable development indicators, public health</a></li> <li>• <a href="#">Sustainable development in the European Union - 2009 monitoring report of the EU sustainable development strategy (including list of indicators and indicators to be developed)</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

#### 44.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30301	Health determ.	44. Regular smokers	Eurostat (EHIS) or national HIS	Proportion of people aged 15+ reporting to smoke cigarettes daily.
30302				Proportion of men aged 15+ reporting to smoke cigarettes daily.
30303				Proportion of women aged 15+ reporting to smoke cigarettes daily.
30304				Proportion of people reporting to smoke cigarettes daily, for age group 15-24.
30305				Proportion of people reporting to smoke cigarettes daily, for age group 25-64.
30306				Proportion of people reporting to smoke cigarettes daily, for age group 65+
30307				Proportion of people aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to smoke cigarettes daily.
30308				Proportion of people aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to smoke cigarettes daily.
30309				Proportion of people aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to smoke cigarettes daily.

## 45. PREGNANT WOMEN SMOKING

### 45.1 Documentation sheet

<i>ECHIM Indicator name</i>	<b>C) Determinants of health</b> 45. Pregnant women smoking
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Maternal &amp; perinatal health</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> </ul>
<i>Definition</i>	Percentage of women who smoke during pregnancy.
<i>Key issues and problems</i>	<p>The indicator is intended to measure smoking during pregnancy, given the adverse perinatal health effects of smoking. Indicator needs development. The keys issues are:</p> <ol style="list-style-type: none"> <li>1) At what point of pregnancy should smoking be measured? See under remarks.</li> <li>2) Which type of data is basically better. The choice (birth registers versus perinatal health surveys) can affect prevalence estimates.</li> <li>3) At the moment there is no satisfactory proposal for indicator calculation</li> <li>4) There is no regular/sustainable data collection for this indicator topic.</li> </ol>
<i>Preferred data type and data source</i>	<p>Preferred data type: National birth registers based on medical records. Perinatal health surveys (surveys during pregnancy, at birth and after birth). HIS usually have too few interviewed persons (i.e. pregnant women). and data collection of previous pregnancies may give biased estimates.</p> <p>Preferred data source: Not decided yet.</p>
<i>Data availability</i>	<p>Eurostat, WHO-HfA and OECD: No data available.</p> <p>Peristat: Data exists for the number of women who smoke during the i) first and ii) third trimester of pregnancy. Data only for years 2000 and 2004 are available. Next data collection is planned for 2010 data.</p>
<i>Rationale</i>	Smoking during pregnancy is associated with adverse perinatal outcomes including spontaneous abortion early in pregnancy, growth restriction, preterm birth and perinatal death. The indicator can be used as an indicator of prenatal care and prevention, if data is available on percent of pregnant women quitting smoking during the 1st trimester of pregnancy. Amenable to intervention.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• It is important to measure smoking at a similar point in time of pregnancy in all countries since many women stop smoking during pregnancy and they can stop at any point in time of pregnancy. As the aim of the indicator is to indicate the quality of prenatal care and prevention, then the key issue is how many of the pregnant women quit smoking early in pregnancy.</li> <li>• PERISTAT project has proposed an indicator “smoking during pregnancy for women with live and stillbirths (R4)” which is defined as “The number of women who smoke during the third trimester of pregnancy expressed as a percentage of all women delivering live or stillborn babies”. When possible, data were collected for two time periods: an earlier (ideally, first trimester) and a later (ideally, third trimester) phase”.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">PERISTAT-project</a></li> <li>• For PERISTAT project 2000 data please see: the Special Issue of the European Journal for Obstetrics &amp; Gynecology and Reproductive Biology, Volume 111 (2003), Supplement 1, S1–S87</li> <li>• For PERISTAT project 2004 data please see chapter 4.4 of “European Perinatal Health Report”</li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Consult PERISTAT for considerations regarding indicator definition (preferred timing) and data collection. On this basis then:</li> <li>• Decide on the definition of the indicator.</li> <li>• Decide on the calculation of the indicator.</li> <li>• Decide on the preferred data sources.</li> </ul>



## 46. TOTAL ALCOHOL CONSUMPTION

### 46.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>C) Health determinants</b> 46. Total alcohol consumption
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Total (recorded + unrecorded) adult (15+ years) per capita consumption.
<i>Calculation</i>	Total APC is defined as the total amount of alcohol consumed per adult (15+ years) over a calendar year, in litres of pure alcohol. Recorded alcohol consumption refers to official statistics (production, import, export, and sales or taxation data), while the unrecorded alcohol consumption refers to alcohol which is not taxed and is outside the usual system of governmental control. In circumstances in which the number of tourists per year is at least the number of inhabitants, the tourist consumption is also taken into account and is deducted from the country's recorded APC (calculation as applied in GISAH database; see references. Also see remarks for more details on the estimation methods for recorded and unrecorded consumption).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: Administrative reporting systems Preferred source: WHO, Global Information System on Alcohol and Health (GISAH)
<i>Data availability</i>	Data on total adult per capita alcohol consumption are available in GISAH for all 27 EU Member States. June 2012: latest data available are from 2005 (so quite old), projected estimates for 2008 are also available.
<i>Data periodicity</i>	Annual.
<i>Rationale</i>	Harmful use of alcohol is related to many diseases and health conditions, including chronic diseases such as alcohol dependence, cancer and liver cirrhosis, and acute health problems such as injuries. The level of per capita consumption of alcohol across the population aged 15 years and older is one of the key indicators for monitoring the magnitude of alcohol consumption in the population and likely trends in alcohol-related problems. Reducing alcohol related harm is one of the major policy goals of the European Commission.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Total alcohol consumption is one of the key indicators identified by the SANCO Committee on Alcohol Data, Indicators and Definitions. For the other indicator identified by this Committee; see references.</li> <li>• Alcohol consumption (the number of litres of pure alcohol per person a year, HIS based estimate) is one of the indicators of the health and long-term care strand of the Open Method of Coordination (OMC) on Social Inclusion and Social Protection.</li> <li>• GISAH, method of estimation of recorded consumption: ‘Recorded adult per capita consumption of pure alcohol is calculated as the sum of beverage-specific alcohol consumption of pure alcohol (beer, wine, spirits, other) from different sources. The first priority in the decision tree is given to government statistics; second are country-specific alcohol industry statistics in the public domain; and third is the Food and Agriculture Organization of the United Nations’ statistical database (FAOSTAT). In order to make the conversion into litres of pure alcohol, the alcohol content (% alcohol by volume) is considered to be as follows: Beer (barley beer 5%), Wine (grape wine 12%; must of grape 9%, vermouth 16%), Spirits (distilled spirits 40%; spirit-like 30%), and Other (sorghum, millet, maize beers 5%; cider 5%; fortified wine 17% and 18%; fermented wheat and fermented rice 9%; other fermented beverages 9%). Since different data sources may use different conversion factors to estimate alcohol content, the beverage-specific recorded unrecorded Adult Per Capita consumption (APC) may not equal the total provided, in some cases.’</li> <li>• Information about sources used per country for estimating recorded APC is available in GISAH, but at the time of the last update of this documentation sheet, there are technical problems with the document containing this information. So this needs to be checked at a later stage.</li> <li>• GISAH, method of estimation of unrecorded consumption: ‘Survey questions on consumption of unrecorded alcohol are converted into estimates per year of unrecorded APC. Usually surveys underestimate consumption. However, in countries where survey based estimates exceeded the recorded consumption, unrecorded was calculated as total consumption estimated from survey minus recorded APC. In some countries, unrecorded is estimated based on confiscated alcohol confiscated by customs or police.’</li> <li>• In the Global Information System on Alcohol and Health (GISAH), next to the indicator of interest here, multiple other indicators on level of alcohol consumption as well as on consumption patterns are available.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Global Information System on Alcohol and Health (GISAH)</a></li> <li>• <a href="#">Metadata GISAH on Total adult (15+ years) per capita consumption of pure alcohol</a></li> <li>• <a href="#">DG SANCO. Alcohol-Related Indicators. Report on the work of the Committee on Alcohol Data, Indicators and Definitions. Final version, February 2010</a></li> <li>• <a href="#">Indicators of the health and long-term care strand of the OMC</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Add details on sources per country for recorded alcohol consumption (see remarks).</li> <li>• Discuss with WHO frequency of data updates.</li> </ul>

#### 46.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30501	Health determ.	46. Total alcohol consumption	WHO (Global Information System on Alcohol and Health (GISAH))	Litres of pure alcohol consumed per person aged 15+ per year

## 46. Total alcohol consumption

### Comparability between countries

Data on total alcohol consumption per adult over a calendar year are available from the WHO European Information System on Alcohol and Health (EISAH), which is part of the WHO Global Information System on Alcohol and Health (GISAH).

The total alcohol consumption is the sum of recorded and unrecorded adult (15+ years) per capita consumption of pure alcohol. For calculating the per capita consumption of alcohol by adults of 15 years and older, the medium variant of the UN World Population Prospects (the official United Nations population estimates and projections) is used.

The recorded adult per capita consumption data are based on production, import, export, and sales data often via taxation. In order to make the conversion into pure litres of alcohol, the alcohol content is considered to be 5% for barley beer, 12% for grape wine (must of grape 9%, vermouth 16%), 40% for distilled spirits (spirit-like 30%), and the following for other alcoholic beverages: sorghum, millet, maize beers 5%, cider 5%, fortified wine 17% and 18%, fermented wheat and fermented rice 9%, and other fermented beverages 9% (because different data sources may use different conversion factors to estimate alcohol content). In circumstances in which the number of tourists per year is at least the number of inhabitants, the tourist consumption is deducted from the country's recorded adult per capita consumption.

Data for recorded alcohol consumption are obtained from different sources, preferably from administrative reporting systems. The first priority is given to government statistics; second are country-specific alcohol industry statistics in the public domain (e.g. Canadian, IWSR, OIV, Wine Institute, historically World Drink Trends); and third is the Food and Agriculture Organization of the United Nations' statistical database (FAOSTAT). Factors such as stockpiling, waste and spillage are accounted for in FAOSTAT data.

Unrecorded alcohol consumption refers to alcohol which is not taxed and is outside the usual system of governmental control, such as home or informally produced alcohol (legal and illegal), smuggled alcohol, surrogate alcohol (which is not intended for human consumption), or alcohol obtained through cross-border shopping (which is recorded in a different jurisdiction). Estimates for unrecorded alcohol consumption are based on triangulation of data from different sources, including nationally representative empirical data (e.g. general population surveys), specific other empirical investigations, or expert opinion.

The abovementioned variation between countries in the data source for recorded and unrecorded consumption affects the comparability of this indicator.

### Comparability over time

There has been a change in the data source for some countries in the early 2000's, related to the fact that the World Drink Trends ceased to exist.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [European Information System on Alcohol and Health \(EISAH\)](#)
- [Global Information System on Alcohol and Health \(GISAH\)](#)

Metadata in GISAH:

- [Recorded consumption](#)
- [Unrecorded consumption](#)
- [Total consumption](#)

- [Data sources in GISAH](#)
- [European Status Report on Alcohol and Health 2010](#)
- - [Alcohol in the European Union. Consumption, harm and policy approaches](#)

## 47. HAZARDOUS ALCOHOL CONSUMPTION

### 47.1 Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM Indicator name</i>	<b>C) Health determinants</b> 47. Hazardous alcohol consumption
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion of individuals reporting to have had an average rate of consumption of more than 20 grams pure alcohol daily for women and more than 40 grams daily for men.
<i>Calculation</i>	Percentage of men/women having over the week on average $\geq 2$ drinks/day (women) or $\geq 3$ drinks/day (men), derived from EHIS question AL.2: How many drinks containing alcohol do you have each day in a typical week when you are drinking? Start with Monday and take one day at a time. Number of drinks of: Beer, Wine, Liqueur, Spirits, Other local alcoholic beverage. Precise operationalisation to be formulated.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Alcohol consumption is an important determinant of health and welfare. Overall, there are causal relationships between alcohol consumption and over 60 types of disease and injury. It is also amenable to interventions. Alcohol related health problems usually occur with increasing alcohol consumption. Health damages can be caused by a single occasion of heavy drinking – i.e. due to accidents, drunk driving, violence (as perpetrator or as victim), unprotected sexual exposure, etc. – or can be linked to regular heavy drinking – i.e. liver cirrhosis, irreversible neurological damage, possible increased risk for cardiovascular disease (CVD) and for certain cancers, exacerbation of pre-existing difficulties such as depression and family problems, loss of employment, etc. These direct and indirect health consequences of drinking lead to consider alcohol as one of the three leading contributors to preventable death.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>The threshold for “hazardous” alcohol consumption is usually considered higher for men than for women. According to the WHO, morbidity and mortality due to alcohol consumption rises when the limits of 21 drinks/week (3 glasses/day) for men and 14 drinks/week (2 glasses/day) for women are exceeded.</li> <li>Volumes of standard drinks, and hence the amount of alcohol per standard drink, differ between countries. E.g., ‘a glass of beer’ in Germany is larger than in the Netherlands. These differences have to be taken into account in the algorithms used for calculating this indicator.</li> <li>According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li><a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li><a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Monitor EHIS/Eurostat developments</li> </ul>

## 48. USE OF ILLICIT DRUGS

### 48.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>C) Determinants of health</b> 48. Use of illicit drugs
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>Health inequalities (including accessibility of care)</li> <li>(Preventable) Burden of Disease (BoD)</li> <li>Preventable health risks</li> <li>Life style, health behaviour</li> <li>Mental health</li> <li>Child health (including young adults)</li> <li>Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Prevalence of use of specific illicit psychoactive drugs.
<i>Calculation</i>	Percentage of people reporting to have ever used illicit cannabis, cocaine, amphetamine, and/or ecstasy in the past (lifetime prevalence) and percentage of people reporting to have used these illicit drugs during the past year (last year prevalence).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>Calendar year</li> <li>Country</li> <li>Age groups (15–64, 15–34)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: national surveys Preferred source: EMCDDA
<i>Data availability</i>	<ul style="list-style-type: none"> <li>Data on lifetime prevalence are available or partially available (i.e. not for all preferred age groups) for EU-27 countries and the rest of the countries participating in the Joint Action except for Moldova.</li> <li>Data on last year prevalence of all 4 above mentioned drugs are available or partially available for EU-27 countries and the rest of the countries participating in the Joint Action except for Slovenia and the Republic of Moldova. Data on last year prevalence of use of amphetamines are not available for Bulgaria and Luxembourg, and cocaine and ecstasy are not available for Belgium</li> </ul>
<i>Data periodicity</i>	The frequency of drug use prevalence surveys differs between countries. Most countries conduct their population drug surveys every two to four years.
<i>Rationale</i>	Illicit use of drugs can be a determinant for and a consequence of health and social problems. Illicit drug use correlates with other health and social problems, especially for youth. Prevalence estimates help to identify needs, plan and evaluate interventions and policies.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Lifetime prevalence alone will not capture the current drug situation among adults (although it is considered useful among school children) as it also includes people that tried drugs a long time ago. On the other hand, it is a framework measure; it can give a first rough estimation of the extent of drug experience for low prevalence drugs, and can help to estimate patterns of use such as incidence, length of drug use, or continuation or discontinuation of use, including eventually characteristics and the reasons of those who quit. Last year prevalence produces lower figures, but better reflects the present situation, although often use could be occasional. Combination of lifetime experience and recent use can give basic information on drug use patterns.</li> <li>• Population surveys have limitations in estimating very marginalised forms of drug use (e.g. heroin injection), or newly emerging drug trends where prevalence is too low to show up in aggregated national data.</li> <li>• EMCDDA also has data: on LSD use; disaggregated by sex; for age groups 15-16 (from school surveys) and 15-24. In line with ECHI shortlist objectives, ECHIM in consultation with EMCDDA experts has made a selection of all the operationalizations possible using EMCDDA drug use data.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EMCDDA, General population surveys — an overview of the methods and definitions used</a></li> <li>• <a href="#">EMCDDA, tables with data from general population surveys</a></li> </ul>
<i>Work to do</i>	

## 48.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30701	Health determ.	48. Use of illicit drugs	EMCDDA	Percentage of people reporting to have ever used amphetamines, age 15-34.
30702				Percentage of people reporting to have ever used amphetamines, age 15-64.
30703				Percentage of people reporting to have used amphetamines in the last year, age 15-34.
30704				Percentage of people reporting to have used amphetamines in the last year, age 15-64
30705				Percentage of people reporting to have ever used cannabis, age 15-34.
30706				Percentage of people reporting to have ever used cannabis, age 15-64.
30707				Percentage of people reporting to have used cannabis in the last year, age 15-34.
30708				Percentage of people reporting to have used cannabis in the last year, age 15-64.
30709				Percentage of people reporting to have ever used cocaine, age 15-34.
30710				Percentage of people reporting to have ever used cocaine, age 15-64.
30711				Percentage of people reporting to have used cocaine in the last year, age 15-34.
30712				Percentage of people reporting to have used cocaine in the last year, age 15-64.
30713				Percentage of people reporting to have ever used ecstasy, age 15-34.
30714				Percentage of people reporting to have ever used ecstasy, age 15-64.
30715				Percentage of people reporting to have used ecstasy in the last year, age 15-34.
30716				Percentage of people reporting to have used ecstasy in the last year, age 15-64.

48. Use of illicit drugs
<p><b>Comparability between countries</b></p> <p>The EMCDDA has developed guidelines for adult surveys to improve comparability of general population surveys in the EU. These guidelines include a set of common core items ('European model questionnaire - EMQ') and basic methodological recommendations.</p> <p>However, comparative analysis across countries should be made with caution, in particular where differences in drug use prevalence estimates are small. In addition to differences in data collection methods (e.g. face-to-face interviews, telephone interviews and self-administered questionnaires) and sampling procedures there are also differences in survey fieldwork context. For example young people interviewed at home in the presence of their parents tend to underreport drug use. There are also differences in the context of survey questions, for example questions about drug use inserted into a health survey may lead to underreporting.</p> <p>General population surveys are based on self-report of participants regarding present and past behaviors. Self-reported data have limitations in terms of concealment and memory biases on recall of past events. Furthermore they may underestimate drug use, especially the prevalence of the more marginalised forms of drug use (e.g. heroin injection, crack use) due to absence of marginalised drug users from the sampled households or their non-response. Also the social context (e.g. differences in attitudes towards drug use between countries) can influence self-reporting of drug use.</p> <p>Countries are asked to report results using, as far as possible, EMCDDA standard age groups (all adults: 15-64, young adults: 15-34). If wider age groups are used (e.g. 12 to 75 years) prevalence estimates tend to be lower, because illegal drug use is relatively low at higher ages. In countries where age ranges are more restrictive (e.g. 18 to 49), prevalence estimates tend to be slightly higher, because drug use concentrates among young adults. Some countries have recalculated their prevalence figures using the EMCDDA standard age groups.</p> <p>In addition to methodological causes, several other factors can contribute to differences in overall national figures, for example the relative proportion of urban and rural population in each country.</p> <p><b>Comparability over time</b></p> <p>For the time being, only a limited number of countries have long term series of national surveys with large sample sizes. Several countries have started series of national general population surveys in recent years. As these series continue the possibility of interpreting trends will increase.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <i>chapter 2.4</i> of this report.</p> <p><b>Reference and further reading</b></p> <ul style="list-style-type: none"> <li>• See <a href="#">EMCDDA metadata</a></li> </ul>

## 49. CONSUMPTION OF FRUIT

### 49.1. Documentation sheet

April 2012
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
<p>This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.</p>

<i>ECHIM</i> <i>Indicator name</i>	<b>C) Determinants of health</b>
	49. Consumption of fruits
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion of people reporting to eat fruits (excluding juice) at least once a day.

<i>Calculation</i>	Percentage of people reporting to eat fruits (excluding juice) at least once a day, derived from EHIS question FV.1. How often do you eat fruits (excluding juice)? 1. Twice or more a day / 2. Once a day / 3. Less than once a day but at least 4 times a week / 4. Less than 4 times a week, but at least once a week / 5. Less than once a week / 6. Never (answering categories 1 and 2 should be added for the calculation of this indicator). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Sex</li> <li>• Age group (15-24; 25-64; 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Important health promoting food item. The consumption of fruits and vegetables is a good proxy for a healthy diet. Fruits and vegetables are a dietary protective factor for tobacco related and several other cancers as well as for cardiovascular disease. Use declining in many countries. Amenable to interventions.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

## 49.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30801	Health determ.	49. Consumption of fruit	Eurostat (EHIS) or national HIS	Proportion of people aged 15+ reporting to eat fruits (excluding juice) at least once a day.
30802				Proportion of men aged 15+ reporting to eat fruits (excluding juice) at least once a day.
30803				Proportion of women aged 15+ reporting to eat fruits (excluding juice) at least once a day.
30804				Proportion of people reporting to eat fruits (excluding juice) at least once a day, for age group 15-24.
30805				Proportion of people reporting to eat fruits (excluding juice) at least once a day, for age group 25-64.



ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30806				Proportion of people reporting to eat fruits (excluding juice) at least once a day, for age group 65+.
30807				Proportion of people aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to eat fruits (excluding juice) at least once a day.
30808				Proportion of people aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to eat fruits (excluding juice) at least once a day.
30809				Proportion of people aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to eat fruits (excluding juice) at least once a day.

## 50. CONSUMPTION OF VEGETABLES

### 50.1. Documentation sheet

April 2012
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>C) Determinants of health</b>
	50. Consumption of vegetables
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>- Health inequalities (including accessibility of care)</li> <li>- (Preventable) Burden of Disease (BoD)</li> <li>- Preventable health risks</li> <li>- Life style, health behaviour</li> <li>- Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion of people reporting to eat vegetables (excluding potatoes and juice) at least once a day.
<i>Calculation</i>	Percentage of people reporting to eat vegetables (excluding potatoes and juice) at least once a day, derived from EHIS question FV.2. How often do you eat vegetables or salad (excluding juice and potatoes)? 1. Twice or more a day / 2. Once a day / 3. Less than once a day but at least 4 times a week / 4. Less than 4 times a week, but at least once a week / 5. Less than once a week / 6. Never (answering categories 1 and 2 should be added for the calculation of this indicator). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>- Calendar year</li> <li>- Country</li> <li>- Sex</li> <li>- Age group (15-24; 25-64; 65+)</li> <li>- Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)

<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Important health promoting food item. The consumption of fruits and vegetables is a good proxy for a healthy diet. Fruits and vegetables are a dietary protective factor for tobacco related and several other cancers as well as for cardiovascular disease. Use declining in many countries. Amenable to interventions.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>- According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>- The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>- The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	- Monitor EHIS/Eurostat developments

## 50.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30901	Health determ.	50. Consumption of vegetables	Eurostat (EHIS) or national HIS	Proportion of people aged 15+ reporting to eat vegetables (excluding potatoes and juice) at least once a day.
30902				Proportion of men aged 15+ reporting to eat vegetables (excluding potatoes and juice) at least once a day.
30903				Proportion of women aged 15+ reporting to eat vegetables (excluding potatoes and juice) at least once a day.
30904				Proportion of people reporting to eat vegetables (excluding potatoes and juice) at least once a day, for age group 15-24.
30905				Proportion of people reporting to eat vegetables (excluding potatoes and juice) at least once a day, for age group 25-64.
30906				Proportion of people reporting to eat vegetables (excluding potatoes and juice) at least once a day, for age group 65+.
30907				Proportion of people aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to eat vegetables (excluding potatoes and juice) at least once a day.
30908				Proportion of people aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to eat vegetables (excluding potatoes and juice) at least once a day.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
30909				Proportion of people aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to eat vegetables (excluding potatoes and juice) at least once a day.

## 51. BREAST FEEDING

### 51.1 Documentation sheet

<i>ECHIM Indicator name</i>	<b>C) Determinants of health</b> 51. Breastfeeding
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Maternal and perinatal health</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Child health (including young adults)</li> </ul>
<i>Definition</i>	Percentage of infants breastfed at 3 months of age and at 6 months of age.
<i>Calculation</i>	Percentage of infants reaching their first birthday in the given calendar year who were breastfed, at least partially, when they were 3 and 6 months of age.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Socio-economic status (see data availability)</li> <li>• Region (see data availability)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type: Specific population survey data, records from maternal and child services (see remarks)</p> <p>Preferred source: WHO-HfA (see remarks)</p>
<i>Data availability</i>	WHO-HfA: aims to provide data for the EU-27, Iceland and Norway, from year 1976 onwards, but in practice data are lacking for several countries/years. For 2009 HfA holds data for less than 10 EU MS. No data by region and by socio-economic status available in HfA. The ISARE project on regional data did not collect regional data on breastfeeding.
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	Breastfeeding is an important determinant of the health of both mother and child and in terms of e.g. nutrition and infections (child), and weight gain and risk for breast cancer (mother).

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Comparability of data in WHO-HfA is very limited. They are obtained from national HIS which are not always harmonised, especially regarding exclusive versus partial breastfeeding, duration of breastfeeding, recall period, interview questions, methods and year of data collection. Not all countries gather regular data on breastfeeding and few have data on trends. Nevertheless, ECHIM decided to choose WHO-HfA as preferred source, based on the idea that it will be more feasible to improve the existing, structural data flow to HfA, than to set up completely new data collections. A thorough mapping exercise on the different types of sources available in the countries and their quality is needed (see work to do section; joint venture WHO and ECHIM). Based on that a funded choice can be made regarding preferred source(s).</li> <li>• The WHO recommends exclusive breastfeeding for the first six months of life, and subsequent breastfeeding with appropriate complementary foods while breastfeeding continues for up to two years of age or beyond.</li> <li>• Survey recommendations WHO-EURO according to EUHSID database: For each child between six months and four years of age, ask: Was the child breast-fed (include partial breast-feeding) at the age of: 6 weeks, 3 months, 6 months (yes/no) (face to face questionnaire).</li> <li>• In a general health interview survey sample size needs to be large enough since only a small part of the respondents will have children between six months and four years of age. Therefore a specific population survey among women of childbearing age is to be preferred.</li> <li>• PERISTAT has collected data on breastfeeding, but only during the first 48 hours after birth. This indicator provides one measure in the perinatal period, which can be complemented by breastfeeding during infancy, e.g. at 3 and at 6 months of age. The PERISTAT indicator on breastfeeding probably will not be incorporated into Eurostat regular data collection.</li> <li>• The Child Health Indicators of Life and Development (CHILD) project recommends a) Percentage of newborn children exclusively breastfed at hospital discharge or immediately after birth; b) Percentage of all 6 month old children exclusively breastfed at 6 months; c) Percentage of all 12 month old children receiving breastfeeding at 12 months. For breastfeeding immediately after birth/at 48 hours hospital data and maternity clinic/child health services records are the preferred source, for breastfeeding at older ages interview survey data are the preferred source.</li> <li>• The OECD family data base contains data for the proportion of children who were breastfed at least once and those who were exclusively breastfed for 3, 4 and 6 months for different years around 2005. Data are obtained from national HIS.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">WHO-HfA database</a></li> <li>• <a href="#">WHO, Indicators for assessing breastfeeding practices (WHO, 1991)</a></li> <li>• <a href="#">WHO, Global Strategy for Infant and Young Child Feeding (WHO, 2003) report</a></li> <li>• <a href="#">The WHO Global Data Bank on Infant and Young Child Feeding</a></li> <li>• <a href="#">EURO-PERISTAT report (2004 data)</a></li> <li>• <a href="#">EURO-PERISTAT project</a></li> <li>• <a href="#">Child Health Indicators of Life and Development (CHILD) project, final report to the European Commission</a></li> <li>• <a href="#">The OECD family database</a></li> <li>• <a href="#">Protection, promotion and support of breastfeeding in Europe: a blueprint for action</a></li> <li>• <a href="#">EUHSID database</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Joint venture of WHO and ECHIM on improving data availability, quality and comparability.</li> <li>• Explore possibility of collecting data by socio-economic class.</li> <li>• Follow developments PERISTAT project.</li> </ul>

## 51.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
31001	Health determ.	51. Breastfeeding	WHO-HFA	Percentage of infants breastfed, at least partially, at 3 months of age.
31002				Percentage of infants breastfed, at least partially, at 6 months of age.

## 52. PHYSICAL ACTIVITY

### 52.1. Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM Indicator name</i>	<b>C) Health determinants</b> 52. Physical activity
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Proportion of individuals reporting to perform a certain period of time of health enhancing physical activity on an average day/at least X times per week (precise operationalization to be formulated).
<i>Calculation</i>	EHIS instrument (deriving from the IPAQ) to measure the proportion of population performing moderate and vigorous physical activity (days and/or hours per week), derived from questions PE.1.-6: During the past 7 days, a) days and time devoted to vigorous physical activities, b) days and time devoted to moderate physical activities, c) days and time spent walking. Precise operationalisation to be formulated.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	It has been largely recognised that physical activity has a substantial impact on health status and must be considered as one of the major behaviours to be promoted in the field of public health. Relative physical inactivity, usually together with unhealthy food habits, is associated with the development of many of the major non-communicable diseases in society, such as CVD, some cancers, obesity, diabetes and osteoporosis.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>Population health surveys allow verifying if the respondents have effectively performed any type of physical activity. Intensity as well as frequency of the effort is taken into account. This can be done either through direct measurements (pedometer, accelerometer) or rather based on the self-declaration of the individuals.</li> <li>According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li><a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li><a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Monitor EHIS/Eurostat developments</li> </ul>

## 53. WORK RELATED HEALTH RISKS

### 53.1 Documentation sheet

<i>ECHIM Indicator name</i>	<b>C) Determinants of health</b> 53. Work-related health risks
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>Health inequalities (including accessibility of care)</li> <li>(Preventable) Burden of Disease (BoD)</li> <li>Preventable health risks</li> <li>Occupational health</li> <li>Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	<ol style="list-style-type: none"> <li>Percentage of employees who think that their health or safety is at risk because of their work.</li> <li>Percentage of employees who think their health is negatively affected by their work.</li> <li>Percentage of employees receiving regular support from manager and colleagues.</li> </ol>
<i>Calculation</i>	<ol style="list-style-type: none"> <li>Percentage of employees answering 'yes' to the question: Do you think your health or safety is at risk because of your work?</li> <li>Percentage of employees answering 'yes, mainly negatively' to the question: Does your work affect your health, or not?</li> <li>Percentage of employees answering 'always', 'most of the time' or 'sometimes' to both of the following questions: <ul style="list-style-type: none"> <li>Do your colleagues help and support you?</li> <li>Does your manager help and support you?</li> </ul> </li> </ol>
<i>Relevant dimensions and subgroups</i>	Calendar year Country Region (according to ISARE recommendations) Sex Age group (< 30, 30-49, 50+) Type of occupation (see work to do section related to operationalization of this dimension)
<i>Preferred data type and data source</i>	Preferred data type: interview survey  Preferred data source: EUROFOUND (based on European Working Conditions Survey (EWCS))
<i>Data availability</i>	The European Working Conditions Survey has been conducted in 1990, 1995, 2000, 2005 and 2010. Data are available by sex, age group and occupation. First EWCS in 1990/1991: workers in the EC12 were surveyed Second EWCS in 1995/1996: workers in the EU15 were surveyed Third EWCS in 2000: the EU15 and Norway were surveyed in a first phase, the survey then being extended to cover the 12 "new" Member States in 2001, and Turkey in 2002 in a second phase Fourth EWCS in 2005: EU27, plus Norway, Croatia, Turkey and Switzerland Fieldwork for the fifth EWCS took place from January to June 2010, with almost 44,000 workers interviewed in the EU27, Norway, Croatia, the former Yugoslav Republic of Macedonia, Turkey, Albania, Montenegro and Kosovo.

<i>Data periodicity</i>	EWCS carried out once every 5 years as of 1990.
<i>Rationale</i>	Workplace conditions are important for health and amenable to interventions. Furthermore, ensuring quality of work and employment is a core element in achieving the objective of 'smart, sustainable and inclusive growth' of the Europe 2020 strategy.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>The sample used in the European Working Conditions Survey is representative of those aged 15 years and over (16 and over in Spain, the UK and Norway) who are in employment and are resident in the country that is being surveyed.</li> <li>Age groups are based on dimensions available in Eurofound website mapping tool (see references)</li> <li>The dimension type of occupation is included as a measure for the distribution among different socio-economic groups because data on education are not available from Eurofound.</li> <li>The Eurofound breakdown for type of occupation is based on the 10 categories distinguished by the ISCO classification of occupations: <ul style="list-style-type: none"> <li>High-skilled clerical: 1+2</li> <li>Low-skilled clerical: 3, 4, 5</li> <li>High-skilled manual: 6+7</li> <li>Low-skilled manual: 8+9+0</li> </ul> </li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">EUROFOUND (the European Foundation for the Improvement of Living and Working Conditions), EWCS</a></li> <li><a href="#">Data from the EWCS survey are available in the mapping tool on the Eurofound website</a></li> <li><a href="#">Changes over time – First findings from the fifth European Working Conditions Survey</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Eurofound uses four classes for occupation (see remarks). Check with Eurofound whether it might be possible to use the 5 groups of ESeC classes 1+2, 3+6, 4+5, 7, and 8+9 as described in the documentation sheet for indicator 7. Population by occupation.</li> <li>Seek advice from EUROFOUND experts on 1) which definition(s) to use, and 2) updated documentation sheet.</li> <li>Discuss with (Extended) Core Group (or comparable body, if (E)CG is no longer maintained after the Joint Action for ECHIM); addition of operationalization, or replacement of current operationalization by more objective measures such as work intensity, physical hazards. This was a proposal by France during the last ECG meeting of the Joint Action in March 2012, as data show diverging trends for both types of measures. ECG members however felt that it was better not to make substantial changes to the indicators this shortly before the ending of the Joint Action.</li> </ul>

### 53.2. Operational indicators

ID	Sub-division	Status	Indicator name	Data source	Operational indicator(s)
31201	Health determ.	Implementation section	53. Work-related health risks	EUROFOUND (EWCS)	Percentage of employees who think that their health or safety is at risk because of their work.
31202					Percentage of male employees who think that their health or safety is at risk because of their work.
31203					Percentage of female employees who think that their health or safety is at risk because of their work.
31204					Percentage of employees aged <30 who think that their health or safety is at risk because of their work.
31205					Percentage of employees aged 30-49 who think that their health or safety is at risk because of their work.
31206					Percentage of employees aged 50+ who think that their health or safety is at risk because of their work.
31207					Percentage of high skilled clerical employees (ISCO 1+2) who think that their health or safety is at risk because of their work.

ID	Sub-division	Status	Indicator name	Data source	Operational indicator(s)
31208					Percentage of low skilled clerical employees (ISCO 3-5) who think that their health or safety is at risk because of their work.
31209					Percentage of high skilled manual employees (ISCO 6+7) who think that their health or safety is at risk because of their work.
31210					Percentage of low skilled manual employees (ISCO 8-10) who think that their health or safety is at risk because of their work.
31211					Percentage of employees who think their health is negatively affected by their work.
31212					Percentage of male employees who think their health is negatively affected by their work.
31213					Percentage of female employees who think their health is negatively affected by their work.
31214					Percentage of employees aged <30 who think their health is negatively affected by their work.
31215					Percentage of employees aged 30-49 who think their health is negatively affected by their work.
31216					Percentage of employees aged 50+ who think their health is negatively affected by their work.
31217					Percentage of high skilled clerical employees (ISCO 1+2) who think their health is negatively affected by their work.
31218					Percentage of low skilled clerical employees (ISCO 3-5) who think their health is negatively affected by their work.
31219					Percentage of high skilled manual employees (ISCO 6+7) who think their health is negatively affected by their work.
31220					Percentage of low skilled manual employees (ISCO 8-10) who think their health is negatively affected by their work.
31221					Percentage of employees receiving regular support from manager and colleagues.
31222					Percentage of male employees receiving regular support from manager and colleagues.
31223					Percentage of female employees receiving regular support from manager and colleagues.
31224					Percentage of employees aged <30 receiving regular support from manager and colleagues.
31225					Percentage of employees aged 30-49 receiving regular support from manager and colleagues.
31226					Percentage of employees aged 50+ receiving regular support from manager and colleagues.
31227					Percentage of high skilled clerical employees (ISCO 1+2) receiving regular support from manager and colleagues.



ID	Sub-division	Status	Indicator name	Data source	Operational indicator(s)
31228					Percentage of low skilled clerical employees (ISCO 3-5) receiving regular support from manager and colleagues.
31229					Percentage of high skilled manual employees (ISCO 6+7) receiving regular support from manager and colleagues.
31230					Percentage of low skilled manual employees (ISCO 8-10) receiving regular support from manager and colleagues.

## 54. SOCIAL SUPPORT

### 54.1 Documentation sheet

April 2012
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM Indicator name</i>	<b>C) Determinants of health</b>
	54. Social support
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Mental health</li> </ul>
<i>Definition</i>	Proportion of individuals reporting that they have none or 1 person that they can count on if they have serious personal problems.
<i>Calculation</i>	Number of persons on whom the respondent can rely on when help is needed, as measured by EHIS question EN.4: How many people are so close to you that you can count on them if you have serious personal problem? (None / 1 or 2 / 3 to 5 / More than 5).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.

<i>Rationale</i>	Social support is a protective factor in times of stress. A low level of social support is associated with ill-health (both e.g. depression and somatic diseases). It is important for public health policy to collect information on social support to enable both risk assessment and the planning of preventive interventions.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The EHIS question is derived from the Oslo Social Support-scale (OSS-3): 1) Number of people to count on, 2) Other people's interest, 3) Help from neighbours. Each question measures a different dimension. The OSS-3 can be used for each separate item as well as for the total score. Problems of low internal consistency of the scale have been reported, though. The MINDFUL project therefore recommended not using the OSS-3 as a composite scale.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Oslo-3 Social Support Scale (OSS-3)</a></li> <li>• <a href="#">MINDFUL document "Survey indicators"</a></li> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

## 54.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
31301	Health determ.	54. Social support	Eurostat (EHIS)	Proportion of individuals aged 15 + reporting that they have none or 1 person that they can count on if they have serious personal problems.
31302				Proportion of men aged 15+ reporting that they have none or 1 person that they can count on if they have serious personal problems.
31303				Proportion of women aged 15+ reporting that they have none or 1 person that they can count on if they have serious personal problems.
31304				Proportion of individuals aged 15-64 reporting that they have none or 1 person that they can count on if they have serious personal problems.
31305				Proportion of individuals aged 65+ reporting that they have none or 1 person that they can count on if they have serious personal problems.
31306				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting that they have none or 1 person that they can count on if they have serious personal problems.
31307				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting that they have none or 1 person that they can count on if they have serious personal problems.
31308				Proportion of individuals aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting that they have none or 1 person that they can count on if they have serious personal problems.

## 55. PM10 (PARTICULATE MATTER) EXPOSURE

### 55.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>C) Determinants of health</b> 55. PM10 (particulate matter) exposure
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Environmental health</li> <li>• Child health (including young adults)</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition of indicator</i>	Annual urban population average exposure to outdoor air pollution by particulate matter (PM10).
<i>Calculation of the indicator</i>	The population-weighted annual mean concentrations of Particulate Matter 10 measured at urban and sub-urban background stations in agglomerations. Annual mean concentration of PM10 is the averaged over all measurements conducted in the year in question. PM10 refers to particulates whose diameter is less than 10 micrometers. Measurement unit is micrograms per cubic meter.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> </ul>
<i>Preferred data type and data source(s)</i>	<p>Preferred data type: Emission registries and population statistics.</p> <p>Preferred source: Eurostat.</p>
<i>Data availability</i>	Data are available for the EU-27 in the Eurostat database from year 1999 onwards, except for CY and LU (no data), and LV and MT (only for one year).
<i>Data periodicity</i>	Data are being updated annually.
<i>Rationale</i>	Urban air pollution is responsible for substantial burden of disease and death. Very young children, probably including unborn babies, are particularly sensitive to air pollutants. Fine particulates (PM10) can be carried deep into the lungs where they can cause inflammation and a worsening of the condition of people with heart and lung diseases. The data in the indicator relate to the target and limit values as set in EC legislation.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• This indicator is one of the EU structural indicators Environment</li> <li>• Particulate Matter (PM) is an air pollutant consisting of a mixture of solid and liquid particles suspended in the air. In general, smaller particles (PM10 and smaller) are more important for health effects than larger particles since they penetrate deeper into the lungs.</li> <li>• The European Air quality database (AirBase) is the underlying source for PM10 concentration data (data available from 1996 onwards), and Eurostat for (city) population data.</li> <li>• Currently (July 2010) no Eurostat metadata for PM10 exposure are available.</li> <li>• For the EU countries, air quality data is collected on annual basis as required by the Sixth Community Environment Action Programme (1) and the strategy developed by the Clean Air for Europe programme, adopted in September 2005 (2). Then the European Environment Agency (EEA) and the Topic Centre on Air and Climate Change (ETC_ACC) process the data and make it available. The European Air quality database (AirBase) is the public air quality database system of the EEA. It contains information submitted by the participating countries throughout Europe. AirBase is managed by the European Topic Centre on Air and Climate Change (ETC/ACC) on behalf of the EEA.</li> <li>• ENHIS (European Environment and Health Information System) is a project co-funded by the European Commission and coordinated by WHO/Europe. ENHIS has data on PM10 exposure, which are also based on AirBase. Data availability (time trends) in Eurostat is better than in ENHIS, however. Moreover, Eurostat is a more sustainable source than the project-based ENHIS database.</li> <li>• WHO-HfA is not preferred because data is presented only for capital cities. Their definition is "Annual average concentrations of particulate matter (PM10) in the capital city, based on daily values monitored at the urban background stations of the capital city." WHO-HfA data is compiled and calculated by the Air Quality and Health programme (AIQ) of Special Programme for Health and Environment of the WHO Regional Office for Europe. Primary data source is air quality monitoring networks and stations monitoring air quality in the capital. Secondary source is AirBase database.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, Urban population exposure to air pollution by particulate matter 10</a></li> <li>• <a href="#">The European Air quality dataBase (AirBase) data and AirBase</a></li> <li>• <a href="#">European Topic Centre on Air and Climate Change (ETC/ACC)</a></li> <li>• <a href="#">Legal Setting of AirBase</a></li> <li>• <a href="#">Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme. Official Journal of the European Union, L242, 10.9.2002</a></li> <li>• <a href="#">Directive 2008/50/EC of the European Parliament and the Council of 21 May 2008 on ambient air quality and cleaner air for Europe Official Journal of the European Union, L152/1, 11.6.2008</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• The fraction of the PM10's which are thought to be the most harmful are those that are less than 2.5 micrometres in diameter and are called PM2.5's. At present data from PM2.5 monitoring is available for a small part of the population only. Use PM10 for now because of time trends, but monitor ENHIS and Eurostat for PM2.5 data so that at some point, when enough trends for PM2.5 are available, change indicator definition to PM2.5.</li> <li>• Seek feedback from Eurostat on precise data processing of the AirBase data before publication in the Eurostat database.</li> </ul>

## 55.2 Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
31401	Health determ.	55. PM10 (particulate matter) exposure	Eurostat	Annual urban population average exposure to outdoor air pollution by particulate matter (PM10).

## 55.3 Remarks on comparability

55. PM10 (particulate matter) exposure
<p><b>Comparability between countries</b></p> <p>The data in Eurostat are obtained from AirBase, the European Environmental Agency's (EEA) public air quality database system. Data in AirBase are measured at rural and urban background stations, as well as at traffic stations and submitted to EEA by participating countries throughout Europe. In a city, the total background concentration is the level that would occur in the absence of significant PM10 sources in the immediate vicinity. Rules for implementing the reporting system under the Directives 2008/50/EC (Air Quality Directive) and 2004/107/EC are established in the 2011/850/EU Decision of 12 December 2011 (Implementing Provisions, IPR). These IPRs shall apply from 1 January 2014. Until then the Exchange of Information (EoI) Decision 97/101/EC remains applicable laying down arrangements for the submission of information on values for certain pollutants in ambient air. The European Topic Centre for Air Pollution and Climate Change Mitigation (ETC/ACM) processes and compiles the data on behalf of EEA and Eurostat.</p> <p>The Air Quality Directive 2008/50/EC prescribes the reference measurement method. However, in about two third of stations another or an unknown measurement method is used. Results obtained with different measurement methods, must be corrected to arrive at comparable exposure levels. To what extent corrections are applied, is not mentioned in the Air quality in Europe - 2011 report. Any unadjusted measurements contribute to problems in comparability.</p> <p>Furthermore, PM10 concentrations are not only a result of anthropogenic sources, but also contain a natural component. The occurrence of these natural sources differs between countries (Air quality in Europe - 2011 report). For example, sea salt and wind-blown desert dust (Sahara dust) form the most important natural contributions especially in the countries around the Mediterranean Sea. Volcanic contributions are generally low. The anthropogenic component consists of direct emissions and a secondary component, that is, particles formed in the atmosphere. Important precursors for secondary PM are the emissions of sulphur dioxide, nitrogen oxides, ammonia and volatile organic compounds (both from anthropogenic as well as from biogenic sources).</p> <p><b>Comparability over time</b></p> <p>Airbase became operational in 1997. Since then the number of stations is increasing. The average length of the time series available varies by country. Changes in data coverage can affect comparability over time.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <i>chapter 2.4</i> of this report.</p> <p><b>References and further reading</b></p> <ul style="list-style-type: none"> <li>• <a href="#">The state of the air quality in 2009 and the European exchange of monitoring information in 2010</a></li> <li>• <a href="#">Detailed information on the number and type of station per country in 2009 can be found in table A: number of stations per pollutant and station type and country in 2009</a></li> <li>• <a href="#">Air quality in Europe - 2011 report</a></li> <li>• <a href="#">EU legislation Ambient Air Quality</a></li> </ul>

## 56. VACCINATION COVERAGE IN CHILDREN

### 56.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 56. Vaccination coverage in children
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Health threats, communicable diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Child health (including young adults)</li> </ul>
<i>Definition</i>	Percentage of infants who have been fully vaccinated against important infectious childhood diseases.
<i>Calculation</i>	Percentage of infants reaching their 1st birthday in the given calendar year who have been fully vaccinated, according to national vaccination schemes, against pertussis, diphtheria, tetanus and poliomyelitis, and percentage of infants reaching their 2nd birthday in the given calendar year who have been fully vaccinated against measles, mumps and rubella.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations).</li> <li>• Socio-economic status</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: administrative data, vaccination registers Preferred data source: WHO-HFA N.B.: WHO-HFA uses data from WHO centralized information system for infectious diseases (CISID)
<i>Data availability</i>	Data on vaccination coverage for all selected diseases are available for all EU-27 Member States, as well as for the other countries participating in the Joint Action for ECHIM. Data for diphtheria, measles, pertussis, poliomyelitis and tetanus are available for the period 1970-2008. Data for rubella for most countries are available for the period 1991-2008. Data for mumps for most countries are available for the period 1991-2003. ISARE-3 project has collected data on vaccination coverage in children, but only for one region per country. No data according to socio-economic status available.
<i>Data periodicity</i>	Data are collected annually.
<i>Rationale</i>	Immunisation is one of the most powerful and cost-effective forms of primary prevention. A classical prevention strategy which should be maintained to continue effective protection.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• This indicator is identical to EU Open Method of Coordination (OMC)/Social Protection Committee (SPC) indicator HC-P6</li> <li>• Child Health Indicators of Life and Development (CHILD) project recommends slightly different definition, which also includes immunisation rates for haemophilus influenza type b, hepatitis B, and meningococcus C.</li> <li>• The OMC was set up at the Lisbon European Council of March 2000. Within the OMC, Member States agree to identify and promote their most effective policies in the fields of Social Protection and Social Inclusion. As such the OMC represents an important common EU policy. Therefore ECHIM feels it is preferable to join in with the OMC work for this indicator and apply the same definition.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">WHO-HFA database</a></li> <li>• <a href="#">CISID</a></li> <li>• <a href="#">Indicators adopted by the EU Social Protection Committee</a></li> <li>• <a href="#">CHILD project, final report</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Check with WHO-Europe why data for vaccination against mumps are not up to date.</li> </ul>

## 56.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
40101	Health services	56. Vaccination coverage in children	WHO -HfA	Percentage of infants reaching their first birthday fully vaccinated against diphtheria.
40102				Percentage of infants reaching their first birthday fully vaccinated against pertussis.
40103				Percentage of infants reaching their first birthday fully vaccinated against poliomyelitis.
40104				Percentage of infants reaching their first birthday fully vaccinated against tetanus.
40105				Percentage of infants reaching their second birthday fully vaccinated against measles.
40106				Percentage of infants reaching their second birthday fully vaccinated against mumps.
40107				Percentage of infants reaching their second birthday fully vaccinated against rubella.

## 56.3 Remarks on comparability

### 56. Vaccination coverage in children

#### Comparability between countries

Immunization schemes are not harmonized in the EU. There is a wide variation among national childhood immunization schedules and vaccination recommendations in the EU (ECDC, 2007). The age of complete immunization differs across countries due to different immunization schedules. Both the WHO Vaccine Preventable Diseases Monitoring System and the ECDC Vaccination schedules website provide country-specific vaccination schedules. In order to make meaningful international comparisons, it may be considered to calculate the vaccination coverage in children according to the national schemes. However, this is not done for the data in WHO-HfA.

The metadata available in WHO-HfA presents country-specific deviations from the general definitions used by WHO-HfA. Although most countries do not report on any deviations, this does not necessarily mean that their calculation matches the general definitions. It is not certain whether the country-specific deviations are up to date. Furthermore, some countries ascertain vaccinations based on surveys and others based on the actual number of children that were vaccinated (encounter data), which may influence comparability.

For some countries vaccination against certain diseases is not part of the general vaccination programme, but is only recommended to specific risk groups. For these countries the general vaccination coverage is not a very meaningful figure, because it says nothing about the vaccination coverage in the risk groups. For example for Denmark and Sweden, where universal vaccination for hepatitis B was not implemented yet in 2010, the vaccination rates presented in WHO-HfA are low. On the other hand no rates are presented for Finland, the Netherlands, Norway and the United Kingdom, also countries without universal vaccination in 2010.

#### Comparability over time

For most countries data for this indicator are comparable over time. For some countries however, a change in the calculation of the indicator took place. Examples are Denmark and the Netherlands.

#### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

#### References and further reading

- [The WHO Vaccine Preventable Diseases Monitoring System, which provides country-specific vaccination schedules](#)
- [The ECDC vaccination schedules website, which also provides country-specific vaccination schedules](#)
- [WHO website on Immunization surveillance, assessment and monitoring](#)

#### Literature:

ECDC, European Centre for Disease Prevention and Control. Annual Epidemiological Report on Communicable Diseases in Europe. Report on the status of communicable diseases in the EU and EEA/EFTA countries. Stockholm: ECDC, 2007

## 57. INFLUENZA VACCINATION RATE IN ELDERLY

### 57.1 Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in <i>textbox 3 in chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b>
	57. Influenza vaccination rate in elderly
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Health threats, communicable diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> </ul>
<i>Definition</i>	Proportion of elderly individuals reporting to have received one shot of influenza vaccine during the last 12 months.
<i>Calculation</i>	Percentage of persons aged 65 and older reporting to have been vaccinated against influenza (brand name of vaccine to be verified in each country) during the last 12 months, derived from EHIS questions PA.1, PA.2 and PA.3. PA.1: Have you ever been vaccinated against flu? 1. Yes / 2. No; PA.2: When were you last time vaccinated against flu? 1. Since the beginning of this year / 2. Last year / 3. Before last year PA.3: Can I just check, what month was that? Month (01-12). EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Influenza vaccination in elderly is important for reducing the disease burden of influenza, including mortality.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• This indicator is also one of the OECD Health Care Quality Indicators, and one of the Health and Long Term Care Indicators of the Social Protection Committee.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• A recall period of 12 months is used to cover one influenza season.</li> <li>• The number of people called to receive a vaccination within a vaccination programme will differ from the number of people actually getting a vaccination. People may refuse to be vaccinated or may be unable/not fit enough to receive a vaccination. The definition applied here only refers to those elderly who actually received a vaccination.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">OECD Health Care Quality Indicators</a></li> <li>• <a href="#">Indicators of the Social Protection Committee, health and long term care strand</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

## 57.2 Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
40201	Health services	57. Influenza vaccination rate in elderly	Eurostat (EHIS) or national HIS	Proportion of elderly individuals (65+) reporting to have received one shot of influenza vaccine during the last 12 months.
40202				Proportion of elderly men (65+) reporting to have received one shot of influenza vaccine during the last 12 months.
40203				Proportion of elderly women (65+) reporting to have received one shot of influenza vaccine during the last 12 months.
40204				Proportion of elderly individuals (65+), whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have received one shot of influenza vaccine during the last 12 months.
40205				Proportion of elderly individuals (65+), whose highest completed level of education is ISCED class 3 or 4, reporting to have received one shot of influenza vaccine during the last 12 months.
40206				Proportion of elderly individuals (65+), whose highest completed level of education is ISCED class 5 or 6, reporting to have received one shot of influenza vaccine during the last 12 months.

## 58. BREAST CANCER SCREENING

### 58.1. Documentation sheet

<b>April 2012</b>	
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>	
<p>This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.</p>	

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 58. Breast cancer screening
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> </ul>



<i>Definition</i>	Proportion of women (aged 50-69) reporting to have undergone a breast cancer screening test within the past two years.
<i>Calculation</i>	Percentage of women aged 50-69 reporting to have had a breast examination by X-ray (i.e. mammography) within past 2 years, derived from EHIS questions PA.10 and PA.11: PA.10: Have you ever had a mammography, which is an X-ray of one or both of your breasts? Yes / No / Don't know / Refusal; and PA.11: When was the last time you had a mammography (breast X-ray)? Within the past 12 months / More than 1 year, but not more than 2 years / More than 2 years, but not more than 3 years / Not within the past 3 years / Don't know / Refusal. EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Age group (50-69)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS = interim source, see remarks).
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Breast cancer is the most frequent cancer among women; it represents 15 to 35% of all cancers diagnosed in Europe. Population-based cancer registries have consistently documented a continuing rise of incidence rates since the 1960s. Breast cancer screening programmes based on mammography and organised at the population level allow an effective decrease of breast cancer mortality by 30% among women aged 50 to 69 years. Information collected in population surveys can be directly used by the public health decision makers in order to possibly adapt the organisation of the prevention/screening programmes. The domain of breast cancer screening is a priority in European Community public health policy.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Breast cancer screening rate is also one of the Health and Long Term Care Indicators of the Social Protection Committee (SPC). The SPC however uses a somewhat different definition (Percentage of women aged 50-69 that were screened for breast cancer using mammography over the past year). Breast cancer screening rate is also one of the OECD Health Care Quality Indicators. OECD also applies the age range 50-69, but uses as time span the specific screening frequency applied in each country, instead of a fixed recall period.</li> <li>• Ideally, the recall period used in the definition for this indicator coincides with the recall period actually applied in the screening programmes, as in the definition applied by OECD. As a common methodology needs to be applied in EHIS for all countries, such a flexible approach is not possible in EHIS. The recall period used in the definition for this indicator therefore represents an average and hence it will not be aligned with the programme methodologies for all countries.</li> <li>• Administrative sources based on screening programme data would be preferable over (E)HIS based data, as the latter will be influenced by recall and sampling biases. Currently however there is no adequate international coverage of programme based data. Therefore for the moment EHIS is the best source available for this indicator. In future however, when the situation with regard to programme based data has improved, ECHIM prefers to use those data instead of EHIS. A disadvantage of programme based data however is that they seldom allow for breakdowns according to socio-economic status.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">Indicators of the Social Protection Committee, health and long term care strand</a></li> <li>• <a href="#">OECD Health Care Quality Indicators</a></li> </ul>

<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> <li>• Monitor (inter)national programme recommendations, in particular with regard to the lower age limit applied; the lower age limit of 50 that currently is commonly applied in international indicator definitions may become inadequate as recommendations more and more tend to include women younger than 50.</li> </ul>
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## 58.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
40301	Health services	58. Breast cancer screening	Eurostat (EHIS) or national HIS	Proportion of women (aged 50-69) reporting to have undergone a breast cancer screening test within the past two years.
40302				Proportion of women (aged 50-69), whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have undergone a breast cancer screening test within the past two years.
40303				Proportion of women (aged 50-69), whose highest completed level of education is ISCED class 3 or 4, reporting to have undergone a breast cancer screening test within the past two years.
40304				Proportion of women (aged 50-69), whose highest completed level of education is ISCED class 5 or 6, reporting to have undergone a breast cancer screening test within the past two years.

## 59. CERVICAL CANCER SCREENING

### 59.1. Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b> 59. Cervical cancer screening
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Proportion of women (aged 20-69) reporting to have undergone a cervical cancer screening test within the past three years.
<i>Calculation</i>	Percentage of women aged 20-69 reporting to have had a cervical smear test (pap smear) within the last 3 years, derived from EHIS questions PA.13 and PA.14. PA.13: Have you ever had a cervical smear test? Yes / No; PA.14: When was the last time you had a cervical smear test? Within the past 12 months / More than 1 year, but not more than 2 years / More than 2 years, but not more than 3 years / Not within the past 3 years. EHIS data will not be age standardized.

<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Age group (20-69)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS = interim source, see remarks).
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Among all malignant tumors, cervical cancer is the one that can be most effectively controlled by screening. Detection of cytological abnormalities by microscopic examination of Pap smears, and subsequent treatment of women with high-grade cytological abnormalities avoids development of cancer. Information collected in population surveys can be directly used by the public health decision makers in order to possibly adapt the organization of the prevention/screening programmes. The domain of cervical cancer screening is a priority in European Community public health policy.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• This indicator is also one of the Health and Long Term Care Indicators of the Social Protection Committee (SPC).</li> <li>• Ideally, the recall period used in the definition for this indicator coincides with the recall period actually applied in the screening programmes. However, the recall periods applied in national cancer screening programmes differ. As a common methodology needs to be applied in EHIS for all countries, a flexible approach with country specific questions is not possible. The recall period used in the definition for this indicator therefore represents an average and hence it will not be aligned with the programme methodologies for all countries.</li> <li>• Administrative sources based on screening programme data would be preferable over (E)HIS based data, as the latter will be influenced by recall and sampling biases. Currently however there is no adequate international coverage of programme based data. Therefore for the moment EHIS is the best source available for this indicator. In future however, when the situation with regard to programme based data has improved, ECHIM prefers to use those data instead of EHIS. A disadvantage of programme based data however is that they seldom allow for breakdowns according to socio-economic status.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">Indicators of the Social Protection Committee, health and long term care strand</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
40401	Health services	59. Cervical cancer screening	Eurostat (EHIS) or national HIS	Proportion of women (aged 20-69) reporting to have undergone a cervical cancer screening test within the past three years.
40402				Proportion of women (aged 20-69), whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have undergone a cervical cancer screening test within the past three years.
40403				Proportion of women (aged 20-69), whose highest completed level of education is ISCED class 3 or 4, reporting to have undergone a cervical cancer screening test within the past three years.
40404				Proportion of women (aged 20-69), whose highest completed level of education is ISCED class 5 or 6, reporting to have undergone a cervical cancer screening test within the past three years.

## 60. COLON CANCER SCREENING

### 60.1 Documentation sheet

**April 2012**

#### Additional information for indicators for which EHIS is preferred (interim) source

This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in *chapter 2.2* of this report.

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b>
	60. Colon cancer screening
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Proportion of persons (aged 50-74) reporting to have undergone a colorectal cancer screening test in the past 2 years.
<i>Calculation</i>	Percentage of persons (aged 50-74) that have undergone a colorectal cancer screening test (faecal occult blood test) in the last 2 years, derived from EHIS questions : PA.16 and PA.17. PA.16: Have you ever had a faecal occult blood test? 1. Yes / 2. No; PA.17: When was the last time you had a faecal occult blood test? Within the past 12 months / More than 1 year, but not more than 2 years / More than 2 years, but not more than 3 years / Not within the past 3 years.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (50-74)</li> <li>• Socio-economic status (educational level, ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS = interim source, see remarks)

<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Colorectal cancer is the third most frequent cancer among males and the second among women. Colorectal cancer mortality can be reduced through screening from the age of 50. Information collected in population surveys can be directly used by the public health decision makers in order to possibly adapt the organisation of the prevention/screening programmes. The domain of colon cancer screening is a priority in European Community public health policy.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Ideally, the recall period used in the definition for this indicator coincides with the recall period actually applied in the screening programmes. However, the recall periods applied in national cancer screening programmes differ. As a common methodology needs to be applied in EHIS for all countries, a flexible approach with country specific questions is not possible. The recall period used in the definition for this indicator therefore represents an average and hence it will not be aligned with the programme methodologies for all countries.</li> <li>• Administrative sources based on screening programme data would be preferable over (E)HIS based data, as the latter will be influenced by recall and sampling biases. Currently however there is no adequate international coverage of programme based data. Therefore for the moment EHIS is the best source available for this indicator. In future however, when the situation with regard to programme based data has improved, ECHIM prefers to use those data instead of EHIS. A disadvantage of programme based data however is that they seldom allow for breakdowns according to socio-economic status.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> </ul>

## 60.2 Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
40501	Health services	60. Colon cancer screening	Eurostat (EHIS) or national HIS	Proportion of persons (aged 50-74) reporting to have undergone a colorectal cancer screening test in the past 2 years.
40502				Proportion of men (aged 50-74) reporting to have undergone a colorectal cancer screening test in the past 2 years.
40503				Proportion of women (aged 50-74) reporting to have undergone a colorectal cancer screening test in the past 2 years.
40504				Proportion of persons (aged 50-74), whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have undergone a colorectal cancer screening test in the past 2 years.

40505				Proportion of persons (aged 50-74), whose highest completed level of education is ISCED class 3 or 4, reporting to have undergone a colorectal cancer screening test in the past 2 years.
40506				Proportion of persons (aged 50-74), whose highest completed level of education is ISCED class 5 or 6, reporting to have undergone a colorectal cancer screening test in the past 2 years.

## 61. TIMING OF FIRST ANTENATAL VISIT AMONG PREGNANT WOMEN

### 61.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 61. Timing of first antenatal visit among pregnant women.
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Maternal and perinatal health</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Child health (including young adults)</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Percentage of women having their first antenatal visit in 1st, 2nd, and 3rd trimester or having no visits. Antenatal visit refers to a visit to a certified health care professional, e.g. general practitioner, obstetrician, midwife and public health nurse. Only visits to examinations and/or pregnancy-related advice are to be included. Mere prescription of a pregnancy test or booking in a maternity unit should be excluded.
<i>Key issues and problems</i>	<p>Topic needs further development. The key issues are:</p> <ol style="list-style-type: none"> <li>1) At the moment there is no satisfactory proposal for indicator calculation and data sources.</li> <li>2) Recommendations on the appropriate time to begin antenatal care differ across member states, as there is no universal recommendation for optimal timing, amount and content of antenatal care in either low- or high-risk pregnancies. However, early first visit before the end of 1st trimester is recommended in most countries.</li> <li>3) Also the definition of what antenatal visit entails may range from the prescription of a pregnancy test to booking in a maternity unit, to first contact with an obstetrician, midwife, or general practitioner.</li> <li>4) There are additional variations within countries with respect to the definition of trimesters in terms of gestational age in days or weeks.</li> </ol>
<i>Preferred data type and data source</i>	<p>Preferred data type: National birth registers and perinatal surveys. Also electronic child health and maternity clinic records can be used. In some countries, data are available from the calculation of health insurance benefits.</p> <p>Preferred data source: Not decided yet.</p>
<i>Data availability</i>	<ul style="list-style-type: none"> <li>• Eurostat, WHO-HfA and OECD: No data available.</li> <li>• Peristat data for year 2004 exist for 26 MSs and Norway. However, some countries were not able to provide data.</li> </ul> <p>Data only for years 2000 and 2004 are available. Next data round is planned for 2010 data.</p>
<i>Rationale</i>	Antenatal care is the best preventive care for pregnant women to reduce morbidity and mortality in both mothers and their babies. Antenatal visits allow for the management of pregnancy, detection and treatment of complications and promotion of good health. It provides an indication of access to antenatal care. It is a better indicator for international comparisons than an indicator based on recommendations about the optimal number of antenatal visits, which vary according to policy differences among MSs.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Both public and private sectors should be included.</li> <li>• PERISTAT project has proposed an indicator "timing of first antenatal visit, (R7) which is defined as "Distribution of timing of first antenatal visit by trimester of pregnancy for all women delivering live or stillborn babies. Trimesters are defined as a) 1st trimester = lower than 15 weeks; b) 2nd trimester = 15 – 27 weeks; c) 3rd trimester = 28 weeks or more". Collect separately the percentage of women with no antenatal visits.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">PERISTAT -project</a></li> <li>• For PERISTAT project 2000 data please see: the Special Issue of the European Journal for Obstetrics &amp; Gynecology and Reproductive Biology, Volume 111 (2003), Supplement 1, S1–S87</li> <li>• For PERISTAT project 2004 data please see chapter 4.4 of “European Perinatal Health Report”</li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Consult PERISTAT for considerations regarding indicator definition (preferred timing) and data collection. On this basis then:</li> <li>• Decide on the definition of the indicator.</li> <li>• Decide on the calculation of the indicator.</li> <li>• Decide on the preferred data sources.</li> </ul>

## 62. HOSPITAL BEDS

### 62.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b>  62. Hospital beds
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	The total number of hospital beds per 100,000 inhabitants.
<i>Calculation</i>	The total number of hospital beds in a given calendar year by 31 December, per 100,000 inhabitants (end of year population). Total hospital beds are all hospital beds which are regularly maintained and staffed and immediately available for the care of admitted patients. Both occupied and unoccupied beds in general hospitals, mental health and substance abuse hospitals and other specialty hospitals are included. Definitions applied in the calculation of this indicator are in line with the ICHA-HP classification of providers of health care of the System of Health Accounts (see references).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Type of facility; curative care beds in hospitals, psychiatric care beds in hospitals, long-term care beds (excluding psychiatric) in hospitals</li> <li>• Health care sector; public, private (see data availability)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: <ul style="list-style-type: none"> <li>• Administrative sources</li> </ul> Preferred source: <ul style="list-style-type: none"> <li>• Eurostat</li> </ul>
<i>Data availability</i>	Annual data are available for the EU-27, Croatia, the former Yugoslav Republic of Macedonia, Turkey, Iceland, Norway, and Switzerland as of 1985. For many countries data are also available for the years 1970 and 1980. For some countries the time series are incomplete. Data are available by type of facility; availability of data on curative and psychiatric beds is good. Several countries however do not provide (or do not regularly provide) data on long-term care beds. Data by health care sector are not available. Data by region are available in Eurostat (NUTS II level); for most countries as of 1993. The ISARE project on regional data has collected data on hospital beds (number of hospital beds per 100,000 population).
<i>Data periodicity</i>	Data are being updated annually. Eurostat asks Member States to deliver the data for year N at N + 18 months, but some Member States have difficulties with this time table and deliver the data at their earliest convenience.
<i>Rationale</i>	Data on health care resources form a major element of public health information as they describe the capacities available for different types of health care provision. The quantity and quality of health care services provided and the division of work established between the different institutions are a subject of ongoing debate in all countries. Sustainability – continuously providing the necessary monetary and personal resources needed – and meeting the challenges of ageing societies are the primary perspectives used when analysing and using these data.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>The Eurostat data on hospital are not fully harmonised with regard to the reference period; some countries provide annual averages rather than end of year estimates. See references (annex describing original sources in the Member States) for more details. However, the reference period is not described for all countries in the Annex.</li> <li>Next to hospital beds (HP.1), the System of Health Account also defines beds in nursing and residential care facilities (HP.2). These are available beds for people requiring ongoing health and nursing care due to chronic impairments and a reduced degree of independence in activities of daily living (ADL) in establishments primarily engaged in providing residential care combined with nursing, supervision or other types of care as required by the residents. The care provided can be a mix of health and social services. Publication of HP.2 data is currently being prepared by Eurostat. ECHIM only uses HP.1 beds for the definition of this indicator, as HP.1 beds are better comparable across Member States than HP.2 beds.</li> <li>The adequacy of the number of beds in relation to the population is an issue that should be evaluated in a framework of comprehensive analysis along with other indicators of health care services structure and functioning. A decreasing trend in the number of hospital beds per inhabitant does not indicate necessarily a loss of resources but can also reflect a change in the organisation of producing health services.</li> <li>As of 2010 Eurostat, OECD and WHO-Europe carry out a joint data collection in the field of health care non expenditure (human and physical resources). Publication of the (meta)data is expected shortly).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">Eurostat, dataset 'Hospital beds (HP.1) - Absolute numbers and rate per 100,000 inhabitants'</a></li> <li><a href="#">Eurostat, meta-data 'Health care: resources and patients (non-expenditure data)'</a></li> <li><a href="#">Eurostat, annex describing original sources in the Member States</a></li> <li><a href="#">Eurostat, definitions on health care statistics (non-expenditure data), available in CIRCA</a></li> <li><a href="#">System of Health Accounts (SHA): OECD SHA Manual, 2011 edition</a></li> <li><a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>Monitor publication of (meta)data collected in joint Eurostat/WHO/OECD questionnaire and update documentation sheet accordingly.</li> </ul>

## 62.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
40701	Health services	62. Hospital beds	Eurostat	Total number of hospital beds per 100,000.
40702				Acute care hospital beds per 100,000.
40703				Psychiatric care hospital beds per 100,000.
40704				Long-term care hospital beds per 100,000



## 62. Hospital beds

### Comparability between countries

Although common definitions for available beds in hospitals were agreed between Eurostat, OECD and WHO, the type of information available and collected influences the quality of the country data and in turn limits comparability between countries. Differences in organisation of health care provision also limits comparability.

Differences primarily arise from differences in the types of hospital beds included in the calculation. Information on the types of beds included, is given on the Eurostat website (country-specific information). Not all countries report on all possible choices. For example, some countries report that beds in military hospitals are excluded, but most of them do not report on this fact. For those countries, it is difficult to assess whether beds in military hospitals are included or not. Summarized, the most important deviations from the indicator definition are:

- beds in private (short-stay) hospitals are excluded
- beds in military or prison hospitals are included / excluded (no preference mentioned in the documents of Eurostat)
- beds for same-day care are included
- a part of the beds for same-day care are included
- only beds in hospitals that participate in an organised network of hospitals are included, or only hospitals which are contracted with the insurance fund
- only occupied (active) beds are included
- estimates are made on the basis of bed-days and an estimated occupancy rate
- psychiatric care beds are excluded
- beds in sheltered homes for patients with a mental disorder are excluded
- beds for specific types of long-term care in hospitals are excluded
- beds for long-term nursing care are included
- psychiatric residential home beds are excluded
- beds in hospices for terminal care are excluded
- beds for rehabilitation are included
- cots for unhealthy neonates are excluded
- cots for healthy neonates are included
- beds in welfare institutions are included
- beds for the treatment of tuberculosis are excluded
- intensive-care beds are excluded
- beds for balneology are included

Especially the comparability of hospital beds by type of facility is not completely clear, because countries make different choices in assigning bed types to a specific type of facility. Not all choices are reported. The category 'other hospital beds' is a category of very different types of beds, and therefore difficult to interpret. However, a difference in allocations of beds to specific types of facilities in itself will not lead to incomparable number of hospital beds between countries. Furthermore, it is not always clear to what extend the deviations from the Eurostat definitions really influence comparability. For example, inclusion of beds for same-day care only affects comparability if a rather large part of a country's production is in day-care.

Other factors that can have an effect on the reported number of hospital beds can be the method of data collection, the accuracy of the data collection, response rate of hospitals to surveys, financial incentives for having a certain number of beds, and financial incentives for reporting about the number of beds.

### Comparability over time

Some countries have a change in their data collection and therefore a break in series. These breaks in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. Changes take place in types of hospitals beds included and the participation of hospitals in the registration, survey or network. In several countries such changes took place, e.g. Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Hungary, Poland, Romania and Slovakia.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [Eurostat Metadata Health care resources and patients \(non-expenditure data\) \(last update 12 November 2010\)](#)
- [Eurostat Annex – Health care facilities: Hospital beds \(country-specific information\)](#)
- [Eurostat, Definitions and data collection specifications on health care statistics \(non-expenditure, available in CIRCA\)](#)

## 63. PRACTISING PHYSICIANS

### 63.1 Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 63. Practising physicians
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	The total number of practising physicians (medical doctors) per 100,000 inhabitants.
<i>Calculation</i>	<p>The total number of practising physicians (medical doctors) by 31 December of a given calendar year, per 100,000 inhabitants (end of year population). Practising physicians provide services directly to patients. Practising physicians include:</p> <ul style="list-style-type: none"> <li>• Persons who have completed studies in medicine at university level (granted by adequate diploma) and who are licensed to practice</li> <li>• Interns and resident physicians (with adequate diploma and providing services under supervision of other medical doctors during their postgraduate internship or residency in a health care facility)</li> <li>• Salaried and self-employed physicians delivering services irrespectively of the place of service provision</li> <li>• Foreign physicians licensed to practice and actively practising in the country.</li> </ul> <p>For a more detailed definition: see references (definitions on health care statistics (non-expenditure data), available in CIRCA).</p>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Administrative sources</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• Eurostat</li> </ul>
<i>Data availability</i>	Data are available for the EU-27 (except Ireland, Greece, France, Italy and Malta), Croatia, Turkey, Iceland, and Norway. Annual data are available as of 1985, though for quite some countries data are only available as of the 1990s. For some countries there are also data for the years 1970 and 1980. Data on practising physicians by region are available in Eurostat (NUTS II level). The ISARE project on regional data has collected data on number of physicians (indicator: number of physicians per 100,000 population).
<i>Data periodicity</i>	Data are being updated annually. Eurostat asks Member States to deliver the data for year N at N + 18 months, but some Member States have difficulties with this time table and deliver the data at their earliest convenience.
<i>Rationale</i>	Indicator widely used in assessments of accessibility and efficiency of health care services. It describes availability of staff for the whole country and the distribution of staff across the country. Time trends may help to identify e.g. staff shortages due to demographic developments such as migration.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Practising physicians per 100,000 inhabitants also is one of the (context) indicators of the indicators of the health and long term care strand of the Social Protection Committee (Open Method of Coordination).</li> <li>• Common definitions for the different categories of health care professionals were agreed with OECD and WHO. Three different concepts are used to present the number of health care professionals: <ul style="list-style-type: none"> <li>- 'practising', i.e. health care professionals providing services directly to patients;</li> <li>- 'professionally active', i.e. 'practising' health care professionals plus health care professionals for whom their medical education is a prerequisite for the execution of the job;</li> <li>- 'licensed to', i.e. health care professionals who are registered and entitled to practise as health care professionals.</li> </ul> </li> </ul> <p>In the context of comparing health care services across Member States, Eurostat and ECHIM give preference to the concept 'practising', as it best describes the availability of health care resources.</p> <ul style="list-style-type: none"> <li>• Eurostat metadata: "Health care staff data refer to human resources available for providing health care services in the country, irrespective of the sector of employment (i.e. whether they are independent, employed by a hospital or any other health care provider)".</li> <li>• Eurostat metadata: "Some countries are unable to cover all providers of care (the inclusion of private providers seems particularly difficult) or are only able to provide data for selective regions".</li> <li>• Eurostat metadata: "For health care staff, countries may use a central register for medical professionals, business registers or other forms of data collection (including sample surveys)". "...the quality of the country data is subject to the way, in which health care provision is organised in countries, and which information is available to and collected by the respective institutions". Comparability of the data between countries is therefore limited.</li> <li>• Eurostat data on health care staff are based on head count rather than on FTEs. The latter would provide a more precise estimate of available human resources. However, data availability is currently very limited.</li> <li>• The Eurostat data on physicians are not fully harmonised with regard to the reference period; some countries provide annual averages rather than end of year estimates. See references (annex describing original sources in the Member States) for more details. However, the reference period is not described for all countries in the annex.</li> <li>• As of 2010 Eurostat, OECD and WHO-Europe carry out a joint data collection in the field of health care non expenditure (human and physical resources). Publication of the (meta-)data is expected shortly).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, Health personnel (excluding nursing and caring professionals) - Absolute numbers and rate per 100,000 inhabitants</a></li> <li>• <a href="#">Eurostat database, Health personnel by region - Absolute numbers and rate per 100,000 inhabitants</a></li> <li>• <a href="#">Eurostat, meta-data 'Health care resources (non-expenditure data)'</a>:</li> <li>• <a href="#">Eurostat, definitions and data collection specifications on health care statistics (non-expenditure data), available in CIRCA</a></li> <li>• <a href="#">Eurostat meta-data, annex describing original sources in the Member States</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Social Protection Committee (OMC), indicators of the health and long-term care strand</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Check with ISARE their precise indicator definition; do they also apply 'practising physician'?</li> <li>• Consider adapting the indicator's definition once availability of data based on FTEs has improved.</li> <li>• Monitor publication of (meta-)data collected in joint Eurostat/WHO/OECD questionnaire and update documentation sheet accordingly.</li> </ul>

### 63.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
40801	Health services	63. Practising physicians	Eurostat	Practising physicians per 100,000 population.

### 63. Practising physicians

#### Comparability between countries

Although common definitions for practising physicians were agreed between Eurostat, OECD and WHO, the type of information available and collected influences the quality of the country data and in turn limits comparability between countries. Differences in organisation of health care provision also limit comparability.

The number of practising physicians in most countries are based on administrative data sources, like central registers for medical professionals, owned by statistical institutes, the government, the health inspectorate or professional organizations. Also surveys are used, like general labour force surveys and surveys within the health care sector. These are affected by (selective) non-response. The data sources used may not have been created initially for statistical purposes, and the initial purpose of a data source may differ across countries. It is not known to what extent differences in data collection methods influence comparability.

Not all countries meet the Eurostat criteria for the indicator definitions. Deviations are caused by limitations in the possibility to differentiate the several fields on which physicians are working. Important Eurostat criteria (in short) are:

- self-employed physicians and physicians working in private clinics are included;
- foreign physicians are included;
- medical students are excluded;
- dentists and dental surgeons are excluded;
- physicians working in administration, management, health insurance, research or social welfare are excluded;
- physicians working in public health are excluded;
- unemployed and retired physicians are excluded;
- physicians working abroad are excluded.

Some countries do not report whether their indicator calculation met the criteria, and other countries do not report on all criteria. For example, some countries report that physicians working in public health are excluded, but most countries do not report on this fact. Consequently, for those countries it is difficult to assess whether physicians working in public health are included or not, and whether this influences comparability. From the Eurostat Annex (see further reading) we conclude that all countries that do report on interns and residents, foreign physicians and physicians working abroad, met the Eurostat definition. Only one country reported that medical students were excluded, which is according to the Eurostat criterion.

It is not always clear to what extent the deviations from the Eurostat definitions really influence comparability. For example, exclusion of foreign physicians only affects comparability if a considerable number of foreign physicians is working in a country or if the country has a small size.

Other factors that can influence the number of practising physicians, apart from definition matters, are the accuracy of the data collection, financial incentives for having low or high number of physicians, the extent to which physicians work part-time in a country and the extent to which physicians are counted twice or multiple times because they work in several health facilities (persons are counted instead of FTE (full time equivalents)). In addition, in some countries it may be difficult to classify physicians who have only occasionally direct contact with patients, as practicing (i.e. providing service directly to patients) or professionally active.

#### Comparability over time

Some countries have a change in their data collection and therefore a break in series. These breaks in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata.

#### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

#### References and further reading

- [DG SANCO site on health workforce](#)
- [Eurostat Metadata Health care resources and patients \(non-expenditure data\) \(last update 12 November 2010\)](#)
- [Eurostat Annex – Health care staff: Physicians \(country-specific information\)](#)
- [Eurostat, Definitions and data collection specifications on health care statistics \(non-expenditure, available in CIRCA\)](#)

## 64. PRACTISING NURSES

### 64.1 Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 64. Practising nurses
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• (Planning of) health care resources</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	The total number of practising nursing and caring professionals per 100,000 inhabitants.
<i>Calculation</i>	<p>The total number of practising nursing and caring professionals by 31 December of a given calendar year, per 100,000 inhabitants (end of year population). Practising nurses provide services directly to patients. Practising nurses include:</p> <ul style="list-style-type: none"> <li>• Professional nurses</li> <li>• Associate professional nurses</li> <li>• Foreign nurses licensed to practice and actively practising in the country.</li> </ul> <p>For more detailed definitions: see references (definitions and data collection specifications on health care statistics (non-expenditure data), available in CIRCA).</p>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Administrative sources</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• Eurostat</li> </ul>
<i>Data availability</i>	Data are available as of 2000 for Denmark, Estonia, Latvia, Lithuania, Hungary, the Netherlands, Austria, Portugal, Romania, Slovakia, United Kingdom, Croatia, Norway and Switzerland, though not for all countries the series are complete. For the Czech Republic annual data are available as of 1985. Data on practising nurses and midwives (i.e. a subgroup of nursing and caring professionals) by region are available in Eurostat (NUTS II level), though coverage is not optimal, as with the national level data. The ISARE project on regional data has collected data on number of nurses (indicators: number of nurses (including midwives) per 100,000 population, number of nurses (excluding midwives) per 100,000 population, number of midwives per 100,000 population).
<i>Data periodicity</i>	Data are being updated annually. Eurostat asks Member States to deliver the data for year N at N + 18 months, but some Member States have difficulties with this time table and deliver the data at their earliest convenience.
<i>Rationale</i>	Indicator widely used in assessments of accessibility and efficiency of health care services. It describes availability of staff for the whole country and the distribution of staff across the country. Time trends may help to identify e.g. staff shortages due to demographic developments such as migration.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• ‘Nurses and midwives per 100,000 inhabitants’ is one of the (context) indicators of the indicators of the health and long term care strand of the Social Protection Committee (Open Method of Coordination).</li> <li>• Common definitions for the different categories of health care professionals were agreed with OECD and WHO. Three different concepts are used to present the number of health care professionals: <ul style="list-style-type: none"> <li>- ‘practising’, i.e. health care professionals providing services directly to patients;</li> <li>- ‘professionally active’, i.e. ‘practising’ health care professionals plus health care professionals for whom their medical education is a prerequisite for the execution of the job;</li> <li>- ‘licensed to’, i.e. health care professionals who are registered and entitled to practise as health care professionals.</li> </ul> </li> </ul> <p>In the context of comparing health care services across Member States, Eurostat and ECHIM give preference to the concept ‘practising’, as it best describes the availability of health care resources.</p> <ul style="list-style-type: none"> <li>• Eurostat metadata: “Health care staff data refer to human resources available for providing health care services in the country, irrespective of the sector of employment (i.e. whether they are independent, employed by a hospital or any other health care provider)”.</li> <li>• Eurostat metadata: “Some countries are unable to cover all providers of care (the inclusion of private providers seems particularly difficult) or are only able to provide data for selective regions”.</li> <li>• Eurostat metadata: “For health care staff, countries may use a central register for medical professionals, business registers or other forms of data collection (including sample surveys)”. “...the quality of the country data is subject to the way, in which health care provision is organised in countries, and which information is available to and collected by the respective institutions”. Comparability of the data between countries is therefore limited.</li> <li>• Eurostat data on health care staff are based on head count rather than on FTEs. The latter would provide a more precise estimate of available human resources. However, data availability is currently very limited.</li> <li>• The Eurostat data on physicians are not fully harmonised with regard to the reference period; some countries provide annual averages rather than end of year estimates. See references (annex describing original sources in the Member States) for more details. However, the reference period is not described for all countries in the annex.</li> <li>• As of 2010 Eurostat, OECD and WHO-Europe carry out a joint data collection in the field of health care non expenditure (human and physical resources). Publication of the (meta-)data is expected shortly).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database, Nursing and caring professionals - Absolute numbers and rate per 100,000 inhabitants</a></li> <li>• <a href="#">Eurostat database, Health personnel by region - Absolute numbers and rate per 100,000 inhabitants</a></li> <li>• <a href="#">Eurostat, meta-data ‘Health care resources (non-expenditure data)’</a></li> <li>• <a href="#">Eurostat, definitions and data collection specifications on health care statistics (non-expenditure data), available in CIRCA</a></li> <li>• <a href="#">Eurostat meta-data, annex describing original sources in the Member States</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Social Protection Committee (OMC), indicators of the health and long-term care strand</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Check with ISARE their precise indicator definition; do they also apply ‘practising nursing and caring professionals’?</li> <li>• Consider adapting the indicator’s definition once availability of data based on FTEs has improved.</li> <li>• Monitor publication of (meta-)data collected in joint Eurostat/WHO/OECD questionnaire and update documentation sheet accordingly.</li> </ul>

## 64.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
40901	Health services	64. Practising nurses	Eurostat	Practising qualified nurses and midwives, per 100,000.

**64. Practising nurses****Comparability between countries**

Although common definitions for nurses employed were agreed between Eurostat, OECD and WHO, the type of information available and collected influences the quality of the country data and in turn limits comparability between countries. Differences in organisation of health care provision also limit comparability.

The number of midwives, practising nursing and caring professionals in most countries are based on administrative data sources, like central registers for medical professionals, owned by statistical institutes, the government, the health inspectorate or professional organizations. Also surveys are used, like general labour force surveys and surveys within the health care sector. These are affected by (selective) non-response. Some countries lack data sources of one or more subgroups of nurses (midwifery professionals, midwifery associate professionals, nursing professionals, nursing associate professionals, practising health care assistants, practising home-based personal care workers, professionally active caring personnel). In several countries the data sources include practising nurses as well as nurses licensed to practice. The data sources used may not have been created initially for statistical purposes, and the initial purpose of a data source may differ across countries. It is not known to what extent differences in data collection methods influence comparability.

Not all countries meet the Eurostat criteria for the indicator definitions. Countries with a different organisation of health care may have different definitions of health care personnel. Especially the definitions of subgroups of nurses or midwives may be different between countries, like associate professional nurses and professionally active caring personnel. Because these groups are part of the total group of nursing and caring professionals, these differences may reduce the comparability of indicator outcomes.

In the Eurostat Annex – Health care staff: Nursing and caring professionals – the most important deviations from the Eurostat definition of ‘practising nursing and caring professionals’ are given. These can be divided in deviations that lead to an overestimation and deviations that lead to an underestimation of the number of nursing and caring professionals.

Deviations from the Eurostat definition leading to an overestimation:

- Nursing and caring professionals working in social care services, public health or health insurance institutes are included, whereas no further details are given of the definition of these fields and it is not always clear whether these professionals have direct patient contacts.
- Nursing and caring professionals working in administration, management or research, sanitary technicians and laboratory assistants without direct contact with patients are included in the data.
- Double counting is present for professionals working in more than one health care organization.

Deviations from the Eurostat definition leading to an underestimation:

- Midwives, nursing and caring professionals working outside the hospital (e.g. at home among patients or in the social sector) are excluded.
- Practising caring personnel is excluded because 1) data of these professionals are not registered, or 2) this group of professionals does not exist in the country. If this subgroup is excluded, the cause is not always clear.

Not all countries report on all aspects of the definition of nurses employed. For example, some countries report that professionals working in administration are excluded, but most countries do not report on this aspect. Consequently, for those countries it is difficult to assess whether nurses working in administration are included or not. Groups of health care workers for which it is often unclear whether they are included or not in the indicator outcomes are pharmacy assistants, personnel working in infant care or social care for children and dentist assistants. Furthermore, it is not always clear to what extent the deviations from the Eurostat definitions really influence comparability. For example, exclusion of caring professionals working outside the hospital only affects comparability if a considerable number of caring professionals in a country is working outside the hospital.

Other factors that can have an effect on the number of nurses employed, apart from definition matters, can be the accuracy of the data collection, financial incentives for having low or high number of nursing and caring professionals, the extent to which nurses and caring professionals work part-time in a country and the extent to which they are counted twice or multiple times because they work in several health facilities (persons are counted instead of FTE (full time equivalents)).

The comparability of the figures is also decreased by the fact that the educational level, number of years of education and experience of the different subgroups of nursing and caring professionals vary widely between countries.

### Comparability over time

Some countries have a change in their data collection and therefore a break in series. These breaks in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. The most important breaks in series are caused by changes in the methods of the data collection, changes in the data sources used, adaptations of the definitions, in- or exclusion of specific health care settings, in- or exclusion of inactive professionals and reform of the education.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [DG SANCO site on health work force](#)
- [Eurostat Metadata Health care resources and patients \(non-expenditure data\) \(last update 12 November 2010\)](#)
- [Eurostat Annex – Health care staff: Nursing and caring professionals \(country-specific information\)](#)
- [Eurostat, Definitions and data collection specifications on health care statistics \(non-expenditure data\), available in CIRCA](#)

## 65. MOBILITY OF PROFESSIONALS

### 65.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b>  65. Mobility of professionals
<i>Relevant policy areas</i>	<ul style="list-style-type: none"><li>• Sustainable health systems</li><li>• Health inequalities (including accessibility of care)</li><li>• (Planning of) health care resources</li><li>• Health in All Policies (HiAP)</li></ul>
<i>Definition</i>	To be developed, definition covering both inflow and outflow aspects, e.g.: (1) The number and percentage of health care professionals emigrating (2) The number and percentage of health care professionals immigrating.
<i>Key issues and problems</i>	Still a lot of methodological and data availability issues to be resolved, as shown by the PROMeTHEUS project: <ul style="list-style-type: none"><li>• For defining country of origin the PROMeTHEUS project could be followed. For this project most countries provide data for ‘foreign trained’ or ‘foreign nationals’. Only one country (Finland) provides only data for foreign-born. All three show different aspects of mobility with large variations. Using a combination of foreign trained and foreign nationals therefore seems most practical and also most valuable from the perspective of health services provision.</li><li>• Data on professional migration are available from various data-collection processes: Population census, population registers, professional registers, LFS data and other surveys. However data from different data-collection methods are not comparable (Wismar et al., 2011c; ECOTEC Research &amp; Consulting, 2006).</li><li>• For immigration professional registers can be used. These registers indicate that a professional is registered as such in that country. Using national registrations results in data that are far from comparable because registry data is collected differently in each country.</li><li>• Furthermore, registers only provide data for those professions which legally require registration, but data on other types of health workers (such as low-skilled and management level workers which do not legally require registration) are almost impossible to find (Wismar et al., 2011c). The professional register usually includes information on place of education, therefore allowing identifying foreign-educated health workers. International comparisons of foreign-trained health professionals are more difficult and less straightforward than for foreign-born or foreign-national health professionals. This information complements the foreign-born or foreign-national approach (OECD, 2007).</li><li>• For emigration the PROMeTHEUS project used ‘intention-to-leave’ data based on certificates issued when applying in another Member State for the recognition of diplomas. Directive 2005/36/EC obliges Member States to provide statistical data on the mutual recognition of professional qualifications. However these data only measures the intention to work in a certain country and not actual employment. Therefore this kind of data can be used only as a proxy in the absence of more detailed information.</li><li>• The PROMeTHEUS project has documented and analyzed data on health professional mobility in Europe. In 13 of the 17 country case-studies (Belgium, France, Germany, Hungary, Italy, Lithuania, Poland, Romania, Serbia, Slovakia, Spain, Turkey, United Kingdom) insufficient availability of updated, comprehensive and reliable data on migration was reported (see Wismar et al., 2011a and b).</li></ul>



<i>Preferred data type and data source</i>	Preferred data type: professional registers  Preferred data source: In the future maybe through WHO.
<i>Data availability</i>	In the future data might be collected by the WHO. One of the objectives defined in The WHO Global CODE of Practice on the International Recruitment of Health Personnel is to “Develop and implement guidelines on a minimum data set (MDS) for the monitoring of international health workforce migration”.
<i>Rationale</i>	The EU has promoted the freedom of movement of workers, the freedom of establishment and the freedom to provide services as the cornerstones of the EU structure. Therefore, professional mobility has been high on the European political agenda in recent years. Health professionals are key players in the provision of health services, but in the health sector, occupational mobility should never be at the expense of quality and safety of care in any Member State. Thus, the role of mobility of health professionals should be adequately addressed and evaluated, from a (public) health perspective.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The OECD (International Migration Outlook 2007) assembled information on people employed in health occupations by detailed place of birth for 24 OECD countries using population censuses and population registers. Although these data have some limitations, they provide comparable estimates of the share of foreign-born health professionals in the total health workforce across OECD countries and of the distribution of health workers by country of origin.</li> <li>• Until 2001, DG Market surveys and the LFS had both sought to map levels of professional migration in the health sector, but significant gaps in their statistics over time exist, and for many countries data are unavailable. No newer survey data are available.</li> <li>• The Mobility of Health Professionals (MoHProf) project is aiming to investigate and analyse current trends of the mobility of health professionals (nurses and doctors).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">The WHO Global CODE of Practice on the International Recruitment of Health Personnel</a></li> <li>• <a href="#">PROMeTHEUS project</a></li> <li>• <a href="#">Wismar et al., 2011a. Health professional mobility and health systems: evidence from 17 European countries. Euro Observer Summer 2011 Volume 13, Number 2</a></li> <li>• <a href="#">Wismar et al., 2011b. Health Professional Mobility and Health Systems Evidence from 17 European countries. Observatory Studies Series 23, World Health Organization 2011</a></li> <li>• <a href="#">Wismar et al 2011c. Cross-border health care in the European Union. Mapping and analysing practices and policies. World Health Organization 2011</a></li> <li>• <a href="#">ECOTEC Research &amp; Consulting (2006). Cross-border recruitment of hospital professionals. Birmingham, ECOTEC Research &amp; Consulting (Final report to European Hospital Employers' Association (HOSPEEM) and the European Federation of Public Service Unions (EPSU)) (accessed 22 August 2011)</a></li> <li>• <a href="#">OECD International Migration Outlook 2007. PART III. Immigrant Health Workers in OECD Countries in the Broader Context of Highly Skilled Migration</a></li> <li>• <a href="#">For the most up to date OECD statistics see: OECD, Health Workforce and Migration Project</a></li> <li>• <a href="#">EU rules of the recognition of professional qualifications, for “specific sectors”</a></li> <li>• <a href="#">Database of regulated professions in the EU Member States, EEA countries and Switzerland</a></li> <li>• <a href="#">Mobility of Health Professionals (MoHProf)</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Contact experts to discuss and solve key issues and problems.</li> <li>• Monitor WHO developments.</li> </ul>

## 66. MEDICAL TECHNOLOGIES: MRI UNITS AND CT SCANS

### 66.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 66. Medical technologies (CT/MRI)
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health systems</li> <li>• Health inequalities (including accessibility of care)</li> <li>• (Planning of) health care resources</li> <li>• Health care costs &amp; utilization</li> </ul>
<i>Definition</i>	<ol style="list-style-type: none"> <li>1) Number of Computer tomography scanners (CT units) per 100,000 inhabitants.</li> <li>2) Number of Magnetic resonance imaging units (MRI units) per 100,000 inhabitants.</li> </ol>
<i>Calculation</i>	<ol style="list-style-type: none"> <li>1) The total number of computer tomography scanners (CT units) in hospitals and ambulatory sector registered by 31 December in a given calendar year, per 100,000 inhabitants (end of year population).</li> <li>2) The total number of magnetic resonance imaging units (MRI units) in hospitals and ambulatory sector by 31 December in a given calendar year, per 100,000 inhabitants (end of year population).</li> </ol>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Provider (hospital, ambulatory sector),</li> <li>• Sector (public, not-for-profit and private hospitals)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: <ul style="list-style-type: none"> <li>• National administrative sources</li> </ul> Preferred source: <ul style="list-style-type: none"> <li>• Eurostat</li> </ul>
<i>Data availability</i>	Full geographical coverage for 17 states from 2005 onwards, partial coverage since 2000. For 2000 data are available for: Spain, Italy, Cyprus, Bulgaria, Luxembourg, Slovakia, Finland, and Iceland. From 2001: Poland, from 2003: Latvia, from 2004: Malta, Netherlands, Slovenia, from 2005: Estonia, Austria, Romania, Lithuania. Not a consistent series, for a large part of the countries data are unavailable for 2008 and to a lesser extent for 2007. Data on type of provider (hospitals, providers of ambulatory health care) is available, though data on the latter is limited. Data by region and sector is unavailable. The ISARE project on regional data has not collected data on the number of CT scanners and MRI units.
<i>Data periodicity</i>	Data are updated annually.
<i>Rationale</i>	The availability of modern medical equipments is an indicator for the delivery of up-to-date health care services. There is no general recommendation which per population ratio for the above listed medical technologies is regarded optimal. However, a high per population ratio may indicate over treatment (overprovision), e.g. the diagnostic measures are applied without indication-based requirement. Due to the high costs of acquisition and operation of these techniques a careful, indication-based use is regarded essential.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The data are based on different administrative sources. As a result coverage, data validity, reliability and comparability may vary.</li> <li>• Some countries provide annual averages rather than end of year estimates. The Eurostat meta-data currently however do not provide more details on the original data/data sources for medical technologies, so it is not possible to deduce from the meta-data which country is using what reference period.</li> <li>• The Eurostat dataset also provides information on numbers of other types of technology (gamma cameras, angiography units, lithotripters, PET scanners, radiation therapy equipment, mammographs).</li> <li>• The density rate used for the indicator medical technologies is based on the System of Health Accounts (SHA) methodological framework.</li> <li>• As of 2010 Eurostat, OECD and WHO-Europe carry out a joint data collection in the field of health care non-expenditure (human and physical resources). Publication of the (meta-)data is expected shortly.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat "Definitions and data collection specifications on health care statistics (non-expenditure data)"</a></li> <li>• <a href="#">Eurostat, Medical technology - Absolute numbers and rate per 100,000 inhabitants</a></li> <li>• <a href="#">Metadata Health care: resources and patients (non-expenditure data)</a></li> <li>• <a href="#">System of Health Accounts (SHA): OECD SHA Manual, 2011 edition</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor publication of (meta)data collected in joint Eurostat/WHO/OECD questionnaire and update documentation sheet accordingly.</li> </ul>

## 66.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41101	Health services	66. Medical technologies: MRI units and CT scans	Eurostat	Number of Computer Tomography scanners per 100,000.
41102				Number of Computer Tomography scanners in hospitals per 100,000.
41103				Number of Computer Tomography scanners in ambulatory health care providers per 100,000.
41104				Number of Magnetic Resonance Imaging units per 100,000.
41105				Number of Magnetic Resonance Imaging units in hospitals per 100,000.
41106				Number of Magnetic Resonance Imaging units in ambulatory health care providers per 100,000.

## 66.3. Remarks on comparability

66. Medical technologies (CT/MRI)
<p><b>Comparability between countries</b></p> <p>Although common definitions for medical technologies were agreed between Eurostat, OECD and WHO, the type of information available and collected influences the quality of the country data and in turn limits comparability between countries. Differences in organisation of health care provision also limit comparability.</p> <p>Some countries have a register in which medical technology devices are recorded. These registers can be owned by the health ministry, a national institute of health or statistics, a national institute of radiation protection, an association of hospitals or an association of a professional group. Other countries use surveys, carried out among hospitals, to assess the use of medical technology. The data sources used may not have been created initially for statistical purposes, and the initial purpose of a data source may differ across countries. The exact method of data collection in the different countries is seldom or partially described in the Eurostat metadata. Furthermore, no information is available on the data validity and reliability of the different national data sources. Therefore, it is difficult to assess the comparability of indicator outcomes.</p> <p>Differences between the Eurostat definition and definitions used in the different member states may limit comparability. In the Eurostat Annex – Health care facilities: Medical technology – some characteristics of the data sources, methods of data collection and used definitions across countries are described and the most important deviations from the Eurostat definition are indicated. This document shows that some countries are unable to cover medical technologies of all providers of care (the inclusion of private providers seems particularly difficult). Apparently, several countries underestimate the number of CT or MRI units, which limits the comparability of this indicator. The most important causes of underreporting are:</p> <ul style="list-style-type: none"> <li>Equipments in the private sector are not included (Romania, United Kingdom).</li> <li>Equipments in some specific health care facilities are excluded (military hospitals, facilities for railway workers) (Hungary).</li> <li>Equipments in not accredited private ambulatory health care facilities are not included (Italy).</li> <li>Equipments rented from foreign firms are not included (Estonia).</li> <li>Calculations are based on the availability of equipments from a specific company (Ireland, up to 2008).</li> </ul> <p>For CT units, the data sources are probably more accurate than for MRI units, because the supervision and registration of technologies with radioactive emission is more strictly. In some countries all CT units need to be licensed by the government.</p> <p><b>Comparability over time</b></p> <p>Some countries have a change in their data collection and therefore a break in series. These breaks in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. The most important break in series is caused by a change in the used data source.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <a href="#">chapter 2.4</a> of this report.</p> <p><b>References and further reading</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Eurostat Metadata Health care resources and patients (non-expenditure data) (last update 12 November 2010)</a></li> <li>• <a href="#">Eurostat Annex – Health care facilities: Medical technology (country-specific information)</a></li> <li>• <a href="#">Eurostat, Definitions and data collection specifications on health care statistics (non-expenditure data), available in CIRCA</a></li> </ul>

## 67. HOSPITAL IN-PATIENT DISCHARGES, SELECTED DIAGNOSES

### 67.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b> 67. Hospital in-patient discharges, selected diagnoses																																																																															
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>- Health system performance, quality of care, efficiency of care, patient safety</li> <li>- (Planning of) health care resources</li> <li>- Health care costs &amp; utilization</li> </ul>																																																																															
<i>Definition of indicator</i>	<p>The number of hospital in-patient discharges from all hospitals during a given calendar year, expressed per 100,000 population. Calculated and presented by the following 25 categories of the International Shortlist for Hospital Morbidity Tabulation (ISHMT).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Nr</th> <th style="width: 75%;">Description</th> <th style="width: 20%;">ICD-10 Codes</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Total (All Causes)</td> <td>A00 - Z99 excluding V, W, X &amp; Y codes and excluding healthy newborns Z38</td> </tr> <tr> <td>2</td> <td>Infectious and Parasitic Diseases</td> <td>A00 - B99</td> </tr> <tr> <td>3</td> <td>Neoplasms</td> <td>C00 - D48</td> </tr> <tr> <td>4</td> <td>Malignant Neoplasm of Colon, Rectum &amp; Anus</td> <td>C18 - C21</td> </tr> <tr> <td>5</td> <td>Malignant Neoplasm of Trachea / Bronchus / Lung</td> <td>C33 - C34</td> </tr> <tr> <td>6</td> <td>Malignant Neoplasm of Breast</td> <td>C50</td> </tr> <tr> <td>7</td> <td>Malignant Neoplasm of Uterus</td> <td>C53 - C55</td> </tr> <tr> <td>8</td> <td>Malignant Neoplasm of Prostate</td> <td>C61</td> </tr> <tr> <td>9</td> <td>Diabetes Mellitus</td> <td>E10 - E14</td> </tr> <tr> <td>10</td> <td>Mental &amp; Behavioural Disorders</td> <td>F00 - F99</td> </tr> <tr> <td>11</td> <td>Dementia</td> <td>F00 - F03</td> </tr> <tr> <td>12</td> <td>Mental and Behavioural Disorders due to Alcohol</td> <td>F10</td> </tr> <tr> <td>13</td> <td>Mood [Affective] Disorders</td> <td>F30 - F39</td> </tr> <tr> <td>14</td> <td>Diseases of the Nervous System</td> <td>G00 - G99</td> </tr> <tr> <td>15</td> <td>Diseases of the Circulatory System</td> <td>I00 - I99</td> </tr> <tr> <td>16</td> <td>Acute Myocardial Infarction</td> <td>I21 - I22</td> </tr> <tr> <td>17</td> <td>Cerebrovascular Disease</td> <td>I60 - I69</td> </tr> <tr> <td>18</td> <td>Diseases of the Respiratory System</td> <td>J00 - J99</td> </tr> <tr> <td>19</td> <td>Chronic Obstructive Pulmonary Disease and Bronchiectasis</td> <td>J40 - J44, J47</td> </tr> <tr> <td>20</td> <td>Asthma</td> <td>J45 - J46</td> </tr> <tr> <td>21</td> <td>Diseases of the Digestive System</td> <td>K00 - K93</td> </tr> <tr> <td>22</td> <td>Alcoholic Liver Disease</td> <td>K70</td> </tr> <tr> <td>23</td> <td>Diseases of the Musculoskeletal System &amp; Connective Tissue</td> <td>M00 - M99</td> </tr> <tr> <td>24</td> <td>Diseases of the Genitourinary System</td> <td>N00 - N99</td> </tr> <tr> <td>25</td> <td>Injury, Poisoning &amp; Certain Other Consequences of External Causes</td> <td>S00 - T98</td> </tr> </tbody> </table>		Nr	Description	ICD-10 Codes	1	Total (All Causes)	A00 - Z99 excluding V, W, X & Y codes and excluding healthy newborns Z38	2	Infectious and Parasitic Diseases	A00 - B99	3	Neoplasms	C00 - D48	4	Malignant Neoplasm of Colon, Rectum & Anus	C18 - C21	5	Malignant Neoplasm of Trachea / Bronchus / Lung	C33 - C34	6	Malignant Neoplasm of Breast	C50	7	Malignant Neoplasm of Uterus	C53 - C55	8	Malignant Neoplasm of Prostate	C61	9	Diabetes Mellitus	E10 - E14	10	Mental & Behavioural Disorders	F00 - F99	11	Dementia	F00 - F03	12	Mental and Behavioural Disorders due to Alcohol	F10	13	Mood [Affective] Disorders	F30 - F39	14	Diseases of the Nervous System	G00 - G99	15	Diseases of the Circulatory System	I00 - I99	16	Acute Myocardial Infarction	I21 - I22	17	Cerebrovascular Disease	I60 - I69	18	Diseases of the Respiratory System	J00 - J99	19	Chronic Obstructive Pulmonary Disease and Bronchiectasis	J40 - J44, J47	20	Asthma	J45 - J46	21	Diseases of the Digestive System	K00 - K93	22	Alcoholic Liver Disease	K70	23	Diseases of the Musculoskeletal System & Connective Tissue	M00 - M99	24	Diseases of the Genitourinary System	N00 - N99	25	Injury, Poisoning & Certain Other Consequences of External Causes	S00 - T98
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<i>Calculation of the indicator</i>	<p>The indicator is calculated as the total number of hospital in-patient discharges from all hospitals during a given calendar year, expressed per 100,000 inhabitants (end of year population). The definition of hospitals (HP.1) follows the International Classification for Health Accounts– Providers of health care (ICHA-HP) of the System of Health Accounts. For definition of an in-patient and a hospital discharge see remarks.</p>																																																																															
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Age groups: 0-64 and 65+</li> </ul> <p>Age group exceptions:</p> <ul style="list-style-type: none"> <li>• dementia: no disaggregation according to age (not relevant for population below 65)</li> <li>• asthma: 0-14 and 15+ (similar to asthma incidence indicator: nr 26; hospital admissions for asthma in particular relevant in children)</li> <li>• injury and poisoning &amp; certain other consequences of external causes: 0-14, 15-24, 25-64, and 65+ (similar to injury incidence indicators: nr 29, 30 and 31; injuries are an important cause of burden of disease particularly in children and young adults).</li> </ul>																																																																															

<i>Preferred data type and data source(s)</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>Registers (administrative data sources, national hospital discharge registers)</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>Eurostat</li> </ul>
<i>Data availability</i>	<p>Annual national and regional data are provided as rates of the number of in-patients per 100,000 inhabitants. 26 EU Member States, Croatia, FYR Macedonia, Iceland, Norway, Switzerland are included in the Eurostat dataset. However, data availability varies by country and by year. Greece was the only EU-27 country not included. Regional data (NUTS II level) available for few countries and depending on year. The ISARE project on regional data collected data (one region of each country) for the number of hospital in-patients discharges in gynecology, obstetrics or maternity (ISARE 3 final report).</p>
<i>Data periodicity</i>	<p>Data are updated annually and available for the period 2000-2008.</p>
<i>Rationale</i>	<p>Hospital in-patient discharges are the most commonly used measure of the utilization of hospital services. Indicators based on hospital discharges from particular diseases can be used as an estimate of the burden of these diseases on health services. Besides, this indicator is often used as a measure for the occurrence of certain diseases in the population and as an indicator of the quality of primary health care (especially with regard to the care for diabetes, asthma and COPD). Finally, this indicator is often used in assessments of costs and efficiency.</p>
<i>Remarks</i>	<ul style="list-style-type: none"> <li>Hospital inpatient discharges is one of the indicators of the health and long-term care strand of the Open Method of Coordination (OMC) on Social Inclusion and Social Protection.</li> <li>Data are not age-standardized by Eurostat. Therefore ECHIM uses breakdown in age groups (0-64, 65+). Data are available however by 5 year age groups, so age-standardized data could be computed. Age-standardized discharge rates are calculated by WHO/EURO and are available in the European Hospital Morbidity database (HMDB) on WHO/EURO's website. This indicator is called age-standardized admission rate per 1000 population but actually it is discharge data which is practically identical to admissions.</li> <li>ECHIM does not require disaggregation of this indicator by sex, and only by two age groups (0-64 and 65+) to reduce the number of operationalisations. Data are provided by Eurostat for the total population and 5-year age groups. So the aggregated age groups according to the ECHIM definition need to be computed. A (hospital) discharge is the formal release of a patient from a hospital after a procedure or course of treatment (episode of care). A discharge occurs anytime a patient leaves because of finalisation of treatment, signs out against medical advice, transfers to another health care institution or because of death. Transfers to another department within the same institution are excluded (source Eurostat metadata).</li> <li>Discharges by diagnosis refer to the principal diagnosis, i.e. the main condition diagnosed at the end of the hospitalisation. The main condition is the one primarily responsible for the patient's need for treatment or investigation (source Eurostat metadata).</li> <li>An in-patient is a patient who is formally admitted (or 'hospitalised') to an institution for treatment and/or care and stays for a minimum of one night or more than 24 hours in the hospital or other institution (e.g. nursing and residential care facilities providing in-patient care) (source Eurostat metadata).</li> <li>Patients who die on the day of admission should be counted as in-patient, as they were admitted with the intention to stay overnight. In most Member States the administrative system does not allow to establish whether somebody was admitted as in-patient or day-case, however. In these instances in-patients dying on the day of admission may be counted as day-cases.</li> <li>Total hospital beds are all hospital beds which are regularly maintained and staffed and immediately available for the care of admitted patients. They include beds in all hospitals, including general hospitals (HP.1.1), mental health and substance abuse hospitals (HP.1.2), and other specialty hospitals (HP.1.3).</li> <li>Eurostat indicates to use end-of-year population as denominator. However, it would be more appropriate to use mid-year population here, as this indicator is an 'interval-indicator'.</li> <li>Two different data sets for hospital discharges by diagnosis are available: <ol style="list-style-type: none"> <li>For data from 2000 onwards: according to the International Classification for Hospital Morbidity Tabulation (ISHMT). This shortlist for statistical comparison of hospital activity analysis was adopted in 2005 by Eurostat, the OECD (Organisation for Economic Co-operation and Development) and the WHO-FIC (Family of International Classifications) Network.</li> <li>For data covering the period 1989-2002: according to a Eurostat shortlist of some 60 selective diseases based on ICD-10.</li> </ol> </li> <li>The International Shortlist for Hospital Morbidity Tabulation (ISHMT) was developed by the Hospital Data Project (HDP).</li> <li>Data collection takes place in agreement with the World Health Organisation (WHO) and the Organization of Economic Co-operation and Development (OECD). Where applicable, common definitions and data specifications are used in the data collection. From 2010 data collection on health care non expenditure data is made jointly with the OECD and WHO-Europe for human and physical resources. This joint questionnaire might be extended to include procedures and hospital patients.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat database Hospital discharges by diagnosis (ISHMT), in-patients, per 100,000 inhabitants</a></li> <li>• <a href="#">Eurostat database Hospital discharges by diagnosis (ISHMT) and region, in-patients, total number</a></li> <li>• <a href="#">Eurostat metadata: Health care: resources and patients (non-expenditure data)</a></li> <li>• <a href="#">Reference Metadata in Euro SDMX Metadata Structure (ESMS)</a></li> <li>• <a href="#">Eurostat. Definitions and data collection specifications on health care statistics (non-expenditure data) Version 19 July 2010</a></li> <li>• <a href="#">Eurostat/OECD/WHO international shortlist for hospital morbidity tabulation (ISHMT)</a></li> <li>• <a href="#">Eurostat shortlist for hospital discharges (reference data 1989-2002)</a></li> <li>• <a href="#">WHO/EURO: European Hospital Morbidity Database</a></li> <li>• <a href="#">System of Health Accounts (SHA): OECD SHA Manual, 2011 edition</a></li> <li>• <a href="#">Hospital Data Project 2 (HDP2)</a></li> <li>• <a href="#">OMC indicators of the health and long term care strand at the Eurostat website</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Ask Eurostat to compute age-standardized rates. If these are available, ECHIM can consider skipping the breakdown by age group, as to limit the number of operationalizations.</li> <li>• Discuss with Eurostat whether it is possible to calculate the rates using mid-year population instead of end-of-year population.</li> <li>• Monitor developments Open Method of Coordination.</li> </ul>

## 67.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41201	Health services	67. Hospital in-patient discharges, selected diagnoses	Eurostat	Hospital discharges, in-patients, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), per 100,000 inhabitants, total population.
41202				Hospital discharges, in-patients, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), per 100,000 inhabitants, age 0-64.
41203				Hospital discharges, in-patients, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), per 100,000 inhabitants, age 65+.
41204				Hospital discharges, in-patients, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), per 100,000 inhabitants, total population.
41205				Hospital discharges, in-patients, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), per 100,000 inhabitants, total population, age 0-64.
41206				Hospital discharges, in-patients, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), per 100,000 inhabitants, age 65+.
41207				Hospital discharges, in-patients, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), per 100,000 inhabitants, total population.
41208				Hospital discharges, in-patients, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), per 100,000 inhabitants, age 0-64.
41209				Hospital discharges, in-patients, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), per 100,000 inhabitants, age 65+.
41210				Hospital discharges, in-patients, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), per 100,000 inhabitants, total population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41211				Hospital discharges, in-patients, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), per 100,000 inhabitants, age 0-64.
41212				Hospital discharges, in-patients, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), per 100,000 inhabitants, total population, age 65+.
41213				Hospital discharges, in-patients, for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), per 100,000 inhabitants, total population.
41214				Hospital discharges, in-patients, for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), per 100,000 inhabitants, age 0-64.
41215				Hospital discharges, in-patients, for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), per 100,000 inhabitants, age 65+.
41216				Hospital discharges, in-patients, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), per 100,000 female inhabitants, total female population.
41217				Hospital discharges, in-patients, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), per 100,000 female inhabitants, female population aged 0-64.
41218				Hospital discharges, in-patients, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), per 100,000 female inhabitants, female population aged 65+.
41219				Hospital discharges, in-patients, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), per 100,000 female inhabitants, total female population.
41220				Hospital discharges, in-patients, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), per 100,000 female inhabitants, female population aged 0-64.
41221				Hospital discharges, in-patients, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), per 100,000 female inhabitants, female population aged 65+.
41222				Hospital discharges, in-patients, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), per 100,000 male inhabitants, total male population.
41223				Hospital discharges, in-patients, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), per 100,000 male inhabitants, male population aged 0-64.
41224				Hospital discharges, in-patients, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), per 100,000 male inhabitants, male population aged 65+.
41225				Hospital discharges, in-patients, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), per 100,000 inhabitants, total population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41226				Hospital discharges, in-patients, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), per 100,000 inhabitants, age 0-64.
41227				Hospital discharges, in-patients, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), per 100,000 inhabitants, age 65+.
41228				Hospital discharges, in-patients, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), per 100,000 inhabitants, total population.
41229				Hospital discharges, in-patients, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), per 100,000 inhabitants, age 0-64.
41230				Hospital discharges, in-patients, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), per 100,000 inhabitants, age 65+.
41231				Hospital discharges, in-patients, for dementia (ISHMT code 0501 = ICD-10 codes F00-F03), per 100,000 inhabitants, total population.
41232				Hospital discharges, in-patients, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), per 100,000 inhabitants, total population.
41233				Hospital discharges, in-patients, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), per 100,000 inhabitants, age 0-64.
41234				Hospital discharges, in-patients, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), per 100,000 inhabitants, age 65+.
41235				Hospital discharges, in-patients, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), per 100,000 inhabitants, total population.
41236				Hospital discharges, in-patients, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), per 100,000 inhabitants, age 0-64.
41237				Hospital discharges, in-patients, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), per 100,000 inhabitants, age 65+.
41238				Hospital discharges, in-patients, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), per 100,000 inhabitants, total population
41239				Hospital discharges, in-patients, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), per 100,000 inhabitants, age 0-64.
41240				Hospital discharges, in-patients, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), per 100,000 inhabitants, age 65+.
41241				Hospital discharges, in-patients, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), per 100,000 inhabitants, total population.
41242				Hospital discharges, in-patients, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), per 100,000 inhabitants, age 0-64.



ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41243				Hospital discharges, in-patients, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), per 100,000 inhabitants, age 65+.
41244				Hospital discharges, in-patients, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), per 100,000 inhabitants, total population.
41245				Hospital discharges, in-patients, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), per 100,000 inhabitants, age 0-64.
41246				Hospital discharges, in-patients, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), per 100,000 inhabitants, age 65+.
41247				Hospital discharges, in-patients, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), per 100,000 inhabitants, total population.
41248				Hospital discharges, in-patients, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), per 100,000 inhabitants, age 0-64.
41249				Hospital discharges, in-patients, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), per 100,000 inhabitants, age 65+.
41250				Hospital discharges, in-patients, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), per 100,000 inhabitants, total population.
41251				Hospital discharges, in-patients, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), per 100,000 inhabitants, age 0-64.
41252				Hospital discharges, in-patients, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), per 100,000 inhabitants, age 65+.
41253				Hospital discharges, in-patients, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), per 100,000 inhabitants, total population.
41254				Hospital discharges, in-patients, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), per 100,000 inhabitants, age 0-64.
41255				Hospital discharges, in-patients, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), per 100,000 inhabitants, age 65+.
41256				Hospital discharges, in-patients, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), per 100,000 inhabitants, total population.
41257				Hospital discharges, in-patients, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), per 100,000 inhabitants, age 0-14.
41258				Hospital discharges, in-patients, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), per 100,000 inhabitants, age 15+.
41259				Hospital discharges, in-patients, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), per 100,000 inhabitants, total population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41260				Hospital discharges, in-patients, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), per 100,000 inhabitants, age 0-64.
41261				Hospital discharges, in-patients, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), per 100,000 inhabitants, age 65+.
41262				Hospital discharges, in-patients, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), per 100,000 inhabitants, total population.
41263				Hospital discharges, in-patients, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), per 100,000 inhabitants, age 0-64.
41264				Hospital discharges, in-patients, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), per 100,000 inhabitants, age 65+.
41265				Hospital discharges, in-patients, for diseases of the musculoskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), per 100,000 inhabitants, total population.
41266				Hospital discharges, in-patients, for diseases of the musculoskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), per 100,000 inhabitants, age 0-64.
41267				Hospital discharges, in-patients, for diseases of the musculoskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), per 100,000 inhabitants, age 65+.
41268				Hospital discharges, in-patients, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), per 100,000 inhabitants, total population.
41269				Hospital discharges, in-patients, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), per 100,000 inhabitants, age 0-64.
41270				Hospital discharges, in-patients, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), per 100,000 inhabitants, age 65+.
41271				Hospital discharges, in-patients, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, total population.
41272				Hospital discharges, in-patients, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, age 0-14.
41273				Hospital discharges, in-patients, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, age 15-24.
41274				Hospital discharges, in-patients, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, age 25-64.
41275				Hospital discharges, in-patients, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, age 65+.

**67. Hospital in-patient discharges, selected diagnoses****Comparability between countries**

Eurostat obtains data for all countries from the same data source, namely hospital registries, which improves comparability between countries. All discharged in-patients had a hospital stay for a minimum of one night or more than 24 hours.

However, differences in the indicator results can arise from differences in the type of hospital discharges included, the design of hospital registries, the use of different classification systems (ICD-9, ICD-10 (different adaptations), Diagnosis Related Groups system), differences in coding practices and coding standards, differences in financial incentives for using specific codes or events and differences in the composition of the population.

Included in both the numerator and denominator of the indicator are discharges because of transfers to another health care institution, because of death, discharges of patients who leave against medical advice and discharges of (healthy) newborns with an overnight stay. Transfers to another department within the same institution are excluded. Care for a patient who is admitted as a day-care patient and subsequently stays overnight, is included. On the other hand, a patient who is admitted as an inpatient and who is transferred to another health care institution the same day or dies within the hospital on that day, is classified as inpatient. Deviations from these conditions can influence comparability.

Information on country-specific definition and calculation of the discharge rates, gathered by Eurostat, is presented on the Eurostat website. Also WHO Europe presents such information. The most important deviations from the indicator definition and proposed calculations are:

- patients with a medium or long stay were not included;
- discharges from private hospitals were not included;
- discharges from psychiatric hospitals, substance abuse clinics, rehabilitation centers or specialized care centers were not included;
- discharges from military hospitals or prison hospitals were not included;
- part of the hospitals did not participate in the discharge registry;
- discharges to another hospital were not included;
- discharges to another department within the same hospital were included;
- (healthy) newborns were not included.
- there were missing data on diagnosis, sex or age;
- the principal diagnosis is defined as the disease consuming the most resources (instead of the diagnosis that is chiefly responsible for causing the hospitalisation);
- discharges from small hospitals (less than a predefined minimum number of beds) are not taken into account.

Not all countries reported on the definitions and calculations they used, so it is difficult to assess to what extent the presented numbers of hospital in-patient discharges are comparable. Furthermore, it is not always clear to what extent the deviations from the Eurostat definitions really influence comparability. For example, some countries do and some countries do not include healthy newborns, which will affect the comparability. Some countries do and some countries do not include private hospitals. If countries do not have any, or the number of in-hospital patients in private hospitals is very small, this difference will not affect the comparability.

Demographic differences between countries are not taken into account (figures are not standardized by age and sex), as recommended in the ECHI documentation sheet. In a more ageing population, hospitalization for certain diseases with a higher prevalence at older ages can be expected to be higher. This omission also limits comparability. However, users can construct themselves tables of hospital discharges by sex and age groups (less than 1, 1-4, 5-9, ..., 95 years and over) by using data from the Eurostat health statistics website.

The indicator hospital in-patient discharges can be influenced by the country-specific way of organising health care. For example, a strong primary health care sector may prevent hospital admissions. Hospital policies will also influence the number of discharges. In countries with a low 'medical threshold', the tendency to admit patients is large and consequently the discharge rates will be large. Countries in which hospitals have a tendency to transfer patients to a peripheral hospital after stabilization or after performing a primary intervention, will have higher numbers of discharges. Countries in which hospitals have a tendency to discharge patients as soon as possible (short length of stay), may also have higher numbers of discharges, because the inflow may be larger and the discharged patients may have a larger risk of re-admission. Countries in which hospitals encourage day care for elective procedures above in-hospital care, will have lower numbers of in-hospital discharges. Differences in the definition of hospital can also indirectly impact the indicator hospital in-patient discharges.

**Comparability over time**

Some countries had abrupt changes in their data collection and therefore a break in their time series. These break in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. The most important breaks in series are caused by changes in the definition of day-cases and in-hospital discharges, the inclusion of healthy newborns, the use of the classification system and the types of hospitals included in the registration. OECD, WHO and Eurostat have worked on a common method to reduce the effects of time breaks. Using this method will adjust the past data before the break.

Gradual changes over time, not caused by technical breaks, can be caused by very different developments, like changes in the policy to perform procedures during day-care instead of during in-hospital stay, changes in the extent of reference by primary health care workers (general practitioners) to hospital care, the participation rate of hospitals and the composition of the population.

**General note on comparability with national data**

See textbox 4 in *chapter 2.4* of this report.

**References and further reading**

- Eurostat Metadata Health care resources and patients (non-expenditure data) (last update 12 November 2010)
- Eurostat Annex – Hospital patients: Hospital discharges by diagnosis (ISHMT)
- Eurostat, definitions on health care statistics (non-expenditure data), available in CIRCA

## 68. HOSPITAL DAY-CASES, SELECTED DIAGNOSES

### 68.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b> 68. Hospital day-cases, selected diagnoses																																																																															
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>- Health system performance, quality of care, efficiency of care, patient safety</li> <li>- (Planning of) health care resources</li> <li>- Health care costs &amp; utilization</li> </ul>																																																																															
<i>Definition of indicator</i>	<p>The number of hospital day-cases from all hospitals during the given calendar year, expressed per 100,000 population. Calculated and presented by the following 25 categories of the International Shortlist for Hospital Morbidity Tabulation (ISHMT).</p> <table border="1"> <thead> <tr> <th>Nr</th> <th>Description</th> <th>ICD-10 Codes</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Total (All Causes)</td> <td>A00 - Z99 excluding V, W, X &amp; Y codes and excluding healthy newborns Z38</td> </tr> <tr> <td>2</td> <td>Infectious and Parasitic Diseases</td> <td>A00 - B99</td> </tr> <tr> <td>3</td> <td>Neoplasms</td> <td>C00 – D48</td> </tr> <tr> <td>4</td> <td>Malignant Neoplasm of Colon, Rectum &amp; Anus</td> <td>C18 - C21</td> </tr> <tr> <td>5</td> <td>Malignant Neoplasm of Trachea / Bronchus / Lung</td> <td>C33 - C34</td> </tr> <tr> <td>6</td> <td>Malignant Neoplasm of Breast</td> <td>C50</td> </tr> <tr> <td>7</td> <td>Malignant Neoplasm of Uterus</td> <td>C53 - C55</td> </tr> <tr> <td>8</td> <td>Malignant Neoplasm of Prostate</td> <td>C61</td> </tr> <tr> <td>9</td> <td>Diabetes Mellitus</td> <td>E10 - E14</td> </tr> <tr> <td>10</td> <td>Mental &amp; Behavioural Disorders</td> <td>F00 - F99</td> </tr> <tr> <td>11</td> <td>Dementia</td> <td>F00 - F03</td> </tr> <tr> <td>12</td> <td>Mental and Behavioural Disorders due to Alcohol</td> <td>F10</td> </tr> <tr> <td>13</td> <td>Mood [Affective] Disorders</td> <td>F30 - F39</td> </tr> <tr> <td>14</td> <td>Diseases of the Nervous System</td> <td>G00 - G99</td> </tr> <tr> <td>15</td> <td>Diseases of the Circulatory System</td> <td>I00 - I99</td> </tr> <tr> <td>16</td> <td>Acute Myocardial Infarction</td> <td>I21 - I22</td> </tr> <tr> <td>17</td> <td>Cerebrovascular Disease</td> <td>I60 - I69</td> </tr> <tr> <td>18</td> <td>Diseases of the Respiratory System</td> <td>J00 - J99</td> </tr> <tr> <td>19</td> <td>Chronic Obstructive Pulmonary Disease and Bronchiectasis</td> <td>J40 - J44, J47</td> </tr> <tr> <td>20</td> <td>Asthma</td> <td>J45 - J46</td> </tr> <tr> <td>21</td> <td>Diseases of the Digestive System</td> <td>K00 - K93</td> </tr> <tr> <td>22</td> <td>Alcoholic Liver Disease</td> <td>K70</td> </tr> <tr> <td>23</td> <td>Diseases of the Musculoskeletal System &amp; Connective Tissue</td> <td>M00 - M99</td> </tr> <tr> <td>24</td> <td>Diseases of the Genitourinary System</td> <td>N00 - N99</td> </tr> <tr> <td>25</td> <td>Injury, Poisoning &amp; Certain Other Consequences of External Causes</td> <td>S00 - T98</td> </tr> </tbody> </table>		Nr	Description	ICD-10 Codes	1	Total (All Causes)	A00 - Z99 excluding V, W, X & Y codes and excluding healthy newborns Z38	2	Infectious and Parasitic Diseases	A00 - B99	3	Neoplasms	C00 – D48	4	Malignant Neoplasm of Colon, Rectum & Anus	C18 - C21	5	Malignant Neoplasm of Trachea / Bronchus / Lung	C33 - C34	6	Malignant Neoplasm of Breast	C50	7	Malignant Neoplasm of Uterus	C53 - C55	8	Malignant Neoplasm of Prostate	C61	9	Diabetes Mellitus	E10 - E14	10	Mental & Behavioural Disorders	F00 - F99	11	Dementia	F00 - F03	12	Mental and Behavioural Disorders due to Alcohol	F10	13	Mood [Affective] Disorders	F30 - F39	14	Diseases of the Nervous System	G00 - G99	15	Diseases of the Circulatory System	I00 - I99	16	Acute Myocardial Infarction	I21 - I22	17	Cerebrovascular Disease	I60 - I69	18	Diseases of the Respiratory System	J00 - J99	19	Chronic Obstructive Pulmonary Disease and Bronchiectasis	J40 - J44, J47	20	Asthma	J45 - J46	21	Diseases of the Digestive System	K00 - K93	22	Alcoholic Liver Disease	K70	23	Diseases of the Musculoskeletal System & Connective Tissue	M00 - M99	24	Diseases of the Genitourinary System	N00 - N99	25	Injury, Poisoning & Certain Other Consequences of External Causes	S00 - T98
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<i>Calculation of the indicator</i>	The indicator is calculated as the total number of hospital day-cases from all hospitals during a given calendar year, expressed per 100,000 inhabitants. The definition of hospitals (HP.1) follows the International Classification for Health Accounts– Providers of health care (ICHA-HP) of the System of Health Accounts. For definitions of day-cases see remarks.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Age groups: 0-64 and 65+</li> <li>• Age group exceptions: <ul style="list-style-type: none"> <li>- dementia: no disaggregation according to age (not relevant for population below 65)</li> <li>- asthma: 0-14 and 15+ (similar to asthma incidence indicator: nr 26; hospital admissions for asthma in particular relevant in children)</li> </ul> </li> <li>• injury and poisoning &amp; certain other consequences of external causes: 0-14, 15-24, 25-64, and 65+ (similar to injury incidence indicators: nr 29, 30 and 31; injuries are an important cause of burden of disease particularly in children and young adults).</li> </ul>
<i>Preferred data type and data source(s)</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Registers (administrative data sources, national hospital discharge registers)</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• Eurostat</li> </ul>
<i>Data availability</i>	Annual national and regional data are provided in absolute numbers (total number). 24 EU countries, Norway and Switzerland are included in the Eurostat dataset. However, data availability varies by country and by year. Greece, Romania, Bulgaria were the only EU-27 countries not included. Regional data (NUTS II level) available for few countries and depending on year. The ISARE project on regional data has not collected data on numbers of hospital day-cases.
<i>Data periodicity</i>	Data are updated annually and available for the period 2000-2009.
<i>Rationale</i>	Indicators based on hospital day-cases for particular diseases provide information on the burden of these diseases on health services, complementing the information on hospital discharges. Besides, hospital daycases give information on the situation and evolution of these modes of production in health care sector. The indicator is also used in assessment of quality of care, costs and efficiency.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Hospital daycases is one of the indicators of the health and long-term care strand of the Open Method of Coordination on Social Inclusion and Social Protection. Data are under preparation.</li> <li>• Data are not age-standardized by Eurostat. Therefore ECHIM uses breakdown in age groups (0-64, 65+). Data are available however by 5 year age groups, so age-standardized data could be computed.</li> <li>• ECHIM does not require disaggregation of this indicator by sex, and only by two age groups (0-64 and 65+) to reduce the number of operationalisations. Data are provided by Eurostat for total population and for 5-year age groups. So the aggregated age groups need to be computed.</li> <li>• Day-case: day care comprises medical and paramedical services (episode of care) delivered to patients who are formally admitted for diagnosis, treatment or other types of health care with the intention of discharging the patient on the same day. An episode of care for a patient who is admitted as a day-care patient and subsequently stays overnight is classified as an overnight stay or other in-patient case (source Eurostat metadata).</li> <li>• In most Member States the administrative system does not allow to establish whether somebody was admitted as in-patient or day-case. In these instances in-patients dying on the day of admission may be counted as day-cases, inflating the figures for day-cases.</li> <li>• Discharges by diagnosis refer to the principal diagnosis, i.e. the main condition diagnosed at the end of day treatment. The main condition is the one primarily responsible for the patient's need for treatment or investigation (source Eurostat metadata).</li> <li>• Total hospital beds are all hospital beds which are regularly maintained and staffed and immediately available for the care of admitted patients. They include beds in all hospitals, including general hospitals (HP.1.1), mental health and substance abuse hospitals (HP.1.2), and other specialty hospitals (HP.1.3).</li> <li>• Two different data sets for hospital discharges by diagnosis are available: <ol style="list-style-type: none"> <li>a) For data from 2000 onwards: according to the International Classification for Hospital Morbidity Tabulation (ISHMT). This shortlist for statistical comparison of hospital activity analysis was adopted in 2005 by Eurostat, the OECD (Organisation for Economic Co-operation and Development) and the WHO-FIC (Family of International Classifications) Network.</li> <li>b) For data covering the period 1989-2002: according to a Eurostat shortlist of some 60 selective diseases based on ICD-10.</li> </ol> </li> <li>• The International Shortlist for Hospital Morbidity Tabulation (ISHMT) was developed by the Hospital Data Project (HDP).</li> <li>• Data collection takes place in agreement with the World Health Organisation (WHO) and the Organization of Economic Co-operation and Development (OECD). Where applicable, common definitions and data specifications are used in the data collection. From 2010 data collection on health care non expenditure data is made jointly with the OECD and WHO-Europe for human and physical resources. This joint questionnaire might be extended to include procedures and hospital patients.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat database: Hospital discharges by diagnosis (ISHMT), day cases, total number</a></li> <li>• <a href="#">Eurostat database: Hospital discharges by diagnosis (ISHMT) and region, day cases, total number</a></li> <li>• <a href="#">Eurostat metadata: Health care: resources and patients (non-expenditure data) Reference Metadata in Euro SDMX Metadata Structure (ESMS)</a></li> <li>• <a href="#">Eurostat. Definitions and data collection specifications on health care statistics (non-expenditure data) Version 19 July 2010</a></li> <li>• <a href="#">Eurostat/OECD/WHO international shortlist for hospital morbidity tabulation (ISHMT)</a></li> <li>• <a href="#">Eurostat shortlist for hospital discharges (reference data 1989-2002)</a></li> <li>• <a href="#">System of Health Accounts (SHA): OECD SHA Manual, 2011 edition</a></li> <li>• <a href="#">Hospital Data Project 2 (HDP2)</a></li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">OMC indicators of the health and long term care strand at the Eurostat website</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Ask Eurostat to compute age-standardized rates. If these are available, ECHIM can consider skipping the breakdown by age group, as to limit the number of operationalizations.</li> <li>• Only absolute numbers in Eurostat database. So rates need to be calculated, preferable using mid-year population as denominator (see documentation sheet for indicator 67. Hospital in-patient discharges, selected diagnoses). Ask Eurostat to provide rates.</li> <li>• Definition provided by Eurostat for 'day-case' requires further explanation, in particular regarding the overlap with out-patients and regarding multiple (consecutive) admissions → Discuss this with Eurostat.</li> <li>• Monitor developments Open Method of Coordination.</li> </ul>

## 68.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41301	Health services	68. Hospital day-cases, selected diagnoses	Eurostat	Hospital day cases, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), per 100,000 inhabitants, total population.
41302				Hospital day cases, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), per 100,000 inhabitants, age 0-64.
41303				Hospital day cases, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), per 100,000 inhabitants, age 65+.
41304				Hospital day cases, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), per 100,000 inhabitants, total population.
41305				Hospital day cases, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), per 100,000 inhabitants, age 0-64.
41306				Hospital day cases, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), per 100,000 inhabitants, age 65+.
41307				Hospital day cases, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), per 100,000 inhabitants, total population.
41308				Hospital day cases, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), per 100,000 inhabitants, age 0-64.
41309				Hospital day cases, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), per 100,000 inhabitants, age 65+.
41310				Hospital day cases, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), per 100,000 inhabitants, total population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41311				Hospital day cases, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), per 100,000 inhabitants, age 0-64.
41312				Hospital day cases, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), per 100,000 inhabitants, age 65+.
41313				Hospital day cases, for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), per 100,000 inhabitants, total population.
41314				Hospital day cases, for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), per 100,000 inhabitants, age 0-64.
41315				Hospital day cases, for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), per 100,000 inhabitants, age 65+.
41316				Hospital day cases, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), per 100,000 female inhabitants, total female population.
41317				Hospital day cases, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), per 100,000 female inhabitants, female population aged 0-64.
41318				Hospital day cases, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), per 100,000 female inhabitants, female population aged 65+.
41319				Hospital day cases, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), per 100,000 female inhabitants, total female population.
41320				Hospital day cases, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), per 100,000 female inhabitants, female population aged 0-64.
41321				Hospital day cases, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), per 100,000 female inhabitants, female population aged 65+.
41322				Hospital day cases, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), per 100,000 male inhabitants, total male population.
41323				Hospital day cases, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), per 100,000 male inhabitants, male population aged 0-64.
41324				Hospital day cases, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), per 100,000 male inhabitants, male population aged 65+.
41325				Hospital day cases, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), per 100,000 inhabitants, total population.
41326				Hospital day cases, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), per 100,000 inhabitants, age 0-64.
41327				Hospital day cases, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), per 100,000 inhabitants, age 65+.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41328				Hospital day cases, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), per 100,000 inhabitants, total population.
41329				Hospital day cases, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), per 100,000 inhabitants, age 0-64.
41330				Hospital day cases, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), per 100,000 inhabitants, age 65+.
41331				Hospital day cases, for dementia (ISHMT code 0501 = ICD-10 codes F00-F03), per 100,000 inhabitants, total population.
41332				Hospital day cases, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), per 100,000 inhabitants, total population.
41333				Hospital day cases, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), per 100,000 inhabitants, age 0-64.
41334				Hospital day cases, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), per 100,000 inhabitants, age 65+.
41335				Hospital day cases, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), per 100,000 inhabitants, total population.
41336				Hospital day cases, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), per 100,000 inhabitants, age 0-64.
41337				Hospital day cases, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), per 100,000 inhabitants, age 65+.
41338				Hospital day cases, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), per 100,000 inhabitants, total population.
41339				Hospital day cases, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), per 100,000 inhabitants, age 0-64.
41340				Hospital day cases, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), per 100,000 inhabitants, age 65+.
41341				Hospital day cases, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), per 100,000 inhabitants, total population.
41342				Hospital day cases, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), per 100,000 inhabitants, age 0-64.
41343				Hospital day cases, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), per 100,000 inhabitants, age 65+.
41344				Hospital day cases, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), per 100,000 inhabitants, total population.
41345				Hospital day cases, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), per 100,000 inhabitants, age 0-64.



ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41346				Hospital day cases, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), per 100,000 inhabitants, total population, age 65+.
41347				Hospital day cases, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), per 100,000 inhabitants, total population.
41348				Hospital day cases, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), per 100,000 inhabitants, age 0-64.
41349				Hospital day cases, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), per 100,000 inhabitants, age 65+.
41350				Hospital day cases, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), per 100,000 inhabitants, total population.
41351				Hospital day cases, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), per 100,000 inhabitants, age 0-64.
41352				Hospital day cases, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), per 100,000 inhabitants, age 65+.
41353				Hospital day cases, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), per 100,000 inhabitants, total population.
41354				Hospital day cases, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), per 100,000 inhabitants, age 0-64.
41355				Hospital day cases, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), per 100,000 inhabitants, age 65+.
41356				Hospital day cases, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), per 100,000 inhabitants, total population.
41357				Hospital day cases, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), per 100,000 inhabitants, age 0-14.
41358				Hospital day cases, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), per 100,000 inhabitants, age 15+.
41359				Hospital day cases, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), per 100,000 inhabitants, total population.
41360				Hospital day cases, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), per 100,000 inhabitants, age 0-14.
41361				Hospital day cases, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), per 100,000 inhabitants, age 65+.
41362				Hospital day cases, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), per 100,000 inhabitants, total population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41363				Hospital day cases, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), per 100,000 inhabitants, age 0-64.
41364				Hospital day cases, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), per 100,000 inhabitants, age 65+.
41365				Hospital day cases, for diseases of the muskuloskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), per 100,000 inhabitants, total population.
41366				Hospital day cases, for diseases of the muskuloskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), per 100,000 inhabitants, age 0-64.
41367				Hospital day cases, for diseases of the muskuloskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), per 100,000 inhabitants, age 65+.
41368				Hospital day cases, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), per 100,000 inhabitants, total population.
41369				Hospital day cases, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), per 100,000 inhabitants, age 0-64.
41370				Hospital day cases, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), per 100,000 inhabitants, age 65+.
41371				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, total population.
41372				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, age 0-14.
41373				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, age 15-24.
41374				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, age 25-64.
41375				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), per 100,000 inhabitants, age 65+.

**68. Hospital day-cases, selected diagnoses****Comparability between countries**

Eurostat obtains data for all countries from the same data source, namely hospital registries, which improves comparability between countries. However, differences in the indicator results can arise from differences in the type of hospital discharges included, the design of hospital registries, the use of different classification systems (ICD-9, ICD-10 (different adaptations), Diagnosis Related Groups system) differences in coding practices and coding standards, differences in financial incentives for using specific codes or events and differences in the composition of the population.

Included in both the numerator and denominator of the indicator are discharges of patients who were formally admitted to the hospital for diagnosis, treatment or other types of health care, with the intention of being discharged on the same day. A patient admitted as day-care patient and who is transferred to another health care institution the same day or dies within the hospital on that day, is also included, just like (healthy) newborns discharged the same day. A patient who is admitted as a day-care patient and subsequently stays overnight, is not classified as a day case. A patient who is admitted as an inpatient and who is transferred to another health care institution the same day or dies within the hospital on that day, is classified as inpatient. Deviations from these conditions can influence comparability.

Information on country-specific definitions, gathered by Eurostat, is presented on the Eurostat website. Also WHO Europe presents such information. The most important deviations from the indicator definition and proposed calculations are:

- discharges from private hospitals were not included;
- discharges from psychiatric hospitals, substance abuse clinics, rehabilitation centers or specialized care centers were not included;
- discharges from military hospitals or prison hospitals were not included;
- part of the hospitals did not participate in the discharge registry;
- discharges to another hospital were not included;
- discharges to another department within the same hospital were included;
- (healthy) newborns were not included;
- there were missing data on diagnosis, sex or age;
- the principal diagnosis is defined as the disease consuming the most resources (instead of the diagnosis that is chiefly responsible for causing the hospitalisation);
- cases who were admitted with the intention of discharge the same day, but who subsequently died in the hospital, are counted as in-hospital discharges;
- day-cases due to specific interventions are excluded, or only day-cases for specific interventions are counted;
- day-cases for patients discharged on own request are excluded;
- day-cases with discharge to home are excluded (only patients who die during day-care are included). Apparently, only day-cases of deceased patients are counted;
- registration of day-cases is incomplete;
- multiple episodes of care are grouped into one case (e.g. several days of day-care with other forms of care or no care in between, are grouped into one care episode). This means that the number of day cases is smaller than expected'
- discharges from small hospitals (less than a predefined minimum number of beds) are not taken into account.

Not all countries reported on the definitions and calculations they used, so it is difficult to assess to what extent the presented numbers of day-cases are comparable. Furthermore, it is not always clear to what extent the deviations from the Eurostat definitions really influence comparability. For example, some countries do and some countries do not include healthy newborns, which will affect the comparability. Some countries do and some countries do not include mortality during day-care. Because the number of deaths during day-care is very small, this difference will not affect the comparability.

Demographic differences between countries are not taken into account (figures are not standardized by age and sex), as recommended in the ECHI documentation sheet. In a more ageing population, hospitalization for certain diseases with a higher prevalence at older ages can be expected to be higher. This omission also limits comparability. However, users can construct themselves tables of hospital discharges by sex and age groups (less than 1, 1-4, 5-9, ..., 95 years and over) by using data from the Eurostat health statistics website.

The indicator number of day-cases can be influenced by the country-specific way of organising health care. For example, a strong primary health care sector may prevent hospital admissions (including day-cases). Hospital policies will also influence the number of day-cases, e.g. countries in which hospitals encourage day care for elective procedures above in-hospital care will have higher numbers of day-cases. Differences in the definition of hospital can also indirectly impact the indicator hospital in-patient discharges.

**Comparability over time**

Some countries had abrupt changes in their data collection and therefore a break in their time series. These break in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. The most important breaks in series are caused by changes in the definition of day-cases and in-hospital discharge, the use of the classification system, the types of hospitals included in the registration and the definition of the principal diagnosis. OECD, WHO and Eurostat have worked on a common method to reduce the effects of time breaks. Using this method will adjust the past data before the break.

Gradual changes over time, not caused by technical breaks, can be caused by very different developments, like changes in the policy to perform procedures during day-care instead of during in-hospital stay, changes in the extent of reference by primary health care workers (general practitioners) to hospital care, the participation rate of hospitals and the composition of the population.

**General note on comparability with national data**

See textbox 4 in *chapter 2.4* of this report.

**References and further reading**

- [Eurostat Metadata Health care resources and patients \(non-expenditure data\) \(last update 12 November 2010\)](#)
- [Eurostat Annex – Hospital patients: Hospital discharges by diagnosis \(ISHMT\)](#)
- [Eurostat, definitions on health care statistics \(non-expenditure data\), available in CIRCA](#)

## 69. HOSPITAL DAY-CASES AS PERCENTAGE OF TOTAL PATIENT POPULATION (IN-PATIENTS & DAY-CASES), SELECTED DIAGNOSES

### 69.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 69. Hospital day-cases as percentage of total patient population (in-patients & day-cases), selected diagnoses																																																																															
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• (Planning of) health care resources</li> <li>• Health care costs &amp; utilization</li> </ul>																																																																															
<i>Definition of indicator</i>	<p>Hospital day-cases, for specific ICD-10 diagnosis groups, divided by the sum of number of in-patient discharges and the number of day-cases for the same diagnosis group. Calculated and presented for the following 25 categories of the International Shortlist for Hospital Morbidity Tabulation (ISHMT).</p> <table border="1"> <thead> <tr> <th>Nr</th> <th>Description</th> <th>ICD-10 Codes</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Total (All Causes)</td> <td>A00 - Z99 excluding V, W, X &amp; Y codes and excluding healthy newborns Z38</td> </tr> <tr> <td>2</td> <td>Infectious and Parasitic Diseases</td> <td>A00 - B99</td> </tr> <tr> <td>3</td> <td>Neoplasms</td> <td>C00 - D48</td> </tr> <tr> <td>4</td> <td>Malignant Neoplasm of Colon, Rectum &amp; Anus</td> <td>C18 - C21</td> </tr> <tr> <td>5</td> <td>Malignant Neoplasm of Trachea / Bronchus / Lung</td> <td>C33 - C34</td> </tr> <tr> <td>6</td> <td>Malignant Neoplasm of Breast</td> <td>C50</td> </tr> <tr> <td>7</td> <td>Malignant Neoplasm of Uterus</td> <td>C53 - C55</td> </tr> <tr> <td>8</td> <td>Malignant Neoplasm of Prostate</td> <td>C61</td> </tr> <tr> <td>9</td> <td>Diabetes Mellitus</td> <td>E10 - E14</td> </tr> <tr> <td>10</td> <td>Mental &amp; Behavioural Disorders</td> <td>F00 - F99</td> </tr> <tr> <td>11</td> <td>Dementia</td> <td>F00 - F03</td> </tr> <tr> <td>12</td> <td>Mental and Behavioural Disorders due to Alcohol</td> <td>F10</td> </tr> <tr> <td>13</td> <td>Mood [Affective] Disorders</td> <td>F30 - F39</td> </tr> <tr> <td>14</td> <td>Diseases of the Nervous System</td> <td>G00 - G99</td> </tr> <tr> <td>15</td> <td>Diseases of the Circulatory System</td> <td>I00 - I99</td> </tr> <tr> <td>16</td> <td>Acute Myocardial Infarction</td> <td>I21 - I22</td> </tr> <tr> <td>17</td> <td>Cerebrovascular Disease</td> <td>I60 - I69</td> </tr> <tr> <td>18</td> <td>Diseases of the Respiratory System</td> <td>J00 - J99</td> </tr> <tr> <td>19</td> <td>Chronic Obstructive Pulmonary Disease and Bronchiectasis</td> <td>J40 - J44, J47</td> </tr> <tr> <td>20</td> <td>Asthma</td> <td>J45 - J46</td> </tr> <tr> <td>21</td> <td>Diseases of the Digestive System</td> <td>K00 - K93</td> </tr> <tr> <td>22</td> <td>Alcoholic Liver Disease</td> <td>K70</td> </tr> <tr> <td>23</td> <td>Diseases of the Musculoskeletal System &amp; Connective Tissue</td> <td>M00 - M99</td> </tr> <tr> <td>24</td> <td>Diseases of the Genitourinary System</td> <td>N00 - N99</td> </tr> <tr> <td>25</td> <td>Injury, Poisoning &amp; Certain Other Consequences of External Causes</td> <td>S00 - T98</td> </tr> </tbody> </table>		Nr	Description	ICD-10 Codes	1	Total (All Causes)	A00 - Z99 excluding V, W, X & Y codes and excluding healthy newborns Z38	2	Infectious and Parasitic Diseases	A00 - B99	3	Neoplasms	C00 - D48	4	Malignant Neoplasm of Colon, Rectum & Anus	C18 - C21	5	Malignant Neoplasm of Trachea / Bronchus / Lung	C33 - C34	6	Malignant Neoplasm of Breast	C50	7	Malignant Neoplasm of Uterus	C53 - C55	8	Malignant Neoplasm of Prostate	C61	9	Diabetes Mellitus	E10 - E14	10	Mental & Behavioural Disorders	F00 - F99	11	Dementia	F00 - F03	12	Mental and Behavioural Disorders due to Alcohol	F10	13	Mood [Affective] Disorders	F30 - F39	14	Diseases of the Nervous System	G00 - G99	15	Diseases of the Circulatory System	I00 - I99	16	Acute Myocardial Infarction	I21 - I22	17	Cerebrovascular Disease	I60 - I69	18	Diseases of the Respiratory System	J00 - J99	19	Chronic Obstructive Pulmonary Disease and Bronchiectasis	J40 - J44, J47	20	Asthma	J45 - J46	21	Diseases of the Digestive System	K00 - K93	22	Alcoholic Liver Disease	K70	23	Diseases of the Musculoskeletal System & Connective Tissue	M00 - M99	24	Diseases of the Genitourinary System	N00 - N99	25	Injury, Poisoning & Certain Other Consequences of External Causes	S00 - T98
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<i>Calculation of the indicator</i>	<p>The indicator is calculated as the total number of hospital day-cases from all hospitals during the given calendar year, divided by the sum of the number of hospital in-patient discharges from all hospitals and the number of hospital day-cases from all hospitals, for each of the diagnosis groups, during the given calendar year. The definition of hospitals (HP.1) follows the International Classification for Health Accounts—Providers of health care (ICHA-HP) of the System of Health Accounts.</p> <p>For the definition of a day case, an in-patient and a (hospital) discharge see remarks for indicators 67. Hospital in-patient discharges and 68. Hospital day-cases.</p>																																																																															

<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Age groups: 0-64 and 65+</li> </ul> <p>Age group exceptions:</p> <ul style="list-style-type: none"> <li>• dementia: no disaggregation according to age (not relevant for population below 65)</li> <li>• asthma: 0-14 and 15+ (similar to asthma incidence indicator: nr 26; hospital admissions for asthma in particular relevant in children)</li> <li>• injury and poisoning &amp; certain other consequences of external causes: 0-14, 15-24, 25-64, and 65+ (similar to injury incidence indicators: nr 29, 30 and 31; injuries are an important cause of burden of disease particularly in children and young adults).</li> </ul>
<i>Preferred data type and data source(s)</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Registers (administrative data sources, national hospital discharge registers)</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• Eurostat</li> </ul>
<i>Data availability</i>	This indicator is not readily available and needs to be calculated from the absolute numbers available in Eurostat for in-patient discharges by ISHMT code and hospital day case by ISHMT code (indicator 67. Hospital in-patient discharges and 68. Hospital day-cases). For both indicators data are not age-standardized but data are available for 5 year age groups and for total population.
<i>Data periodicity</i>	See indicator 67. Hospital in-patient discharges and 68. Hospital day-cases.
<i>Rationale</i>	Hospital day-cases as percentage of total patient population provides information on the situation and evolution of this mode of production in health care sector. By combining the information on hospital in-patient discharges and day cases, it provides extra insight in issues of quality of care, costs and efficiency.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• ECHIM does not require disaggregation of this indicator by sex, and only by two age groups (0-64 and 65+) to reduce the number of operationalisations.</li> <li>• See indicators 67. Hospital in-patient discharges and 68. Hospital day-cases for remarks on age standardization, availability of data by age, definitions of (hospital) discharge, day case, in-patient, discharges by diagnosis and total hospital beds, and on data sets and joint data collection.</li> </ul>
<i>References</i>	See indicator 67. Hospital in-patient discharges and 68. Hospital day-cases for references
<i>Work to do</i>	See remarks for See indicator 67. Hospital in-patient discharges and 68. Hospital day-cases on age standardization and availability of data by age.

## 69.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41401	Health services	69. Hospital day cases as percentage of total patient population (in-patients & day cases), selected diagnoses	Eurostat	Hospital day cases, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41402				Hospital day cases, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41403				Hospital day cases, for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41404				Hospital day cases, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41405				Hospital day cases, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41406				Hospital day cases, for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41407				Hospital day cases, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41408				Hospital day cases, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41409				Hospital day cases, for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41410				Hospital day cases, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41411				Hospital day cases, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41412				Hospital day cases, for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41413				Hospital day cases, for malignant neoplasm of trachea/ bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41414				Hospital day cases, for malignant neoplasm of trachea/ bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41415				Hospital day cases, for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41416				Hospital day cases, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total female population.
41417				Hospital day cases, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, female population aged 0-64.
41418				Hospital day cases, for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, female population aged 65+.
41419				Hospital day cases, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total female population.
41420				Hospital day cases, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, female population aged 0-64.
41421				Hospital day cases, for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, female population aged 65+.
41422				Hospital day cases, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total male population.
41423				Hospital day cases, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, male population aged 0-64.
41424				Hospital day cases, for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, male population aged 65+



ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41425				Hospital day cases, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41426				Hospital day cases, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41427				Hospital day cases, for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41428				Hospital day cases, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41429				Hospital day cases, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41430				Hospital day cases, for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-65.
41431				Hospital day cases, for dementia (ISHMT code 0501 = ICD-10 codes F00-F03), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups.
41432				Hospital day cases, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41433				Hospital day cases, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41434				Hospital day cases, for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41435				Hospital day cases, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41436				Hospital day cases, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41437				Hospital day cases, for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41438				Hospital day cases, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41439				Hospital day cases, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41440				Hospital day cases, for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41441				Hospital day cases, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99),divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41442				Hospital day cases, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99),divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64
41443				Hospital day cases, for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99),divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41444				Hospital day cases, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41445				Hospital day cases, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41446				Hospital day cases, for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41447				Hospital day cases, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41448				Hospital day cases, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41449				Hospital day cases, for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41450				Hospital day cases, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41451				Hospital day cases, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41452				Hospital day cases, for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41453				Hospital day cases, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41454				Hospital day cases, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41455				Hospital day cases, for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41456				Hospital day cases, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41457				Hospital day cases, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-14.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41458				Hospital day cases, for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 15+.
41459				Hospital day cases, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41460				Hospital day cases, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41461				Hospital day cases, for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41462				Hospital day cases, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41463				Hospital day cases, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41464				Hospital day cases, for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41465				Hospital day cases, for diseases of the muskuloskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41466				Hospital day cases, for diseases of the muskuloskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41467				Hospital day cases, for diseases of the muskuloskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41468				Hospital day cases, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41469				Hospital day cases, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-64.
41470				Hospital day cases, for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.
41471				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, total population.
41472				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 0-14.
41473				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 15-24.
41474				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 25-64.
41475				Hospital day cases, for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), divided by the sum of number of in- patient discharges and the number of day cases for the same diagnosis groups, age 65+.

**69. Hospital day-cases as percentage of total patient population (in-patients & day-cases), selected diagnoses****Comparability between countries**

Eurostat obtains data for all countries from the same data source, namely hospital registries, which improves comparability between countries. However, differences in the indicator results can arise from differences in the type of hospital discharges included, the design of hospital registries, the use of different classification systems (ICD-9, ICD-10 (different adaptations), Diagnosis Related Groups system), differences in coding practices and coding standards, differences in financial incentives for using specific codes or events and differences in the composition of the population.

Included in both the numerator and denominator of the indicator are patients who are formally admitted to the hospital, with the intention of discharging on the same day. A patient admitted as day-care patient and who is transferred to another health care institution the same day or dies within the hospital during that day, is also included. A patient who is admitted as a day-care patient and subsequently stays overnight, is not included in the numerator. Newborns are included in the numerator if they were discharged the same day, excluded if they had an overnight stay. Transfers to another department within the same institution are excluded from both the numerator and denominator. A patient who is admitted as an inpatient and who is transferred to another health care institution the same day or dies within the hospital during that day, is not included in the numerator. Deviations from these conditions can influence comparability.

Information on country-specific definitions, gathered by Eurostat, is presented on the Eurostat website. Also WHO Europe presents such information. The most important deviations from the indicator definition and proposed calculations are:

- patients with a medium or long stay were not included;
- discharges from private hospitals were not included;
- discharges from psychiatric hospitals, substance abuse clinics, rehabilitation centers or specialized care centers were not included;
- discharges from military hospitals or prison hospitals were not included;
- part of the hospitals did not participate in the discharge registry;
- discharges to another hospital were not included;
- discharges to another department within the hospital were included;
- (healthy) newborns were not included;
- there were missing data on diagnosis, sex or age;
- the principal diagnosis is defined as the disease consuming the most resources (instead of the diagnosis that is chiefly responsible for causing the hospitalisation);
- cases who were admitted with the intention of discharge the same day, but who subsequently died in the hospital, are counted as in-hospital discharges;
- day-cases due to specific interventions are excluded, or only day-cases for specific interventions are counted;
- day-cases for patients discharged on own request are excluded;
- day-cases with discharge to home are excluded (only patients who die during day-care are included);
- registration of day-cases is incomplete;
- multiple episodes of care are grouped into one case (e.g. several days of day-care with other forms of care or no care in between, are grouped into one care episode). This means that the number of day cases is smaller than expected.

Not all countries reported on the definitions and calculations they used, so it is difficult to assess to what extent the presented numbers of day-cases are comparable. Furthermore, it is not always clear to what extent the deviations from the Eurostat definitions really influence comparability. For example, some countries do and some countries do not include healthy newborns, which will affect the comparability. Some countries do and some countries do not include mortality during day-care. Because the number of deaths during day-care is very small, this difference will not affect the comparability.

Demographic differences between countries are not taken into account (figures are not standardized by age and sex), as recommended in the ECHI documentation sheet. In a more ageing population, hospitalization for certain diseases with a higher prevalence at older ages can be expected to be higher. This omission also limits comparability. However, users can construct themselves tables of hospital discharges by sex and age groups (less than 1, 1-4, 5-9, ..., 95 years and over) by using data from the Eurostat health statistics website.

The indicator hospital day-cases as percentage of total patient population can be influenced both by factors that influence the rate of in-hospital discharges and by factors that influence the rate of day-cases [link to indicators 67 and 68].

### Comparability over time

Some countries had abrupt changes in their data collection and therefore a break in their time series. These break in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. The most important breaks in series are caused by changes in the definition of day-cases and in-hospital discharges, the use of the classification system, the types of hospitals included in the registration and the definition of the principal diagnosis. OECD, WHO and Eurostat have worked on a common method to reduce the effects of time breaks. Using this method will adjust the past data before the break.

Gradual changes over time, not caused by technical breaks, can be caused by very different developments, like changes in the policy to perform procedures during day-care instead of during in-hospital stay, changes in the extent of reference by primary health care workers (general practitioners) to hospital care, the participation rate of hospitals and the composition of the population.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [Eurostat Metadata Health care resources and patients \(non-expenditure data\) \(last update 12 November 2010\)](#)
- [Eurostat Annex – Hospital patients: Hospital discharges by diagnosis \(ISHMT\)](#)
- [Eurostat, definitions on health care statistics \(non-expenditure data\), available in CIRCA](#)

## 70. AVERAGE LENGTH OF STAY (ALOS), LIMITED DIAGNOSES

### 70.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b> 70. Average length of stay (ALOS), limited diagnoses
<i>Relevant policy areas</i>	<ul style="list-style-type: none"><li>• Sustainable health care systems</li><li>• Health system performance, quality of care, efficiency of care, patient safety</li><li>• (Planning of) health care resources</li><li>• Health care costs &amp; utilization</li></ul>

<p><i>Definition of indicator</i></p>	<p>The average length of stay (ALOS) in days in a hospital per discharged in-patient, i.e. average duration of a single episode of hospitalization. Calculated and presented by the following 25 categories of the International Shortlist for Hospital Morbidity Tabulation (ISHMT).</p> <table border="1"> <thead> <tr> <th>Nr</th> <th>Description</th> <th>ICD-10 Codes</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Total (All Causes)</td> <td>A00 - Z99 excluding V, W, X &amp; Y codes and excluding healthy newborns Z38</td> </tr> <tr> <td>2</td> <td>Infectious and Parasitic Diseases</td> <td>A00 - B99</td> </tr> <tr> <td>3</td> <td>Neoplasms</td> <td>C00 - D48</td> </tr> <tr> <td>4</td> <td>Malignant Neoplasm of Colon, Rectum &amp; Anus</td> <td>C18 - C21</td> </tr> <tr> <td>5</td> <td>Malignant Neoplasm of Trachea / Bronchus / Lung</td> <td>C33 - C34</td> </tr> <tr> <td>6</td> <td>Malignant Neoplasm of Breast</td> <td>C50</td> </tr> <tr> <td>7</td> <td>Malignant Neoplasm of Uterus</td> <td>C53 - C55</td> </tr> <tr> <td>8</td> <td>Malignant Neoplasm of Prostate</td> <td>C61</td> </tr> <tr> <td>9</td> <td>Diabetes Mellitus</td> <td>E10 - E14</td> </tr> <tr> <td>10</td> <td>Mental &amp; Behavioural Disorders</td> <td>F00 - F99</td> </tr> <tr> <td>11</td> <td>Dementia</td> <td>F00 - F03</td> </tr> <tr> <td>12</td> <td>Mental and Behavioural Disorders due to Alcohol</td> <td>F10</td> </tr> <tr> <td>13</td> <td>Mood [Affective] Disorders</td> <td>F30 - F39</td> </tr> <tr> <td>14</td> <td>Diseases of the Nervous System</td> <td>G00 - G99</td> </tr> <tr> <td>15</td> <td>Diseases of the Circulatory System</td> <td>I00 - I99</td> </tr> <tr> <td>16</td> <td>Acute Myocardial Infarction</td> <td>I21 - I22</td> </tr> <tr> <td>17</td> <td>Cerebrovascular Disease</td> <td>I60 - I69</td> </tr> <tr> <td>18</td> <td>Diseases of the Respiratory System</td> <td>J00 - J99</td> </tr> <tr> <td>19</td> <td>Chronic Obstructive Pulmonary Disease and Bronchiectasis</td> <td>J40 - J44, J47</td> </tr> <tr> <td>20</td> <td>Asthma</td> <td>J45 - J46</td> </tr> <tr> <td>21</td> <td>Diseases of the Digestive System</td> <td>K00 - K93</td> </tr> <tr> <td>22</td> <td>Alcoholic Liver Disease</td> <td>K70</td> </tr> <tr> <td>23</td> <td>Diseases of the Musculoskeletal System &amp; Connective Tissue</td> <td>M00 - M99</td> </tr> <tr> <td>24</td> <td>Diseases of the Genitourinary System</td> <td>N00 - N99</td> </tr> <tr> <td>25</td> <td>Injury, Poisoning &amp; Certain Other Consequences of External Causes</td> <td>S00 - T98</td> </tr> </tbody> </table>	Nr	Description	ICD-10 Codes	1	Total (All Causes)	A00 - Z99 excluding V, W, X & Y codes and excluding healthy newborns Z38	2	Infectious and Parasitic Diseases	A00 - B99	3	Neoplasms	C00 - D48	4	Malignant Neoplasm of Colon, Rectum & Anus	C18 - C21	5	Malignant Neoplasm of Trachea / Bronchus / Lung	C33 - C34	6	Malignant Neoplasm of Breast	C50	7	Malignant Neoplasm of Uterus	C53 - C55	8	Malignant Neoplasm of Prostate	C61	9	Diabetes Mellitus	E10 - E14	10	Mental & Behavioural Disorders	F00 - F99	11	Dementia	F00 - F03	12	Mental and Behavioural Disorders due to Alcohol	F10	13	Mood [Affective] Disorders	F30 - F39	14	Diseases of the Nervous System	G00 - G99	15	Diseases of the Circulatory System	I00 - I99	16	Acute Myocardial Infarction	I21 - I22	17	Cerebrovascular Disease	I60 - I69	18	Diseases of the Respiratory System	J00 - J99	19	Chronic Obstructive Pulmonary Disease and Bronchiectasis	J40 - J44, J47	20	Asthma	J45 - J46	21	Diseases of the Digestive System	K00 - K93	22	Alcoholic Liver Disease	K70	23	Diseases of the Musculoskeletal System & Connective Tissue	M00 - M99	24	Diseases of the Genitourinary System	N00 - N99	25	Injury, Poisoning & Certain Other Consequences of External Causes	S00 - T98
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<p><i>Calculation of the indicator</i></p>	<p>Average length of stay (ALOS) is computed by dividing the total number of in-patient hospital days, in all hospitals, counted from the date of admission to the date of discharge by the total number of discharges (including deaths) in all hospitals during a given year. A hospital day (or bed-day or in-patient day) is a day, during which a person admitted as an in-patient, is confined to a bed and stays overnight in a hospital. Day-cases (patients formally admitted for a medical procedure or surgery in the morning and discharged before the evening) are excluded. Patients admitted with the intention of discharge on the same day, but who subsequently stay in hospital overnight, are included. For definition of an in-patient and a hospital discharge see remarks.</p>																																																																														
<p><i>Relevant dimensions and subgroups</i></p>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Age groups: 0-64 and 65+</li> </ul> <p>Age group exceptions:</p> <ul style="list-style-type: none"> <li>• dementia: no disaggregation according to age (not relevant for population below 65)</li> <li>• asthma: 0-14 and 15+ (similar to asthma incidence indicator: nr 26; hospital admissions for asthma in particular relevant in children)</li> <li>• injury and poisoning &amp; certain other consequences of external causes: 0-14, 15-24, 25-64, and 65+ (similar to injury incidence indicators: nr 29, 30 and 31; injuries are an important cause of burden of disease particularly in children and young adults).</li> </ul>																																																																														
<p><i>Preferred data type and data source(s)</i></p>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Registers (administrative data sources, national hospital discharge registers)</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• Eurostat</li> </ul>																																																																														
<p><i>Data availability</i></p>	<p>26 EU countries + Croatia, FYR Macedonia, Iceland, Norway, Switzerland are included in the Eurostat dataset. However, data availability varies by country and by year. Greece was the only EU-27 country not included. Regional data (NUTS II level) are available for few countries and depending on year. The ISARE project on regional data has not collected data on ALOS.</p>																																																																														
<p><i>Data periodicity</i></p>	<p>Data are updated annually and available for the period 2000-2009.</p>																																																																														



<i>Rationale</i>	Average length of stay (ALOS) is used in assessment of quality of care, costs and efficiency. The indicator is often used for health planning purposes. But it has to be pointed out that the type of reimbursement system or health insurance plan in a country can play a significant role in the patient length of stay in hospitals.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Average length of stay in hospital is one of the indicators of the health and long-term care strand of the Open Method of Coordination on Social Inclusion and Social Protection.</li> <li>• Data are not age-standardized by Eurostat. Therefore ECHIM uses breakdown in age groups (0-64, 65+). Data are available however by 5 year age groups, so age-standardized data could be computed.</li> <li>• ECHIM does not require disaggregation by sex for this indicator, and only by two age groups (0-64 and 65+) to reduce the number of operationalisations. Data are provided by Eurostat for total population and for 5-year age groups. So the aggregated age groups need to be computed.</li> <li>• A (hospital) discharge is the formal release of a patient from a hospital after a procedure or course of treatment (episode of care). A discharge occurs anytime a patient leaves because of finalisation of treatment, signs out against medical advice, transfers to another health care institution or because of death. Transfers to another department within the same institution are excluded (source Eurostat metadata). A discharge can refer to in-patients or day cases, but day treatment cases (day cases, patients admitted for a medical procedure or surgery in the morning and released before the evening) should be excluded.</li> <li>• Discharges by diagnosis refer to the principal diagnosis, i.e. the main condition diagnosed at the end of the hospitalisation. The main condition is the one primarily responsible for the patient's need for treatment or investigation (source Eurostat metadata).</li> <li>• An in-patient is a patient who is formally admitted (or 'hospitalised') to an institution for treatment and/or care and stays for a minimum of one night or more than 24 hours in the hospital or other institution providing in-patient care (source Eurostat metadata).</li> <li>• Two different data sets for hospital discharges by diagnosis are available: <ul style="list-style-type: none"> <li>a) For data from 2000 onwards: according to the International Classification for Hospital Morbidity Tabulation (ISHMT). This shortlist for statistical comparison of hospital activity analysis was adopted in 2005 by Eurostat, the OECD (Organisation for Economic Co-operation and Development) and the WHO-FIC (Family of International Classifications) Network.</li> <li>b) For data covering the period 1989-2002: according to a Eurostat shortlist of some 60 selective diseases based on ICD-10</li> </ul> </li> <li>• The International Shortlist for Hospital Morbidity Tabulation (ISHMT) was developed by the Hospital Data Project (HDP).</li> <li>• Data collection takes place in agreement with the World Health Organisation (WHO) and the Organization of Economic Co-operation and Development (OECD). Where applicable, common definitions and data specifications are used in the data collection. From 2010 data collection on health care non expenditure data is made jointly with the OECD and WHO-Europe for human and physical resources. This joint questionnaire might be extended to include procedures and hospital patients.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat database: In-patient average length of stay (ISHMT, in days)</a></li> <li>• <a href="#">Eurostat database: In-patient average length of stay (ISHMT, in days) by region</a></li> <li>• <a href="#">Eurostat metadata: Health care: resources and patients (non-expenditure data). Reference Metadata in Euro SDMX Metadata Structure (ESMS)</a></li> <li>• <a href="#">Eurostat/OECD/WHO international shortlist for hospital morbidity tabulation (ISHMT)</a></li> <li>• <a href="#">Eurostat shortlist for hospital discharges (reference data 1989-2002)</a></li> <li>• <a href="#">System of Health Accounts (SHA): OECD SHA Manual, 2011 edition</a></li> <li>• <a href="#">Eurostat. Definitions and data collection specifications on health care statistics (non-expenditure data) Version 21 May 2008</a></li> <li>• <a href="#">Hospital Data Project 2 (HDP2)</a></li> <li>• <a href="#">Eurostat OMC</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Ask Eurostat to compute age-standardized rates. If these are available, ECHIM can consider skipping the breakdown by age group, as to limit the number of operationalizations.</li> <li>• Monitor developments Open Method of Coordination.</li> </ul>

## 70.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41501	Health services	70. Average length of stay (ALOS), limited diagnoses	Eurostat	In-patient average length of stay (in days), for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), total population.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41502				In-patient average length of stay (in days) , for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), age 0-64.
41503				In-patient average length of stay (in days) , for all causes (ISHMT code 0000 = ICD-10 codes A00-Z99 excluding V,W,X & Y codes and healthy newborns Z38), age 65+.
41504				In-patient average length of stay (in days), for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), total population.
41505				In-patient average length of stay (in days), for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), age 0-64.
41506				In-patient average length of stay (in days), for infectious and parasitic diseases (ISHMT code 0100 = ICD-10 codes A00-B99), age 65+.
41507				In-patient average length of stay (in days), for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), total population.
41508				In-patient average length of stay (in days), for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), age 0-64.
41509				In-patient average length of stay (in days), for neoplasms (ISHMT code 0200 = ICD-10 codes C00-D48), age 65+.
41510				In-patient average length of stay (in days), for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), total population.
41511				In-patient average length of stay (in days), for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), age 0-64.
41512				In-patient average length of stay (in days), for malignant neoplasm of colon, rectum & anus (ISHMT code 0201 = ICD-10 codes C18-C21), age 65+.
41513				In-patient average length of stay (in days), for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), total population.
41514				In-patient average length of stay (in days), for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), age 0-64.
41515				In-patient average length of stay (in days), for malignant neoplasm of trachea/bronchus/lung (ISHMT code 0202 = ICD-10 codes C33-C34), age 65+.
41516				In-patient average length of stay (in days), for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), total female population.
41517				In-patient average length of stay (in days), for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), female population aged 0-64.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41518				In-patient average length of stay (in days), for malignant neoplasm of breast (ISHMT code 0204 = ICD-10 code C50), female population aged 65+.
41519				In-patient average length of stay (in days), for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), total female population.
41520				In-patient average length of stay (in days), for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), female population aged 0-64.
41521				In-patient average length of stay (in days), for malignant neoplasm of uterus (ISHMT code 0205 = ICD-10 codes C53-C55), female population aged 65+.
41522				In-patient average length of stay (in days), for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), total male population.
41523				In-patient average length of stay (in days), for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), male population aged 0-64.
41524				In-patient average length of stay (in days), for malignant neoplasm of prostate (ISHMT code 0207 = ICD-10 code C61), male population aged 65+.
41525				In-patient average length of stay (in days), for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), total population.
41526				In-patient average length of stay (in days), for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), age 0-64.
41527				In-patient average length of stay (in days), for diabetes mellitus (ISHMT code 0401 = ICD-10 codes E10-E14), age 65+.
41528				In-patient average length of stay (in days), for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), total population.
41529				In-patient average length of stay (in days), for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), age 0-64.
41530				In-patient average length of stay (in days), for mental and behavioural disorders (ISHMT code 0500 = ICD-10 codes F00-F99), age 65+
41531				In-patient average length of stay (in days), for dementia (ISHMT code 0501 = ICD-10 codes F00-F03), total population.
41532				In-patient average length of stay (in days), for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), total population.
41533				In-patient average length of stay (in days), for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), age 0-64.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41534				In-patient average length of stay (in days), for mental and behavioural disorders due to alcohol (ISHMT code 0502 = ICD-10 code F10), age 65+.
41535				In-patient average length of stay (in days), for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), total population.
41536				In-patient average length of stay (in days), for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), age 0-64.
41537				In-patient average length of stay (in days), for mood [affective] disorders (ISHMT code 0505 = ICD-10 codes F30-F39), age 65+.
41538				In-patient average length of stay (in days), for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), total population.
41539				In-patient average length of stay (in days), for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), age 0-64.
41540				In-patient average length of stay (in days), for diseases of the nervous system (ISHMT code 0600 = ICD-10 codes G00-G99), age 65+.
41541				In-patient average length of stay (in days), for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), total population.
41542				In-patient average length of stay (in days), for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), age 0-64.
41543				In-patient average length of stay (in days), for diseases of the circulatory system (ISHMT code 0900 = ICD-10 codes I00-I99), age 65+.
41544				In-patient average length of stay (in days), for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), total population.
41545				In-patient average length of stay (in days), for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), age 0-64.
41546				In-patient average length of stay (in days), for acute myocardial infarction (ISHMT code 0903 = ICD-10 codes I21-I22), age 65+.
41547				In-patient average length of stay (in days), for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), total population.
41548				In-patient average length of stay (in days), for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), age 0-64.
41549				In-patient average length of stay (in days), for cerebrovascular disease (ISHMT code 0908 = ICD-10 codes I60-I69), age 65+.
41550				In-patient average length of stay (in days), for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), total population.
41551				In-patient average length of stay (in days), for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), age 0-64.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41552				In-patient average length of stay (in days), for diseases of the respiratory system (ISHMT code 1000 = ICD-10 codes J00-J99), age 65+.
41553				In-patient average length of stay (in days), for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), total population.
41554				In-patient average length of stay (in days), for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), age 0-64.
41555				In-patient average length of stay (in days), for chronic obstructive pulmonary disease and bronchiectasis (ISHMT code 1006 = ICD-10 codes J40-J44, J47), age 65+.
41556				In-patient average length of stay (in days), for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), total population.
41557				In-patient average length of stay (in days), for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), age 0-14.
41558				In-patient average length of stay (in days), for asthma (ISHMT code 1007 = ICD-10 codes J45-J46), age 15+.
41559				In-patient average length of stay (in days), for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), total population.
41560				In-patient average length of stay (in days), for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), age 0-64.
41561				In-patient average length of stay (in days), for diseases of the digestive system (ISHMT code 1100 = ICD-10 codes K00-K93), age 65+.
41562				In-patient average length of stay (in days), for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), total population.
41563				In-patient average length of stay (in days), for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), age 0-64.
41564				In-patient average length of stay (in days), for alcoholic liver disease (ISHMT code 1115 = ICD-10 code K70), age 65+.
41565				In-patient average length of stay (in days), for diseases of the musculoskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), total population.
41566				In-patient average length of stay (in days), for diseases of the musculoskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), age 0-64.
41567				In-patient average length of stay (in days), for diseases of the musculoskeletal system and connective tissue (ISHMT code 1300 = ICD-10 codes M00-M99), age 65+.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41568				In-patient average length of stay (in days), for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), total population.
41569				In-patient average length of stay (in days), for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), age 0-64.
41570				In-patient average length of stay (in days), for diseases of the genitourinary system (ISHMT code 1400 = ICD-10 codes N00-N99), age 65+.
41571				In-patient average length of stay (in days), for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), total population.
41572				In-patient average length of stay (in days), for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), age 0-14.
41573				In-patient average length of stay (in days), for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), age 15-24.
41574				In-patient average length of stay (in days), for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), age 25-64.
41575				In-patient average length of stay (in days), for injury, poisoning & certain other consequences of external causes (ISHMT code 1900 = ICD-10 codes S00-T98), age 65+.

## 70. Average length of stay (ALOS), limited diagnoses

### Comparability between countries

Eurostat obtains data for all countries from the same data source, namely hospital registries, which improves comparability between countries. The average length of stay is calculated for inpatients only, but some inpatients may not stay for a minimum of one night. For example if a patient is admitted as an inpatient but is transferred to another health care institution the same day or dies within the hospital during the same day, is classified as an inpatient (and not a daycase).

However, differences in the indicator results can arise from differences in the type of hospital discharges included, the design of hospital registries, the type of reimbursement system or health insurance plan in a country, the use of different classification systems (ICD-9, ICD-10 (different adaptations), Diagnosis Related Groups system), differences in coding practices and coding standards, differences in financial incentives for using specific codes or events, differences in the possibility to attribute transfers within the hospital to one discharge and differences in the composition of the population.

Country-specific meta data on the calculation of the average length of stay is available on Eurostat. In [this document](#) characteristics of the data sources and used definitions in several countries are described. From this document it can be concluded that for several countries the indicator definition and proposed calculations deviates from those proposed by Eurostat. This limits the comparability of this indicator. Summarized, the most important deviations from the indicator definition and proposed calculations are:

- patients with a medium or long stay were not included;
- discharges from private hospitals were not included;
- discharges from psychiatric hospitals, substance abuse clinics, rehabilitation centers or specialized care centers were not included;
- discharges from military hospitals or prison hospitals were not included;
- part of the hospitals did not participate in the discharge registry;
- discharges to another hospital were not included;
- discharges to another department within the same hospital were included;
- (healthy) newborns were not included;
- there were missing data on diagnosis, sex or age;
- the principal diagnosis is defined as the disease consuming the most resources (instead of the diagnosis that is chiefly responsible for causing the hospitalisation);
- it seems that one country (Germany) includes day-cases in the calculation of average length of stay, counted as one day.

Not all countries reported on the definitions and calculations they used, so it is difficult to assess to what extent the calculations of the indicator 'average length of stay' are comparable. Furthermore, it is not always clear to what extent the deviations from the Eurostat definitions really influence comparability. For example, some countries do and some countries do not include healthy newborns, which will affect the comparability. Some countries do and some countries do not include private hospitals. If countries do not have any, or the number of in-hospital patients in private hospitals is very small, this difference will hardly affect the comparability of the indicator average length of stay for in-hospital patients.

Demographic differences between countries are not taken into account (figures are not standardized by age and sex), as recommended in the ECHI documentation sheet. In a more ageing population, hospitalization for certain diseases with a higher prevalence at older ages can be expected to be higher. This omission also limits comparability. However, users can construct themselves tables of hospital discharges by sex and age groups (less than 1, 1-4, 5-9, ..., 95 years and over) by using data from the Eurostat health statistics website.

The indicator average length of stay can be influenced by the country-specific way of organising health care. In some countries hospitals may have a tendency to discharge patients as soon as possible, whereas other countries may have a tendency to let recover the patient almost completely. This may depend on the extent to which home care and care in nursing homes are available for aftercare in a country. Another factor that influences this indicator is the tendency of hospitals to transfer patients to a peripheral hospital after stabilization or after performing a primary intervention. A high rate of transferring patients, leads to a shorter average length of stay. Countries in which hospitals encourage day care for elective procedures above in-patient care, will have a higher average length of stay because day cases are excluded from the calculation, leaving over cases with a longer length of stay.

### Comparability over time

Some countries had abrupt changes in their data collection and therefore a break in their time series. These break in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. OECD, WHO and Eurostat have worked on a common method to reduce the effects of time breaks. Using this method will adjust the past data before the break.

Gradual changes over time, not caused by technical breaks, can be caused by very different developments, like changes in discharge policies, changes in the hospital policy to perform procedures during day-care instead of during a hospital admission of several days, changes in the extent of reference by primary health care workers (general practitioners) to hospital care, changes in the composition of the population, changes in the classification system, coding practices, the types of hospitals and type of patients included in the hospital registry, the participation rate of hospitals and changes in the definition of the principal diagnosis.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [Eurostat Metadata Health care resources and patients \(non-expenditure data\) \(last update 12 November 2010\)](#)
- [Eurostat Annex – Hospital patients: Hospital discharges by diagnosis \(ISHMT\)](#)
- [Eurostat, definitions on health care statistics \(non-expenditure data\), available in CIRCA](#)

## 71. GENERAL PRACTITIONER (GP) UTILISATION

### 71.1 Documentation sheet

April 2012

#### Additional information for indicators for which EHIS is preferred (interim) source

This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in *chapter 2.2* of this report.

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 71. General practitioner (GP) utilisation
<i>Relevant policy areas</i>	<ul style="list-style-type: none"><li>• Health inequalities (including accessibility of care)</li><li>• (Planning of) health care resources</li><li>• Health care costs &amp; utilisation</li></ul>
<i>Definition</i>	Mean number of self-reported visits to general practitioner per person per year.
<i>Calculation</i>	Mean number of visits to general practitioner per person per year, derived from EHIS questions HC10 and HC11. HC10: When was the last time you consulted a GP (general practitioner) or family doctor on your own behalf? (1) Less than 12 months ago / 2) 12 months ago or longer / 3) Never) If HC10 is 1): → HC11: During the past four weeks ending yesterday, that is since (date), how many times did you consult a GP (general practitioner) or family doctor on your own behalf? (number of times). Total number of contacts reported under HC11 is extrapolated from 4 to 52 weeks, and divided by the total number of respondents in the sample. EHIS data will not be age standardized.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"><li>• Country</li><li>• Calendar year</li><li>• Sex</li><li>• Age group (15-64, 65+)</li><li>• SES (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li></ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS) (interim source, see remarks)



<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	A basic indicator for the use of medical services. The differences by sex, age and socio-economic status provide information that can be used in assessment of the cost and (equity of) access to health services.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• ECHIM would prefer data based on administrative sources/registers for this indicator. The data collection pilot that was conducted during the Joint Action for ECHIM, however, made clear that significant problems related to availability and quality of register-based data still exist in EU Member States. Therefore, ECHIM decided to use self-reported data (EHIS) as an interim source until register-based data will be adequately available.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The EHIS definition of consulting a GP comprises visits to the respondent's doctor's practice, home visits as well as consultations by telephone.</li> <li>• EHIS asks respondents to report visits to GP or family doctor that took place during the past four weeks, as using a relatively short time frame will prevent recall biases. A downside of using a short recall period however is that seasonal influences may bias the estimates. This should be taken into account in the design of the fieldwork, i.e. spreading the data collection over the entire year.</li> <li>• Extrapolating the estimate from 4 weeks to one year will enlarge the statistical error surrounding the estimate. This will in particular be a problem in case of insufficient sample sizes.</li> <li>• The concept GP will not be uniform across countries; what is regarded a GP or family doctor depends on the organisation of a health care system and the division of tasks between different types of physicians within that health care system. This will hamper the comparability of EHIS data for this indicator.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> <li>• Discuss with Eurostat/technical HIS which recall period/extrapolation methods are best to apply considering the (limits to the) organization of the fieldwork in the countries.</li> <li>• Stimulate improvement availability and quality register-based data for this indicator.</li> </ul>

## 71.2 Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41601	Health services	71. General practitioner (GP) utilisation	Eurostat (EHIS)	Mean number of self-reported visits to general practitioner per person aged 15+ per year
41602				Mean number of self-reported visits to general practitioner per person per year, in men aged 15+
41603				Mean number of self-reported visits to general practitioner per person per year, in women aged 15+
41604				Mean number of self-reported visits to general practitioner per person per year among people aged 15-64

41605				Mean number of self-reported visits to general practitioner per person per year among people aged 65+
41606				Mean number of self-reported visits to general practitioner per person per year among people aged 15+ whose highest completed level of education is ISCED class 0, 1 or 2
41607				Mean number of self-reported visits to general practitioner per person per year among people aged 15+ whose highest completed level of education is ISCED class 3 or 4
41608				Mean number of self-reported visits to general practitioner per person per year among people aged 15+ whose highest completed level of education is ISCED class 5 or 6

## 72. SELECTED OUTPATIENT VISITS

### 72.1. Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
<p>This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.</p>

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b>
	72. Selected outpatient visits
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Planning of) health care resources</li> <li>• Health care costs &amp; utilisation</li> </ul>
<i>Definition</i>	<ol style="list-style-type: none"> <li>1) Mean number of self-reported visits to a dentist or orthodontist per person per year.</li> <li>2) Mean number of self-reported visits to a medical or surgical specialist per person per year.</li> <li>3) Proportion of population reporting to have had a contact with a psychologist or psychotherapist during the past 12 months.</li> </ol>
<i>Calculation</i>	<ol style="list-style-type: none"> <li>1) Mean number of self-reported visits to a dentist or orthodontist per person per year, derived from EHIS questions HC08 and HC09. HC08: When was the last time you visited a dentist or orthodontist on your own behalf (that is not while only accompanying a child, spouse etc)? (1) Less than 12 months ago /2) 12 months ago or longer / 3) Never) If HC08 is 1): → HC09: During the past four weeks ending yesterday, that is since (date), how many times did you consult a dentist or orthodontist on your own behalf? (number of times). Total number of contacts reported under HC09 is extrapolated from 4 to 52 weeks, and divided by the total number of respondents in the sample.</li> <li>2) 2. Mean number of self-reported visits to a medical or surgical specialist per person per year, derived from EHIS questions HC12 and HC13. HC12: When was the last time you consulted a medical or surgical specialist on your own behalf? (1) Less than 12 months ago /2) 12 months ago or longer / 3) Never) If HC12 is 1): → HC13: During the past four weeks ending yesterday, that is since (date), how many times did you consult a specialist on your own behalf? (number of times). Total number of contacts reported under HC13 is extrapolated from 4 to 52 weeks, and divided by the total number of respondents in the sample.</li> <li>3) Percentage of respondents reporting to have had a contact with a psychologist or psychotherapist during the past 12 months, derived from EHIS question HC.16 During the past 12 months, that is since (date on year ago), have you visited on your own behalf a ...? (different types of health care providers are listed among which 'psychologist or psychotherapist'). Numerator = number of respondents answering yes to the question whether they visited a psychologist or psychotherapist. Denominator = total number of respondents in sample. EHIS data will not be age standardized.</li> </ol>

<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• SES (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS) (interim source, see remarks)
<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave are expected to be published in two stages, 11 countries in October 2010, the remaining countries in April 2011. EHIS data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Indicator used in assessment of cost and (equity of) access.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• ECHIM would prefer data based on administrative sources/registers for this indicator. The data collection pilot that was conducted during the Joint Action for ECHIM, however, made clear that significant problems related to availability and quality of register-based data still exist in EU Member States. Therefore, ECHIM decided to use self-reported data (EHIS) as an interim source until register-based data will be adequately available. A specific problem related to these data is that (financial) administrative registers are usually based on interventions rather than on visits per capita.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The EHIS instructions for question HC13 reads: this question is about consultations with medical or surgical specialists. Include visits to doctors as outpatient or emergency departments only, but do not include contact while in hospital as an in-patient or day-patient. Also include visits to doctors at the workplace or school. Visits to dental surgeons should be included. Do not include visits to general dentists.</li> <li>• For dentists and specialists (definitions 1 and 2), EHIS asks respondents to report visits to health care providers that took place during the past four weeks, as using a relatively short time frame will prevent recall biases. A downside of using a short recall period however is that seasonal influences may bias the estimates. This should be taken into account in the design of the fieldwork, i.e. spreading the data collection over the entire year.</li> <li>• Extrapolating the estimate from 4 weeks to one year will enlarge the statistical error surrounding the estimate. This will in particular be a problem in case of insufficient sample sizes.</li> <li>• Currently EHIS does not allow calculation of the mean number of visits to mental health care providers per capita per year. Given the public health impact of mental health problems, it was decided to include the 'proportion of population reporting contact past 12 months' as the second best proxy. It would be preferable if the EHIS questionnaire would be adapted to make possible the derivation of the 'mean number of visits...' indicator.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised, hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor EHIS/Eurostat developments</li> <li>• Discuss with Eurostat/technical HIS which recall period/extrapolation methods are best to apply considering the (limits to the) organization of the fieldwork in the countries</li> <li>• Advise Eurostat/technical HIS group to also ask respondents to report the number of visits to mental health care providers</li> <li>• Stimulate improvement availability and quality register-based data for this indicator</li> </ul>

72.2 Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41701	Health services	72. Selected out-patient visits	Eurostat (EHIS)	Mean number of self-reported visits to a dentist or orthodontist per person aged 15+ per year
41702				Mean number of self-reported visits to a dentist or orthodontist per person per year, in men aged 15+
41703				Mean number of self-reported visits to a dentist or orthodontist per person per year, in women aged 15+
41704				Mean number of self-reported visits to a dentist or orthodontist per person per year, among people aged 15-64
41705				Mean number of self-reported visits to a dentist or orthodontist per person per year, among people aged 65+
41706				Mean number of self-reported visits to a dentist or orthodontist per person aged 15+ per year among people whose highest completed level of education is ISCED class 0, 1 or 2
41707				Mean number of self-reported visits to a dentist or orthodontist per person aged 15+ per year among people whose highest completed level of education is ISCED class 3 or 4
41708				Mean number of self-reported visits to a dentist or orthodontist per person aged 15+ per year among people whose highest completed level of education is ISCED class 5 or 6
41709				Mean number of self-reported visits to a medical or surgical specialist per person aged 15+ per year
41710				Mean number of self-reported visits to a medical or surgical specialist per person per year, in men aged 15+
41711				Mean number of self-reported visits to a medical or surgical specialist per person per year, in women aged 15+
41712				Mean number of self-reported visits to a medical or surgical specialist per person per year, among people aged 15-64
41713				Mean number of self-reported visits to a medical or surgical specialist per person per year, among people aged 65+
41714				Mean number of self-reported visits to a medical or surgical specialist per person per year among people aged 15+ whose highest completed level of education is ISCED class 0, 1 or 2
41715				Mean number of self-reported visits to a medical or surgical specialist per person per year among people aged 15+ whose highest completed level of education is ISCED class 3 or 4
41716				Mean number of self-reported visits to a medical or surgical specialist per person per year among people aged 15+ whose highest completed level of education is ISCED class 5 or 6
41717				Proportion of population reporting to have had a contact with a psychologist or psychotherapist during the past 12 months

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41718				Proportion of male population aged 15+ reporting to have had a contact with a psychologist or psychotherapist during the past 12 months
41719				Proportion of female population aged 15+ reporting to have had a contact with a psychologist or psychotherapist during the past 12 months
41720				Proportion of population aged 15-64 reporting to have had a contact with a psychologist or psychotherapist during the past 12 months
41721				Proportion of population aged 65+ reporting to have had a contact with a psychologist or psychotherapist during the past 12 months
41722				Proportion of population aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have had a contact with a psychologist or psychotherapist during the past 12 months
41723				Proportion of population aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to have had a contact with a psychologist or psychotherapist during the past 12 months
41724				Proportion of population aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to have had a contact with a psychologist or psychotherapist during the past 12 months

## 73. SELECTED SURGERIES

### 73.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b>																																						
	73. Selected surgeries																																						
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>- Health inequalities (including accessibility of care)</li> <li>- Health system performance, quality of care, efficiency of care</li> <li>- (Planning of) health care resources</li> <li>- Health care costs and utilization</li> </ul>																																						
<i>Definition of indicator</i>	<p>The number of surgical operations and procedures performed in hospitals, including day-cases as well as in-patient surgery, per 100,000 population, for eleven categories:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Number</th> <th style="width: 60%;">Description</th> <th style="width: 30%;">ICD-9-CM Codes used by Eurostat</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>PTCA (Percutaneous transluminal coronary angioplasty)</td> <td>36.01, 36.02, 36.05</td> </tr> <tr> <td>2</td> <td>Hip Replacement</td> <td>81.51 - 81.53</td> </tr> <tr> <td>3</td> <td>Cataract</td> <td>13.1 - 13.8</td> </tr> <tr> <td>4</td> <td>Tonsillectomy</td> <td>28.2 - 28.4</td> </tr> <tr> <td>5</td> <td>Coronary Artery Bypass Graft</td> <td>36.1</td> </tr> <tr> <td>6</td> <td>Laparoscopic Cholecystectomy</td> <td>51.23</td> </tr> <tr> <td>7</td> <td>Repair of Inguinal Hernia</td> <td>53.0, 53.1</td> </tr> <tr> <td>8</td> <td>Caesarean Section</td> <td>74.0-74.2, 74.4, 74.99</td> </tr> <tr> <td>9</td> <td>Total Knee Replacement</td> <td>81.54</td> </tr> <tr> <td>10</td> <td>Partial Excision of Mammary Gland</td> <td>85.20 – 85.23</td> </tr> <tr> <td>11</td> <td>Total Mastectomy</td> <td>85.33 - 85.36, 85.4</td> </tr> </tbody> </table>			Number	Description	ICD-9-CM Codes used by Eurostat	1	PTCA (Percutaneous transluminal coronary angioplasty)	36.01, 36.02, 36.05	2	Hip Replacement	81.51 - 81.53	3	Cataract	13.1 - 13.8	4	Tonsillectomy	28.2 - 28.4	5	Coronary Artery Bypass Graft	36.1	6	Laparoscopic Cholecystectomy	51.23	7	Repair of Inguinal Hernia	53.0, 53.1	8	Caesarean Section	74.0-74.2, 74.4, 74.99	9	Total Knee Replacement	81.54	10	Partial Excision of Mammary Gland	85.20 – 85.23	11	Total Mastectomy	85.33 - 85.36, 85.4
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<i>Calculation of the indicator</i>	The number of surgical operations and procedures performed in hospitals in a given year as day-cases or in-patient surgery (by ICD-9-CM), expressed as rates per 100,000 population (end of year population), for each selected category.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Age groups (see data availability)</li> </ul>
<i>Preferred data type and data source(s)</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• Registers (administrative data sources, national hospital discharge registers)</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• Eurostat</li> </ul>
<i>Data availability</i>	At the time of the last update of this documentation sheet data are available from 2005 onwards for the EU27 countries (except Greece and Malta), and Iceland and Switzerland, though the availability differs per selected type of surgery. Eurostat does not collect data on surgeries by age. The ISARE project on regional data has not collected data on surgical procedures.
<i>Data periodicity</i>	Annually.
<i>Rationale</i>	The volume of certain surgeries is a function of the prevalence of the underlying diagnosis and the availability of appropriate medical resources. It serves as an indicator for aspects of accessibility, up-to-date quality of care, costs and use.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Until 2007 an old procedures shortlist was used by Eurostat. After that, Eurostat adopted a new procedure shortlist that was developed by the Hospital Data Project 2 (HDP2). The surgical procedures used in this ECHIM indicator are based on this new shortlist. Countries have provided Eurostat with data according to this new shortlist as of 2005.</li> <li>• ECHIM would prefer age-standardized data, but as data are not being collected by age, this is not possible.</li> <li>• Eurostat metadata on non-expenditure statistics (last update 20 Oct. 2011) (see references): 'Data on hospital activities (hospital discharges, surgical procedures, ...) are collected by Eurostat apart from the Joint questionnaire on health care resources. Further work on definition and classification harmonisations needs to be done among the three international organisations before the inclusion of the statistics in the joint questionnaire'.</li> <li>• The selection of procedures in this ECHIM indicator was based on a reasonable mix of clinical importance and volume. Furthermore, procedure classifications are not standard across the EU, and therefore practical consideration of available data currently reported to Eurostat is also an important selection criterion. In case of multiple surgeries, only the main procedure performed on a patient during a hospital stay or day case treatment should normally be reported.</li> <li>• An in-patient is a patient who is formally admitted (or 'hospitalised') to an institution for treatment and/or care and stays for a minimum of one night or more than 24 hours in the hospital or other institution providing in-patient care (source Eurostat metadata).</li> <li>• Day-case: day care comprises medical and paramedical services (episode of care) delivered to patients who are formally admitted for diagnosis, treatment or other types of health care with the intention of discharging the patient on the same day. An episode of care for a patient who is admitted as a day-care patient and subsequently stays overnight is classified as an overnight stay or other in-patient case (source Eurostat metadata).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Hospital Data Project 2 (HDP2)</a></li> <li>• <a href="#">Eurostat database, Main surgical operations and procedures performed in hospitals (by ICD-9-CM) (2005 onwards)</a></li> <li>• <a href="#">Eurostat. Health care: resources and patients (non-expenditure data). Reference Metadata in Euro SDMX Metadata Structure (ESMS)</a></li> <li>• <a href="#">Eurostat metadata Main surgical operations and procedures performed in hospitals (by ICD-9-CM), country specific notes</a></li> </ul>
<i>Work to do</i>	

## 73.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41801	Health services	73.Selected surgeries	Eurostat	Number of Percutaneous Transluminal Coronary Angioplasty (PTCA) surgeries per 100,000 population.
41802				Number of hip replacement surgeries per 100,000 population.
41803				Number of cataract surgeries per 100,000 population.
41804				Number of tonsillectomies per 100,000 population.
41805				Number of Coronary Artery Bypass Graft (CABG) surgeries per 100,000 population.
41806				Number of laparoscopic cholecystectomies per 100,000 population.
41807				Number of repair of inguinal hernia surgeries per 100,000 population.
41808				Number of caesarean sections per 100,000 female population.
41809				Number of total knee replacement surgeries per 100,000 population.
41810				Number of partial excisions of mammary gland per 100,000 female population.
41811				Number of total mastectomies per 100,000 female population.

### 73. Selected surgeries

#### Comparability between countries

Eurostat obtains data for all countries from the same data source, namely hospital registries, which improves comparability between countries. A major factor that reduces comparability between countries is the use of different classification systems of medical procedures by countries. The indicator definition is based on the ICD-9 CM classification of procedures, but many countries use different classification systems. Mapping the country coding system to the ICD-9-CM can result in comparability issues.

Further, some countries report all procedures, while others only report the main procedure during hospital stay. Some countries do not report procedures performed during day-care. Also in some countries procedures performed in non-for-profit, private or non-state clinics are not included. This can reduce comparability, especially for procedures which are more often than other procedures performed in private clinics, like cataract surgeries.

Other comparability issues can arise from differences in the design of hospital registries, differences in financial incentives for registering procedures (and using specific codes), the units reported (e.g. number of procedures or number of patients who had a procedure), type of hospitals included (only acute or curative care or also long-term hospital care) and differences in the composition of the population. For cataract surgery and PTCA differences can arise from the fact whether surgery on both eyes or intervention on several coronary branches are considered as a single procedure or multiple procedures.

Demographic differences between countries are not taken into account (figures are not standardized by age and sex), as recommended in the ECHI documentation sheet. This is not possible because the data are not collected by age and sex. In a more ageing population, procedures for certain diseases with a higher prevalence at older ages can be expected to be higher. This omission also limits comparability.

Some countries use specific registers for some procedures, like registers of cardiovascular procedures. This can result in a more complete picture.

Information on country-specific definition of the number of (surgical) procedures, gathered by Eurostat, is presented on the Eurostat website. Summarized, the most important deviations from the indicator definition and proposed calculations are:

- procedures performed in private hospitals were not included;
- procedures performed in day-care were not included;
- procedures performed in specialized care centers were not included;
- procedures performed in military hospitals were not included;
- part of the hospitals did not participate in the registry of procedures;
- secondary procedures were also included;
- problems arose from mapping the country's classification codes to ICD-9-CM codes;
- only surgical procedures were included, other procedures were excluded;
- procedures performed at non-acute wards were not included.

Not all countries reported on the definitions and calculations they used, so it is difficult to assess to what extent the presented numbers of procedures are comparable. Furthermore, it is not always clear to what extent the deviations from the Eurostat definitions really influence comparability. For example, some countries do and some countries do not include procedures performed in day-care. For selected surgeries, like hip replacement, this does not affect the comparability, because patients who undergo this surgery will be admitted for more than one day. However, for surgeries often done in day-care, like tonsillectomy, this difference will affect the comparability.

#### Comparability over time

Some countries had abrupt changes in their data collection and therefore a break in their time series. These break in series are flagged with a footnote in the Heidi Table Chart and some information (if available) on these breaks is given in the annexes belonging to the Eurostat metadata. The most important breaks in series are caused by changes in the use of the classification system, the inclusion of procedures performed in day-care and the inclusion of procedures performed at non-acute wards. OECD, WHO and Eurostat have worked on a common method to reduce the effects of time breaks. Using this method will adjust the past data before the break.

Gradual changes over time, not caused by technical breaks, can be caused by very different developments, like increasing quality of the hospital registry, changes in the extent of reference by primary health care workers (general practitioners) to hospital care, the participation rate of hospitals and the composition of the population.

#### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

#### References and further reading

- [Eurostat Metadata Health care resources and patients \(non-expenditure data\) \(last update 12 November 2010\)](#)
- [Eurostat Annex – Main surgical operations and procedures performed in hospitals \(by ICD-9-CM\)](#)
- [Eurostat, definitions on health care statistics \(non-expenditure data\), available in CIRCA](#)



## 74. MEDICINE USE, SELECTED GROUPS

### 74.1 Documentation sheet

<b>April 2012</b>
<b>Additional information for indicators for which EHIS is preferred (interim) source</b>
This documentation sheet is designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1. For EHIS wave II, which is envisaged to take place in 2014, the questionnaire is being revised. Therefore, questions underlying ECHI indicators may have changed in wave II compared to wave I, with possible consequences for the adequacy of the current documentation sheet. Read more additional information in textbox 3 in <i>chapter 2.2</i> of this report.

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 74. Medicine use, selected groups
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• (Planning of) health care resources</li> <li>• Health care costs &amp; utilisation</li> </ul>
<i>Definition</i>	Percentage of population who report having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular diseases, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.
<i>Calculation</i>	<p>Percentage of population who report having used antibiotics or medication (for asthma, COPD, high blood pressure, cardiovascular diseases (total of medication for high blood pressure, lowering blood cholesterol and other cardiovascular diseases, such as stroke and heart attack), diabetes, tension/anxiety and depression) prescribed by a physician during the past 2 weeks, derived from the European Health Interview Survey (EHIS) questions W2_S 38, W2_S 39 and W2_S 40.</p> <ul style="list-style-type: none"> <li>• W2_S 38 During the past two weeks, have you used any medicines (including dietary supplements such as herbal medicines or vitamins) that were prescribed for you by a doctor – (for women, please also state: exclude also contraceptive pills or other hormones)? (yes/no).</li> <li>• If yes: W2_S 39 Were they medicines for...?             <ol style="list-style-type: none"> <li>a) Asthma</li> <li>b) Chronic bronchitis, chronic obstructive pulmonary disease, emphysema</li> <li>c) High blood pressure</li> <li>d) Lowering the blood cholesterol level</li> <li>e) Other cardiovascular disease, such as stroke and heart attack</li> <li>f) Pain in the joints</li> <li>g) Pain in the neck or back</li> <li>h) Headache or migraine</li> <li>i) Diabetes</li> <li>j) Allergic symptoms (eczema, rhinitis, hay fever)</li> <li>k) Stomach troubles</li> <li>l) Depression</li> <li>m) Tension or anxiety</li> </ol> </li> <li>• W2_S 40 Have you used in the past two weeks other types of medicines that were prescribed to you, such as ...? (yes/no) If yes:             <ol style="list-style-type: none"> <li>n) N. Sleeping tablets</li> <li>o) O. Antibiotics such as penicillin (or any other national relevant example)</li> </ol> </li> </ul>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Country</li> <li>• Calendar year</li> <li>• Sex</li> <li>• Age group (15-64, 65+)</li> <li>• Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: HIS Preferred source: Eurostat (EHIS) (interim source, see remarks)

<i>Data availability</i>	BE, BG, CZ, DE, EE, EL, ES, FR, IT, CY, LV, HU, MT, AT, PL, RO, SI, SK, CH, NO and TR conducted a first wave of EHIS between 2006 and 2010. It is noted that not in all of these countries a full scale survey was carried out; in some only specific modules were applied, in others the full questionnaire was applied in a small pilot sample. It is expected that all EU Member States will conduct EHIS in the second wave, which is planned for 2014. The results of the first wave have already been published on the Eurostat website and data are available by sex, 8 age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+), ISCED groups and for the following disease groups : E10-E14 Diabetes mellitus, F32_F33 Depressive disorders, I10-I15 Hypertensive diseases, I26-I28 Pulmonary heart disease and diseases of pulmonary circulation and for J45 Asthma.
<i>Data periodicity</i>	EHIS will be conducted once every 5 years. The first wave took place in 2007/2010 (with some derogations in 2006) and the second wave is planned for 2014.
<i>Rationale</i>	Indicates aspects of accessibility, up-to-date quality of care, and costs. Large differences between countries may point to under-use as well as over-use. However, a benchmark value cannot be given because several different factors can influence the use of a medicine.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• EHIS is used as interim source, as long as patient-based register data as DDD by are not available in most countries. When these registers become available in a comparable manner, these are the first choice.</li> <li>• Data available in OECD Health database by DDD of ATC groups for 10-15 of the EU27 countries. For some countries the data provided by OECD are based on sales statistics from wholesaler to retail pharmacy and hospitals, for others the data are based on medication reimbursed by health insurance. However, the figures on the sale and actual use of drugs are not always the same. Furthermore, in some countries data do not cover drugs dispensed in hospitals, whereas in other countries hospital medication is included in the statistics. Also, depending on the allocation of pharmaceutical products with more than one use, differences in reporting of specific drugs may occur across countries, thereby affecting the relative size of specific ATC groups. These differences in registration systems limit the comparability of national estimates.</li> <li>• Medicine groups were selected based on recommendations by the MINDFUL project, SOGETI 2006 report and WHO PRIM, availability through EHIS and OECD and coherence with ECHI morbidity and mortality indicators.</li> <li>• According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data.</li> <li>• The above definition and calculation are based on the first version of the EHIS questionnaire, as used in the first EHIS wave (2007/2010). The EHIS questionnaire will be revised; hence adaptations to the EHIS question underlying this indicator may occur in the second wave (planned for 2014).</li> <li>• The legal basis for EHIS is regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work. This is an umbrella regulation. Specific implementing acts will define the details of the statistics Member States have to deliver to Eurostat. An implementing act on EHIS is expected to come into force in 2014.</li> <li>• The SANCO funded PHIS project is also collecting medicine consumption data. Case studies in a limited number of countries (Austria, the Netherlands, Norway, Portugal en Slovakia, total annual pharmaceutical consumption in hospitals and top 5 active substances used in hospitals by pharmaceutical expenditure).</li> <li>• The PHIS project shortlist indicator: Consumption of pharmaceuticals in number of packages or in Defined Daily Doses (DDD) depending on data availability at national level (so not broken down by ATC groups).</li> <li>• The PHIS project recommends to include an indicator for prescription per capita per year as well, but this is not available from EHIS.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EHIS standard questionnaire (version of 11/2006, used in first wave)</a></li> <li>• <a href="#">EHIS 2007-2008 Methodology: Information from CIRCA</a></li> <li>• <a href="#">Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work</a></li> <li>• <a href="#">MINDFUL</a></li> <li>• <a href="#">Statistics on Medicines in Europe -project, EURO-MED-STAT</a></li> <li>• <a href="#">PHIS Hospital Pharma Report</a></li> <li>• <a href="#">PHIS indicators Taxonomy Final Version August 2009</a></li> <li>• <a href="#">WHO. Priority Medicines for Europe and the World. 2004</a></li> <li>• <a href="#">SOGETI 2006. European Commission DG SANCO. Development of public health performance indicators for the pharmaceutical sector: Final report</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Follow EHIS and OECD developments</li> </ul>

## 74.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
41901	Health services	74. Medicine use, selected groups	Eurostat (EHIS)	Proportion of people aged 15+ who report having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular diseases, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.
41902				Proportion of men aged 15+ who report having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular diseases, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.
41903				Proportion of women aged 15+ who report having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular diseases, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.
41904				Proportion of people aged 15-64 who report having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular diseases, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.
41905				Proportion of people aged 65+ who report having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular diseases, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.
41906				Proportion of population aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular disease, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.
41907				Proportion of population aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular disease, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.
41908				Proportion of population aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting having used antibiotics or medication for asthma, COPD, high blood pressure, cardiovascular disease, diabetes, tension/anxiety and depression prescribed by a physician during the past 2 weeks.

## 75. PATIENT MOBILITY

### 75.1 Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 75. Patient mobility
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health care systems</li> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety (Planning of) health care resources</li> <li>• Health care costs and utilization</li> </ul>
<i>Definition</i>	Absolute number and percentage of non-resident people among all people being discharged from hospital.
<i>Calculation</i>	Absolute number and percentage of non-resident people among all people being discharged from hospital (both day-cases and in-patients) in a country and in a given calendar year. The definition of hospitals (HP.1) follows the International Classification for Health Accounts– Providers of health care (ICHA-HP) of the System of Health Accounts. For definitions of residents, an in-patient, day-case and a hospital discharge see remarks.
<i>Relevant dimensions and subgroups</i>	Country Year Region (according to ISARE recommendations)
<i>Preferred data type and data source</i>	Preferred data type: Registers (administrative data sources, national hospital discharge registers) Preferred data source: Eurostat
<i>Data availability</i>	No (regular) data available at the moment. Eurostat is regularly collecting data on patient migration in its own data collection (not part of the joint OECD/Eurostat/WHO questionnaire), but is not yet publishing these. Up to now 17 MS provided data for at least one year. These data concern non-resident patients who had been discharged in a country.
<i>Data periodicity</i>	Possibilities for regular publication of the Eurostat data have to be discussed with Eurostat.
<i>Rationale</i>	Meets the increasingly important EU-health policy issue of cross-border care. Increased patient mobility raises a number of issues and concerns in MS in respect of e.g. health care availability and utilisation, health infrastructure development, cost sharing and patient safety.

<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Originally the indicator was defined as the number and proportion of patients seeking care in other than their (permanent) resident country. Eurostat collects data for the absolute number and percentage of non-resident people for all hospital discharges in a country. This is a different perspective, but both perspectives are interesting for policy makers. Data for the original indicator definition are not available, also not from EHIS, but probably from some national HIS (e.g. for the Netherlands). Therefore, ECHIM follows the Eurostat definition.</li> <li>• Both absolute numbers and percentages are interesting for policy maker, especially in small countries.</li> <li>• Depending on countries, data is available on country of origin of discharged patients but some countries can only separate inside EU or outside EU.</li> <li>• Other available dimensions: year, number of in-patient cases, number of day cases and hospital days for in-patient cases.</li> <li>• According to Wismar et al., 2011: “Although most countries seem to collate cross-border patient flows, huge differences exist in (1) what is collected, (2) the system of data collection, and (3) who collects the data. Furthermore, the different conditions under which patient mobility take place (Council Regulation (EEC) No. 1408/71, crossborder contracts, waiver agreements) makes it difficult to collect all the data, and an underestimation is in many cases the result. As a consequence, the reliability and especially the comparability of the data must be questioned.”</li> <li>• A (hospital) discharge is the formal release of a patient from a hospital after a procedure or course of treatment (episode of care). A discharge occurs anytime a patient leaves because of finalisation of treatment, signs out against medical advice, transfers to another health care institution or because of death. Transfers to another department within the same institution are excluded (see indicator 67. Hospital in-patient discharges, selected diagnoses).</li> <li>• An in-patient is a patient who is formally admitted (or ‘hospitalised’) to an institution for treatment and/or care and stays for a minimum of one night or more than 24 hours in the hospital or other institution (e.g. nursing and residential care facilities providing in-patient care) (see indicator 67. Hospital in-patient discharges, selected diagnoses).</li> <li>• Day-case: day care comprises medical and paramedical services (episode of care) delivered to patients who are formally admitted for diagnosis, treatment or other types of health care with the intention of discharging the patient on the same day. An episode of care for a patient who is admitted as a day-care patient and subsequently stays overnight is classified as an overnight stay or other in-patient case (see indicator 68. Hospital day-cases, selected diagnoses).</li> <li>• Residents: The Eurostat statistics on population refer to the national and regional population at its usual residence. Usual residents are those who have lived in their place of usual residence for a continuous period of at least 12 months before the reference date or those who arrived in their place of usual residence during the 12 months before the reference date with the intention of staying there for at least one year (see indicator 1. Population by gender/age).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Wismar et al 2011. Cross-border health care in the European Union. Mapping and analysing practices and policies. World Health Organization 2011</a></li> <li>• <a href="#">DG Sanco. Cross-border care</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Discuss with Eurostat possible other operationalizations based on their data collection.</li> <li>• Decide whether data should also be collected for In-patient and Day cases separately.</li> <li>• Discuss possibilities for regular publication of the data. After that, assess whether indicator can be moved to the implementation section.</li> </ul>

## 75.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
42001	Health services	75. Patient mobility	Eurostat	Absolute number of non-resident people among all people being discharged from hospital.
42002				Percentage of non-resident people among all people being discharged from hospital.

## 76. INSURANCE COVERAGE

### 76.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 76. Insurance coverage
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>Sustainable health care systems</li> <li>Health inequalities (including accessibility of care)</li> </ul>
<i>Definition</i>	The proportion of the population covered by health insurance, taking into account both public and private insurance schemes.
<i>Calculation</i>	Public (government/social) health insurance coverage is the share of the population (%) eligible for a defined set of health care goods and services that are included in total public health expenditure. Private health insurance coverage is the share of the population (%) based on a head count of individuals covered by at least one private health insurance policy (including both individuals covered in their own name and dependants).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>Calendar year</li> <li>Country</li> <li>Sex (see data availability)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>Administrative data (insurance policies)</li> </ul> <p>Preferred data source:</p> <ul style="list-style-type: none"> <li>OECD Health Data</li> </ul>
<i>Data availability</i>	OECD Health Data is an electronic database released annually in June, available. Most of the data is freely available ( <a href="#">OECD.Stat</a> ), but access to some parts of the database (including insurance coverage) requires a subscription. Some data on insurance coverage are freely available in the publication Health at a Glance. Data available since 1960, early years not complete for all countries. No data by sex available.
<i>Data periodicity</i>	Annually.
<i>Rationale</i>	Indicator describing (equal) access to services. Indicator for social inequalities in health care system.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>'The proportion of the population covered by health insurance' is one of the indicators of the health and long term care strand of the Social Protection Committee developed under the Open Method of Coordination (OMC).</li> <li>Most recent data on insurance coverage at time of last update of this documentation sheet is the 2011 version of OECD health data, which contains 2009 data for insurance coverage. Precise name of indicator: SOCIAL PROTECTION (HEALTH_PROT), Health care coverage, Total public and primary private health insurance. The 2009 data are presented in the 2011 edition of the Health at a Glance report series (see references).</li> <li>This ECHIM/OECD indicator is defined in such a way that coverage is independent of the scope of cost-sharing.</li> <li>OECD numbers include both public and private health insurance coverage. The OECD numbers are meant to have avoided duplications in the calculation.</li> <li>National sources used for this indicator differ in nature (administrative data, surveys), hence comparability between countries is not optimal.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li><a href="#">OECD.Health data</a></li> <li><a href="#">Health at a Glance 2011 edition (page 134)</a></li> <li><a href="#">General information on OECD Health Data</a></li> <li><a href="#">Indicators of the health and long term care strand, OMC, Eurostat website</a></li> </ul>
<i>Work to do</i>	

## 76.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
42101	Health services	76. Insurance coverage	OECD	Percentage of population covered by Government/ social health insurance.
42102				Percentage of population covered by private health insurance.

## 76.3 Remarks on comparability

76. Insurance coverage
<p><b>Comparability between countries</b></p> <p>National sources used for this indicator differ in nature (administrative data, surveys). Including all subgroups of the population in the registry or survey of insurance coverage would improve comparability. For example, including subgroups of the labour force and the non-active population.</p> <p>Furthermore, differences in services covered and proportion of the costs covered cause problems in comparing the indicator outcomes between countries (OECD Health at a Glance).</p> <p>Examples of differences in services covered which influence the comparability of the indicator outcomes:</p> <ul style="list-style-type: none"> <li>• Health insurance coverage, whether provided through public or private insurance, generally covers a defined 'basket' of benefits. The content of this 'basket' varies across countries.</li> <li>• In some countries (e.g. the Netherlands, Austria, Switzerland) services outside the defined 'basket' can be purchased through supplemental private health insurance coverage.</li> <li>• In most countries dental care is partially or not at all covered under the public health insurance. Often dental care must be purchased separately, by taking out an additional private insurance or by cost-sharing. The same applies to 'eye care' (eye glasses and contact lenses).</li> <li>• In some countries certain types of drugs are not covered under the public health insurance, like over-the-counter drugs, unapproved drugs, and very expensive drugs.</li> <li>• In Ireland general practice service is not covered for persons with an income above a certain level.</li> <li>• In some countries duplicate markets exist, which prove faster private-sector access. Access to the private-sector is only possible for persons with a private health insurance. These markets exist in countries with large waiting times in public systems (e.g. Ireland). Although the health insurance coverage in those countries may be high, in fact the access to health care is limited for people with only a public insurance.</li> </ul> <p>Examples of differences in costs covered which influence the comparability of the indicator outcomes:</p> <ul style="list-style-type: none"> <li>• Even if countries have the same health insurance coverage, the extent of cost-sharing (direct payments from individuals to service providers) can be different.</li> <li>• Although pharmaceutical drugs are often covered under the public health insurance, in many countries co-payments are required if drugs are prescribed.</li> <li>• In some countries (e.g. France) complementary health insurance coverage can be purchased through private insurance, to cover cost-sharing in the public health insurance.</li> </ul> <p>Also differences regarding the inclusion in numerator and denominator of foreigners with (semi-)permanent residence, people with residence abroad, asylum seekers, unemployed people, and homeless people limit comparability of indicator outcomes.</p>

### Comparability over time

In many countries changes took place in the organisation of the health care sector. Examples of such changes are the introduction or expansion of cost-sharing, changes in the benefits covered under the basic primary health insurance and shifts in the coverage from public insurance to private insurance. This means that, even if the share of the population with health insurance coverage remains the same, the meaning of this percentage may change. Another significant cause for a break in series may be a change in the used data source.

These breaks in series are not flagged with a footnote in the Heidi Table Chart.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- The indicator 'coverage for health care' is described in the OECD report 'Health at a Glance', under the chapter Access to care. This report is published every two years
- Information on health financing and coverage arrangements in every OECD member state can be found in chapter 2 of : Paris V, Devaux M, Wei L. Health Systems Institutional Characteristics. A Survey of 29 OECD Countries. *OECD Health working paper no. 50*. Paris: OECD, 2010
- The EU promotes the coordination of national healthcare policies through the open method of coordination with a particular focus on access, quality and sustainability. One of the indicators is [universal insurance coverage](#)
- The *World Health Report of 2010* focuses on access to health care services. This report describes what countries can do to modify their financing systems so they can move more quickly towards universal coverage and sustain the gains that have been achieved.
- WHO, World Health Organisation. The world health report. Health systems financing. The path to universal coverage. Geneva: WHO, 2010

## 77. EXPENDITURES ON HEALTH CARE

### 77.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b> 77. Expenditures on health care
<i>Relevant policy areas</i>	<ul style="list-style-type: none"><li>• Sustainable health systems</li><li>• Health system performance, quality of care, efficiency of care, patient safety</li><li>• Health care costs and utilization</li></ul>
<i>Definition</i>	Current and total national health expenditure for total, public, and private sectors, as percentage of gross domestic product (GDP), and expressed in millions of Purchasing Power Standard (PPS).
<i>Calculation</i>	According to System of Health Accounts (SHA) and the related International Classification for the Health Accounts (ICHA). Current expenditure on health care measures/describes financial means/ flows associated with (the consumption of) health care goods and services including governance and administration of health care system at large. Total expenditures also include investments (capital formation of health care providers). ICHA-HF Health financing agents: HF1 = General government and HF2 = Private sector. For GDP the national GDP in euro as available in the Eurostat database is used. The calculation of Purchasing Power Parities (PPP)/PPS is based on the prices for a standard basket of goods. For more details on the computation of PPP/PPS see Eurostat's metadata on Purchasing power parities (see references).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"><li>• Calendar year</li><li>• Country</li></ul>
<i>Preferred data type and data source(s)</i>	Preferred data type: surveys, administrative data (depending on organisation of the health care system in concerned country). Preferred source: Eurostat.
<i>Data availability</i>	Joint questionnaire (see remarks) in use since 2005. Eurostat publishes data for EU-27 (excluding Greece, Ireland, Italy, Malta and the United Kingdom), Norway, Iceland, Switzerland, Japan and USA (N.B.: area covered by Joint Questionnaire also consists of Australia, New Zealand, Korea and Canada).
<i>Data periodicity</i>	Annual. EUROSTAT, OECD and WHO ask for submission of the data for year N at N+15 months. A number of countries still face difficulties with this timetable.



<i>Rationale</i>	Next to external, biological and environmental factors, the provision of health care goods and services and its financing within country's health care system is perceived as a main determinant of health. Health care expenditure is an indicator for long-term sustainability of health care systems.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Total health care expenditure as a % of GDP is one of the indicators of the health and long-term care strand of the Social Protection Committee developed under the Open Method of Coordination (OMC).</li> <li>• Both measures applied in this ECHI indicator, current and total expenditures, have pros and cons. The functions of care in the SHA aim to reflect consumption expenditure aimed at improving the health status of individuals. Current expenditure therefore seems a more suitable measure as investments are not consumed by the beneficiaries of care. On the other hand, capital expenditures give an indication on the sustainability of health systems. They reflect the willingness to invest, and also are a proxy for innovation. Capital expenditures can change rapidly and give feedback on the reactivity of the political system in the health domain.</li> <li>• Because capital expenditures are subject to rapid change, they often have an erratic character. This should be taken into account when interpreting time trends in data on total health expenditures.</li> <li>• Some methodological and operational problems exist in relation to data on expenditure on capital formation, which hamper cross-country comparability.</li> <li>• Eurostat, OECD and WHO have adopted a common questionnaire to collect data on health expenditure, according to SHA methodology.</li> <li>• The SHA is organised around a tri-axial system for the recording of health expenditure, by means of the International Classification for Health Accounts (ICHA), defining: 1) health care by function (ICHA-HC), 2) health care service provider industries (ICHA-HP) and 3) health care financing agents (ICHA-HF).</li> <li>• Countries submit data to Eurostat on the basis of a gentlemen's agreement established in the framework of the Eurostat Working Group on "Public Health Statistics".</li> <li>• It is noted that the usability of measures such as current and total expenditure strongly depends on the way the healthcare system (including rules for investments) is organised in a country.</li> <li>• % of GDP; this measurement is relative to the level of welfare in a country, which makes it suitable for international comparisons. When interpreting time trends it has to be taken into account that GDP will be influenced more rapidly by changes in the economic climate than health care expenditures.</li> <li>• Purchasing power parities (PPPs) are indicators of price level differences across countries. PPPs tell us how many currency units a given quantity of goods and services costs in different countries. PPPs can thus be used as currency conversion rates to convert expenditures expressed in national currencies into an artificial common currency (the Purchasing Power Standard, PPS), eliminating the effect of price level differences across countries. The use of PPPs allows measuring the differences in the actual volume of the economy.</li> <li>• For the calculation of PPS in the Eurostat dataset selected for this indicator, PPP for GDP has been used. Another commonly used measure for PPP is PPP for Actual Individual Consumption (AIC).</li> <li>• Health care provision is not adequately reflected in the standard basket of goods, which is currently used to calculate PPPs. Eurostat and OECD are involved in a project aimed at developing specific health care PPPs.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Eurostat, metadata on health care expenditure</a></li> <li>• <a href="#">System of Health Accounts (SHA): OECD SHA Manual, 2011 edition</a></li> <li>• <a href="#">Eurostat, GDP metadata</a></li> <li>• <a href="#">Eurostat, metadata on Purchasing power parities</a></li> <li>• <a href="#">Eurostat database, Expenditure of selected health care functions by financing agents in health care, in percentage</a></li> <li>• <a href="#">Eurostat database, Expenditure of selected health care functions by financing agents in health care, in millions</a></li> <li>• <a href="#">OMC, indicators of the health and long-term care strand, Eurostat website</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Discuss with Member States, in which health care expenditure is organized autonomously at regional level, whether it would be preferable/possible for them to provide data for this indicator at regional level.</li> <li>• Discuss with (Extended) Core Group (or comparable body, if (E)CG is no longer maintained after the Joint Action for ECHIM) the addition of an additional operationalization to this indicator; expenditure per capita. This was a proposal by France during the last ECG meeting of the Joint Action in March 2012. ECG members however felt that it was better not to make substantial changes to the indicators this shortly before the ending of the Joint Action.</li> </ul>

## 77.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
42201	Health services	77. Expenditures on health care	Eurostat	Total health care expenditure as % of GDP, all financing agents.
42202				Total health care expenditure as % of GDP, general government (HF1).
42203				Total health care expenditure as % of GDP, private sector (HF2).
42204				Total health care expenditure, in millions of Purchasing Power Standard, all financing agents.
42205				Total health care expenditure, in millions of Purchasing Power Standard, general government (HF1).
42206				Total health care expenditure, in millions of Purchasing Power Standard, private sector (HF2).
42207				Current health care expenditure as % of GDP, all financing agents.
42208				Current health care expenditure as % of GDP, general government (HF1).
42209				Current health care expenditure as % of GDP, private sector (HF2).
42210				Current health care expenditure, in millions of Purchasing Power Standard, all financing agents.
42211				Current health care expenditure, in millions of Purchasing Power Standard, general government (HF1).
42212				Current health care expenditure, in millions of Purchasing Power Standard, private sector (HF2).

## 77.3 Remarks on comparability

77. Expenditures on health
<p><b>Comparability between countries</b></p> <p>In order to improve the quality of international comparisons of data on health expenditure and its financing, the OECD developed the manual 'A System of Health Accounts' (OECD, 2000). This manual contains guidelines for reporting health expenditure according to an international standard. Since its publication in 2000 the guidelines have become widely accepted and implemented as the standard accounting framework for statistics on health expenditure and financing. In 2005 OECD, Eurostat and WHO established a joint data collection based on those guidelines, with an annual Joint Questionnaire (JQ) ensuring comparable data since reference year 2003. The number of countries that submitted data following the JQ increased since then. By the end of 2011, 33 countries, of which 24 EU/EFTA countries, had submitted data following that JQ.</p> <p>In 2011, OECD published a new version of the System of Health Accounts (SHA), in cooperation with Eurostat and the WHO. The subsequent revision of the JQ will follow once pilot studies for some of the new concepts/variables will be successfully completed.</p>

In 2012 Eurostat launched the discussion of a draft Commission Regulation for implementing Regulation (EC) 1338/2008 with regards to health expenditure data. That implementing measure will be based on the JQ and will promote comparable data for all EU-27 for a set of major mandatory variables. 1) REGULATION (EC) No 1338/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on Community statistics on public health and health and safety at work, OJL 354, p. 70.

The ECHIM indicators current and total national health expenditure for public and private sectors combined as well as both sectors separately (as percentage of GDP and millions of PPS) are indicators on a rather high level; no subdivision into providers, functions or financing agents is needed. Therefore, comparability across countries is fairly good.

Although, at the moment, the majority of EU/EFTA countries submit data following the JQ based on the SHA guidelines, countries are at varying stages of implementing the SHA. Therefore, the data reported by Eurostat are at varying levels of comparability. In general, the following aspects may influence comparability:

- Health care data on expenditure are largely based on surveys and administrative (register) data sources in the countries. Therefore, they reflect the country-specific way of organising health care and may not always be completely comparable.
- Expenditure refers to the payments related to final consumption of all goods and services by the domestic population. In the majority of countries health care services provided to foreigners cannot be separated and are included in the domestic consumption.
- Total expenditure should include imports of health care, such as spending for health care abroad by residents when travelling abroad as tourists, or services provided abroad and financed by public or private third party payers. The import of services is only partly accounted for in several countries; whereas it is excluded in most countries.
- Some countries are unable to cover all providers of care. The inclusion of private providers seems particularly difficult. This is the case for occupational health services, financed by non-profit institutions and companies. Some countries are unable to cover all financing agents or all functions at the detailed level requested.
- In some countries, it is difficult to separate expenditures for health care and social care, so that total expenditures on health may include social service. Social service should be excluded according to the SHA manual.
- Additionally, a major factor limiting comparability is the different practice of estimating expenditure on long-term nursing care. The extent to which accommodation and social care for the elderly is included in the SHA under health expenditure, differs between countries.
- The boundaries between health care and health care-related items such as education and training of health personnel, environmental health, research and development, may be treated differently in different countries.
- For several countries data are in current expenditure terms instead of total expenditures. This means that expenditure on capital formation of health care providers is not included. It concerns for example investments on hospital buildings or ambulances, vaccinations kept in stock and acquirement of paintings or sculptures. In most countries the difference between the current and total expenditures is about 0.3-0.4%. The ECHIM indicator includes both the current and total expenditures. Due to comparability problems with data on expenditure on capital formation, Eurostat recommends to use total current expenditure only.

#### **Comparability over time**

Breaks in time series are frequent. These breaks are mostly due to changes in reporting systems and the implementation of the SHA. Also the switch from reporting based on national accounts estimates to reporting based on national health accounts estimates lead to breaks in time series. Breaks in series are flagged with a footnote in the Heidi Table Chart.

#### **General note on comparability with national data**

See textbox 4 in *chapter 2.4* of this report.

#### **References and further reading**

- OECD. A System of Health Accounts. Version 1.0. Paris: OECD, 2000
- OECD, Eurostat, WHO. A System of Health Accounts. 2011 Edition. Paris: OECD Publishing, 2011
- [System of Health Accounts website of the OECD](#) (with links at the bottom of the page to the 2000 and 2011 manuals)
- [Note on general comparability of Health Expenditure and Finance Data in OECD Health Data 2011](#)
- [Links to country-specific notes are included in the Annex of the Eurostat metadata](#)
- [Definitions, Sources and Methods on Health expenditure and financing in OECD Health Data 2011](#)
- [OECD report \(2004\) on the comparability of health expenditures in OECD countries](#)

## 78. SURVIVAL RATES CANCER

### 78.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b>  78. Survival rates cancer
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> </ul>
<i>Definition</i>	The relative survival rate for (10 different groups of) cancer; the proportion of patients who survive at least five years after diagnosis, after correction for background mortality.
<i>Calculation</i>	Relative survival rate is calculated as the observed rate of persons diagnosed with cancer surviving five years after diagnosis, divided by expected survival rate in the general population. Age-standardized 5-year relative survival rate is calculated for the following 10 cancer-groups: 1) all cancers combined without non-melanoma skin (ICD codes C00-C97), 2) trachea, bronchus or lung (C33-34), 3) breast (C50), 4) colorectal (C18-C21), 5) prostate (C61), 6) stomach, 7) melanoma, 8) cervical (C53), 9) leukaemias/lymphomas, 10) all childhood cancers (0-14).
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability),</li> <li>• Sex (when appropriate).</li> <li>• Age group (0-64, 65+)</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• National Cancer Registries (population based or regional/local).</li> </ul> <p>Preferred source:</p> <ul style="list-style-type: none"> <li>• EUROCARE –datasets.</li> </ul>
<i>Data availability</i>	EUROCARE has collected and analysed survival data on cases diagnosed between 1978 and 1984 (EUROCARE-1), 1985 and 1989 (EUROCARE-2), 1990 and 1994 (EUROCARE-3), and 1995 and 1999 (EUROCARE-4). EUROCARE-5 will include patients diagnosed between 2000 and 2007. EUROCARE is constantly updating and correcting their database. The current version of the EUROCARE-4 database has data available for 21 European countries (DK, FI, IS, NO, SE, IE, UK, AT, BE, FR, DE, NL, CH, IT, MT, PT, SK, SI, ES, CZ and PL; no data for BG, EE, GR, CY, LV, LT, LU, HU, RO, HR, MK and TR) on patients diagnosed over the period 1978–2002 with vital status information available up to 31st December 2003 or later. Age-standardized relative survival rate data is available by cancer site, population, sex, age, and period of follow-up. Data covers 45 major cancer sites (including the 10 groups covered by the indicator) as well as all cancers combined. Not all 10 groups are included in all of the publications, but the data exist. The ISARE project on regional data has not collected data on cancer survival.
<i>Data periodicity</i>	Annually (also see data availability).
<i>Rationale</i>	High burden diseases. Cancer survival is an indicator of the effectiveness of a country's health care system in the area of cancer screening, screening/early detection and treatment. The health care system can improve the survival of certain cancers through early detection and appropriate treatment. Monitoring of a larger array of important cancers is important for the overall effectiveness of the system, including prevention.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Problems of observed survival rate are due to the fact that not all deaths among cancer patients will be due to the primary cancer in question. To avoid this problem of comparability, relative survival rates are calculated.</li> <li>• In order to have survival data, Cancer Registries have to collect data on incident cases and follow them up for a given period from diagnosis. Cancer Registries publish incidence data with a delay of 2-5 years.</li> <li>• In some MSs the Cancer Registry covers the entire population, in others one or more Cancer Registries cover a fraction of the population. Methods for estimating cancer survival at national levels, where missing, are done by EUROCARE.</li> <li>• Routine data can be taken from IARC (The International Agency for Research on Cancer), but EUROCARE-database ensures better data comparability and best methods. Some cancer survival data is collected through IARC also for OECD Health Data and the Health Care Quality Indicators–project.</li> <li>• EUROCARE-databases are project databases, thus updates are subject to availability of funding for the project.</li> <li>• EUROCARE-5 project will update the existing EUROCARE data bank by including data of patients diagnosed up to 2007. Next update will be done in summer 2010.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">EUROCARE –project (EUROpean CAncer REgistry-based study on survival and CARE of cancer patients)</a></li> <li>• EUROOCARE 4 final report and data: a monograph of the journal the European Journal of Cancer: “Survival of cancer patients in Europe, 1995–2002: The EUROOCARE 4 study” (eds. Riccardo Capocaccia, Anna Gavin, Timo Hakulinen, Jean-Michel Lutz and Milena Sant). The European Journal of Cancer, volume 45, Issue 6, Pages 901-1094 (April 2009).</li> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> </ul>
<i>Work to do</i>	- Check in detail the availability of time trend data by the 10 groups of cancer in EUROOCARE data sets.

## 78.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
42301	Health services	78. Survival rates cancer	Eurocare	Relative survival rate for cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), all patients.
42302				Relative survival rate for cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), male patients.
42303				Relative survival rate for cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), female patients.
42304				Relative survival rate for cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), patients aged 0-64.
42305				Relative survival rate for cancers combined without non-melanoma skin cancer (ICD-10 C00-C97), patients aged 65+
42306				Relative survival rate for trachea, bronchus and lung cancer (ICD-10 C33-C34), all patients.
42307				Relative survival rate for trachea, bronchus and lung cancer (ICD-10 C33-C34), male patients.
42308				Relative survival rate for trachea, bronchus and lung cancer (ICD-10 C33-C34), female patients.
42309				Relative survival rate for trachea, bronchus and lung cancer (ICD-10 C33-C34), patients aged 0-64.
42310				Relative survival rate for trachea, bronchus and lung cancer (ICD-10 C33-C34), patients aged 65+.
42311				Relative survival rate for breast cancer (ICD-10 C50), all female patients.
42312				Relative survival rate for breast cancer (ICD-10 C50), female patients aged 0-64.
42313				Relative survival rate for breast cancer (ICD-10 C50), female patients aged 65+.
42314				Relative survival for colorectal cancer (ICD-10 C18-C21), all patients.
42315				Relative survival for colorectal cancer (ICD-10 C18-C21), male patients.
42316				Relative survival for colorectal cancer (ICD-10 C18-C21), female patients.
42317				Relative survival for colorectal cancer (ICD-10 C18-C21), patients aged 0-64.

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
42318				Relative survival for colorectal cancer (ICD-10 C18-C21), patients aged 65+.
42319				Relative survival for prostate cancer (ICD-10 C61), all male patients.
42320				Relative survival for prostate cancer (ICD-10 C61), male patients aged 0-64.
42321				Relative survival for prostate cancer (ICD-10 C61), male patients aged 65+.
42322				Relative survival for stomach cancer (ICD-10 C16), all patients.
42323				Relative survival for stomach cancer (ICD-10 C16), male patients.
42324				Relative survival for stomach cancer (ICD-10 C16), female patients.
42325				Relative survival for stomach cancer (ICD-10 C16), patients aged 0-64.
42326				Relative survival for stomach cancer (ICD-10 C16), patients aged 65+.
42327				Relative survival for melanoma (ICD-10 C43), all patients.
42328				Relative survival for melanoma (ICD-10 C43), male patients.
42329				Relative survival for melanoma (ICD-10 C43), female patients.
42330				Relative survival for melanoma (ICD-10 C43), patients aged 0-64.
42331				Relative survival for melanoma (ICD-10 C43), patients aged 65+.
42332				Relative survival for cervix cancer (ICD-10 C53), all female patients.
42333				Relative survival for cervix cancer (ICD-10 C53), female patients aged 0-64.
42334				Relative survival for cervix cancer (ICD-10 C53), female patients aged 65+.
42335				Relative survival for leukaemias and lymphomas (ICD-10 C81-C96), all patients.
42336				Relative survival for leukaemias and lymphomas (ICD-10 C81-C96), male patients.
42337				Relative survival for leukaemias and lymphomas (ICD-10 C81-C96), female patients.
42338				Relative survival for leukaemias and lymphomas (ICD-10 C81-C96), patients aged 0-64.
42339				Relative survival for leukaemias and lymphomas (ICD-10 C81-C96), patients aged 65+.
42340				Relative survival for all childhood cancers, patients aged 0-14.
42341				Relative survival for all childhood cancers, male patients aged 0-14.
42342				Relative survival for all childhood cancers, female patients aged 0-14.

**78. Survival rates cancer****Comparability between countries**

The EUROCARE project uses the same method of calculating survival rates for all countries. To account for differences in the age structure of the different populations, the rates are adjusted for age by the direct method by use of the international standard for cancer-survival analysis. Furthermore, relative survival rates are calculated to correct for background mortality. In order to calculate these relative survival rates, software packages were developed.

EUROCARE is based on data of cancer registries. In some Member States the cancer registry covers the entire population, in others one or more regional cancer registries cover variable proportions of the population. This can influence comparability between countries.

Difficulties in ascertaining the vital status of incident cases generally result in an overestimation of survival as deaths are missed. The completeness of follow-up between countries may differ, which influences comparability of survival rates (De Angeles et al., 2009; Autier & Boniol, 2011).

Comorbidity can decrease survival. Therefore, differences in the occurrence of comorbidity between countries, affect comparability of survival rates between countries. Because several diseases and some types of cancer have common risk factors, the occurrence of comorbidity is not uncommon (De Vries et al., 2010).

The survival rates are not adjusted for cancer stage at diagnosis. Countries with a different distribution of stages, will have different unadjusted survival rates, even if their stage-specific survival rates do not differ (Welch et al., 2000; Autier & Boniol, 2011).

Survival rates are affected by the extent to which screening takes place in a country. By screening, cases will be detected at an earlier stage and consequently, the survival seems to be improved. In addition, by screening cases will be detected which would never have evolved into a symptomatic cancer. These cases have a good prognosis. Both effects appear to improve survival, whereas real improvement (adding years to life) is not necessarily the case.

Other factors that can affect survival rates, and hence comparability, are the use of different definitions, use of different inclusion and exclusion criteria, use of different classification systems, and differences in the quality of the cancer registries (Welch et al., 2000; Autier & Boniol, 2011).

**Comparability over time**

Factors that influence comparability between countries, can also affect comparability over time. Especially comparing survival rates can be hampered if the distribution of cancer stages changes within countries over the years (Welch et al., 2000; Autier & Boniol, 2011). This can be the case after the introduction of screening programmes or when case-finding is intensified.

**General note on comparability with national data**

See textbox 4 in *chapter 2.4* of this report.

**References and further reading**

- [Cancer on DG SANCO website](#)
- [Metadata](#) and [protocols](#) on website of the EUROCARE project

**Literature:**

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## 79. 30-DAY IN-HOSPITAL CASE-FATALITY OF AMI AND STROKE

### 79.1. Documentation sheet

<i>ECHIM</i> <i>Indicator name</i>	<b>D) Health interventions: health services</b> 79. 30-day in-hospital case-fatality of AMI and ischemic stroke
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> </ul>
<i>Definition</i>	OECD indicator: admission-based AMI and ischemic stroke 30 day in-hospital (same hospital) mortality rate. This indicator is defined as the age-sex standardised percentage of people aged 45+ who die within 30 days of being admitted to a hospital in a specified year with principal diagnosis of: a) acute myocardial infarction (AMI) or b) ischemic stroke.
<i>Calculation</i>	Numerator: the number of deaths in the same hospital that occurred within 30 days of hospital admission with a principal diagnosis of AMI / ischemic stroke in a specified year. Denominator: the number of patients admitted to a hospital with a principal diagnosis of AMI / ischemic stroke in a specified year, including same day admissions. AMI diagnostic codes: ICD-10: I21, I22; ICD-9: 410. Ischemic stroke diagnostic codes: ICD-10: I63-I64; ICD-9: 433, 434, 436. The indicator is age-sex standardised according to 2005 OECD population (45+). Therefore 5-year age specific numerators and denominators are needed, separate for men and women: 45-49, 50-54, ..., 85+.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Sex</li> </ul>
<i>Preferred data type and data source</i>	<p>Preferred data type:</p> <ul style="list-style-type: none"> <li>• National hospital discharge records and hospital registers.</li> </ul> <p>Preferred data source:</p> <ul style="list-style-type: none"> <li>• OECD Health Care Quality Indicators Data.</li> </ul>
<i>Data availability</i>	The 2011 Health at a Glance report (see references) presents 2009 data for 19 European countries (Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom. N.B.: for Portugal and Switzerland data from 2008 are presented, for Belgium, the Netherlands and Sweden from 2007). Age-sex standardized rates for both case fatality among patients with AMI and ischemic stroke are available for 2000, 2005 and 2009 (or nearest year) for 11 European countries.
<i>Data periodicity</i>	Biannually.
<i>Rationale</i>	AMI and ischemic stroke are important causes of death in European countries. Also the burden of disease and health care costs are considerable. Adequate and timely treatment can improve survival. This indicator measures the quality of the treatment of acute exacerbations of chronic cardiovascular diseases in hospitals.



<i>Remarks</i>	<ul style="list-style-type: none"> <li>• This indicator is measured within the framework of the OECD Health Care Quality Indicators project.</li> <li>• OECD also collects data on case-fatality of hemorrhagic stroke. ECHIM chooses to focus on ischemic stroke for the following reasons: ischemic stroke represents 85% of all strokes, and moreover there is ample evidence that there is a relationship between quality of care and mortality due to ischemic stroke. For hemorrhagic stroke this relationship is less obvious, though there seems to be a correlation between case-fatality rates for ischemic and hemorrhagic stroke; that is, countries that achieve better survival for one type of stroke tend to also do well for the other type. Given the initial steps of care for stroke patients are similar this suggests that systems-based factors play a role in explaining the differences across by countries.</li> <li>• The principal diagnosis refers to the diagnosis that is finally established as (1) responsible for causing the hospitalisation or (2) the main reason for the hospital stay. Countries are given the opportunity to choose the data source which is most readily available in their context (admission or discharge databases).</li> <li>• OECD remarks that for comparability reasons, until the majority of countries is able to calculate the true 30-day case-fatality rate (so including both in-hospital deaths and death occurring outside of the hospital), 30-day in-hospital mortality is reported for all countries.</li> <li>• Ideally, rates would be based on individual patients. However, not all countries have the ability to track patients in and out of hospital, across hospitals or even within the same hospital because they do not currently use a unique patient identifier. Therefore, this indicator is based on individual hospital admissions and restricted to mortality within the same hospital. Now it is possible that patients are counted more than once (in case the patient is transferred to another hospital or the patient has several admissions for the same diagnosis within 30 days after the first admission).</li> <li>• This indicator is based on hospital discharge data only. Consequently, death that takes place before the patient reaches the hospital or on arrival in the hospital is not included in the indicator. Therefore, early recognition by patients themselves or by-standers, emergency retrieval times and quality of the emergency services may have an effect on case-fatality. For example, rigorous treatment of patients by the emergency services leads to more patients reach the hospital alive but part of them can ultimately not be stabilized and die within hours of admission.</li> <li>• If the case-fatality rates are age-standardised to the general 2005 OECD population, one gets total rates that are much lower than the crude rates, because the age distribution of the general population is very different from that of the diseased population. Using a standard population with a distribution approaching the diseased population leads to standardised rates that are closer to the crude rates. Within the OECD HCQI project truncation is used, at which only age categories of 45 years or older are included in the calculation of the standardized rates. This has a comparable effect as when using a diseased population as standard.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">OECD Health Care Quality Indicators project</a></li> <li>• <a href="#">Health Care Quality Indicators Project - Initial Indicators Report” (OECD Health Working Papers (no. 22/2006)</a></li> <li>• <a href="#">Health at a Glance reports, including link to the data for the 2011 report (Excel sheets)</a></li> <li>• <a href="#">The methodology applied to calculate the direct age and/or sex standardised rates and confidence intervals for the set of OECD HCQI indicators was derived from the “Statistical Notes No. 6: Direct Standardization (Age-Adjusted Death Rates) March 1995” from the Centers for Disease Control and Prevention/National Center for Health Statistics</a></li> <li>• <a href="#">For countries participating in ECHI that are not a member of OECD, a data collection sheet in which the age-standardization calculation is incorporated is published at together with this documentation sheet.</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor developments OECD Health Care Quality Indicators; consider adapting indicator definition once adequate data for measuring in and out of hospital case fatality are available and/or once adequate data for measuring patient-based rather than admission-based indicators are available.</li> </ul>

## 79.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
42401	Health services	79. 30-day in-hospital case-fatality AMI and stroke	OECD	Proportion of hospital in-patients with primary diagnosis of stroke who died within 30 days after the admission.
42402				Proportion of hospital in-patients with primary diagnosis of stroke who died within 30 days after the admission.

### 79. 30-day in-hospital case-fatality of AMI and stroke

#### Comparability between countries

The indicator is calculated on the basis of an extensive manual of the OECD Health Care Quality Indicators (HCQI) project team, with detailed calculation rules. Representatives of Member States have regular meetings about the data collection and the OECD HCQI project team is open for questions concerning the indicator calculations. This could have contributed to the comparability of the data.

Data from all countries that participate in the OECD HCQI project come from hospital registries, which contributes to comparability between countries. Differences in age and sex distribution of the admitted patients were removed by age-sex standardisation, performed by the OECD.

However, differences can arise from differences in the design of hospital registries, the use of different classification systems (ICD-9, ICD-10 (with different adaptations), Diagnose Related Groups system), differences in coding practices and coding standards, differences in financial incentives for using specific codes or events, and the composition of the population (e.g. socioeconomic status, ethnicity). With regard to coding practices, it is an advantage that for this indicator only principal diagnoses are used, because secondary diagnoses are more sensitive to coding practices.

Comparability can also be affected if a country's indicator calculation is based on a sample of hospitals, especially if the hospitals in the sample are not representative for all hospitals in the country. For this indicator, some countries limited their data to public hospitals (excluding private hospitals). In other countries only a part of the hospitals were able to supply a complete dataset.

The indicator 30-day in-hospital case-fatality rate addresses the quality of hospital care. However, also other health care characteristics can have an influence on this indicator. Examples are: the number of hospital transfers, average length of stay in a hospital, the rapidity of general practitioners to respond to patient's calls, ambulance response times and adequacy to stabilise the patient, and patient risk profiles. Differences in these characteristics between countries can result in differences in indicator outcomes. Explanations of some factors:

- Countries which have high rates of hospital transfers (e.g. because after acute treatment in a tertiary hospital the patient is transferred to a hospital in the area of residence) may have a low case fatality rate, because every transferred patient will be recorded as discharged alive.
- Countries in which the length of stay in the hospital is short may have a low case fatality rate, because in the shorter time interval the risk of dying in hospital is smaller, whereas the risk of dying outside the hospital is increased. This confounding factor disappears if countries calculate 30-day case-fatality rates, based on mortality in any setting (same hospital, other hospital, other institution, and in the community (e.g. at home)). However, to calculate this indicator unique patient identifiers are required. Until further notice, ECHIM presents the 30-day in-hospital case-fatality rates.
- In countries in which the accessibility of general practitioners is good, the ambulance response times are small, and the ambulance teams are highly qualified, the case fatality may be increased, because more patients reach a hospital alive but die within hours after admission.
- In countries in which admitted patients are more severely affected, or have more comorbidities, the case fatality may be increased.

#### Comparability over time

For the OECD Member States that have produced rates for several years (2003, 2005 and 2007) it is not clear whether the Member States used exactly the same calculation method each year.

Over time, hospital registries may have undergone changes, other classification systems may have been introduced, coding practices and standards may have changed, and the method of calculation of the indicator may have changed. Also changes in the health care system and health care processes can have an influence on the rates. For example, in several countries the length of stay in the hospital has decreased. This may have caused a decrease in the in-hospital case-fatality rate.

#### General note on comparability with national data

See textbox 4 in [chapter 2.4](#) of this report.

#### References and further reading

- [Information on healthcare quality indicators on DG SANCO website](#)
- [Information on the OECD HCQI project](#)
- For OECD Member States which participate in the HCQI project, indicators are published every two years in 'Health at a Glance'

## 80. EQUITY OF ACCESS TO HEALTH CARE SERVICES

### 80.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 80. Equity of access to health care services
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Sustainable health systems</li> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	Index of self-declared unmet need for health care services. Defined as the total self-reported unmet need for medical care (medical examination or treatment) for the following three reasons: financial barriers + waiting times + too far to travel.
<i>Calculation</i>	% of people who reported that at least once in the previous 12 months they felt they needed medical care and did not receive it either because a) it was too expensive, b) they had to wait or c) it was too far away. Age standardisation: see remarks.
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> <li>• Region (according to ISARE recommendations; see data availability)</li> <li>• Sex</li> <li>• Age group (18-64, 65 and over)</li> <li>• Socio-economic status (educational level. See remarks)</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: <ul style="list-style-type: none"> <li>• Survey</li> </ul> Preferred source: <ul style="list-style-type: none"> <li>• Eurostat, European Statistics of Income and Living Condition (EU-SILC)</li> </ul>
<i>Data availability</i>	For 2004 data are available for 25 MS and for Iceland and Norway. Bulgaria and Romania launched SILC in 2007. Data are available by sex and age. For the availability of data by socio-economic status; see remarks. As SILC data are based on national surveys, no regional data are available. The ISARE project on regional data has not collected data on unmet needs for health care services.
<i>Data periodicity</i>	Data updated annually.
<i>Rationale</i>	The self-reported unmet need for medical examination or treatment is an indicator for equity of access to health care services. It gives insight into the need for medical care and the obstacles that stand in the way of the actual use of health care services. As such it can provide useful information on how to overcome the obstacles for use and improve health. The underlying assumption is that the self-reported unmet need corresponds with the actual need for medical care.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• The EU-SILC based indicator self-reported unmet need for medical care, applying the same definition as ECHIM, is also one of the indicators of the health and long term care strand of the Open Method of Coordination on Social Inclusion and Social Protection (OMC). Self-reported unmet need for medical examination or treatment by income quintile is also one of the EU Sustainable Development Indicators, though the definition for this indicator is somewhat broader; reasons include problems of access (could not afford to, waiting list, too far to travel) and other reasons (could not take time, fear, wanted to wait and see, didn't know any good doctor or specialist, other). These other reasons are also asked for in EU-SILC, and the data for these other reasons are also published by Eurostat.</li> <li>• There may be comparability issues due to cultural differences between countries.</li> <li>• Comparability of the results is also limited since the implementation of the health questions in SILC is not fully harmonised. New guidelines were provided by Eurostat in 2007.</li> <li>• The Eurostat EU-SILC data on unmet need for health services appear not to be age standardised. ECHIM would prefer age standardised data, as this will improve comparability between countries.</li> <li>• Eurostat published data on unmet need for health care by income (quintile distribution of the disposable income of the household). However, income is not a good proxy for SES in international comparisons. It would be better to use educational level as proxy. Information on educational level (ISCED) is collected in SILC, though currently not published by Eurostat. ECHIM recommends calculating unmet needs by educational level using SILC data according to the 4 aggregated ISCED groups recommended for indicator 6 Population by education. However; see the documentation sheet for indicator 6 on limitations SILC for measuring educational level.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Health Indicators in the European Regions (ISARE) project</a></li> <li>• <a href="#">Eurostat, People with unmet needs for medical examination by sex, age, reason and income quintile (%)</a></li> <li>• <a href="#">Metadata Health care: indicators from the SILC survey (from 2004 onwards)</a></li> <li>• <a href="#">OMC, indicators of the health and long term care strand, Eurostat website</a></li> <li>• <a href="#">EU Sustainable Development Indicators, Eurostat website</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Discuss with Eurostat possibilities for age standardisation of the data.</li> <li>• Discuss with Eurostat possibilities for providing data disaggregated by educational level.</li> <li>• Explore possibilities for/usefulness of adding other reasons for unmet need to the definition, e.g. refusal of employer to give employee permission to visit a health provider.</li> <li>• Discuss with (Extended) Core Group (or comparable body, if (E)CG is no longer maintained after the Joint Action for ECHIM) the addition of an additional operationalization to this indicator; unmet needs for dental services. This was a proposal by France during the last ECG meeting of the Joint Action in March 2012. ECG members however felt that it was better not to make substantial changes to the indicators this shortly before the ending of the Joint Action. Moreover, though data are readily available from EU-SILC, before adding this operationalization to the shortlist, it needs to be assessed whether these data are adequately comparable between countries.</li> </ul>

## 80.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
42501	Health services	80. Equity of access to health care services	Eurostat (EU-SILC)	Proportion of persons with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.
42502				Proportion of men with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.
42503				Proportion of women with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.
42504				Proportion of people 18-64 with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.
42505				Proportion of people 65+ with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.
42506				Proportion of persons people whose highest completed level of education is ISCED class 0 or 1, with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.
42507				Proportion of persons people whose highest completed level of education is ISCED class 2, with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.
42508				Proportion of persons people whose highest completed level of education is ISCED class 3 or 4, with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.
42509				Proportion of persons people whose highest completed level of education is ISCED class 5 or 6, with self-declared unmet needs for health care services due to either financial barriers, waiting times or traveling distances.

## 80. Equity of access to health care services

### Comparability between countries

Although Member states are urged to use standardized questionnaires for obtaining data on equity of access to health care services, harmonization and therefore comparability is not optimal. Since 2004 the data on equity of access are provided by the question on unmet need for medical examination or treatment from the EU-SILC (EU- Statistics on Income and Living Condition). EU-SILC aims ensuring standardisation at different levels through the use of common definitions, recommendations for design and sample size and common requirements for sampling. Furthermore, specific fieldwork aspects are also controlled for, e.g. follow up rules of individuals and households in case of refusals and non-contact. At the same time flexibility is a key aspect, to allow country's specificities to be taken into account in order to maximise quality of data.

The EU-SILC survey contains a small module on health, including 4 questions on unmet needs of health care. However, between 2004 and 2008 the implementation of the health questions in the different SILC questionnaires in national languages was not yet fully harmonised which limits the comparability of the results.

The main problems with the question on unmet needs were:

The term "really" (needed) is not always translated in national SILC answer categories. This means that needs not actually necessary but not satisfied for any reason can be reported (contrary to Eurostat recommendation to ensure that only serious needs are taken into account). This is in particular the case for Germany.

In some countries, the question is limited only to specialists, while it should cover the medical examination/treatment by all medical doctors.

Furthermore, in some countries the questionnaire explicitly mentions treatment 'by a medical doctor' while in others this is not explicitly mentioned. In the latter unmet need for treatment provided by other health professionals (e.g. nurse practitioner) is also included. New guidelines for the health questions in EU-SILC were provided by Eurostat in October 2007 to the Member States, in order to improve the data comparability for the coming years. The health questions used in SILC have benefited from this from 2008 onwards. Furthermore, a data translation protocol has been elaborated in order to check data comparability in all languages.

In addition to problems with question standardization, the comparability of the data across countries might be limited due to cultural differences between countries. Respondents from different countries may not only have different reference levels of what constitutes a medical exam or treatment, but due to differences in habitual language use, response categories may also have different connotations (Sen, 2002, Börsch-Supan et al., 2005). Because of these differences the question on unmet needs might be interpreted differently from a country to another one.

Furthermore, the institutionalized population is excluded from the EU-SILC study sample. Differences between countries in the proportion of institutionalized people could influence the comparability, because the percentage of people reporting unmet need might be different between institutionalized people and people living in private households.

Finally, Eurostat currently does not age-standardize EU-SILC data. This also limits comparability between countries.

### Comparability over time

No information on comparability over time is available in the metadata. However, the improvements in comparability between countries might cause some breaks in trend for individual countries.

### General note on comparability with national data

See textbox 4 in *chapter 2.4* of this report.

### References and further reading

- [See Eurostat metadata Health care: indicators from the SILC survey \(last update 11 April 2012\)](#)
- [Eurostat 2008. Note on the harmonisation of SILC and EHIS questions on health](#)
- [Eurostat: SILC variables on health care](#)
- [EU-SILC National questionnaires](#)
- Börsch-Supan A, Hank K, Jürges H. A new comprehensive and international view on ageing: Introducing the 'Survey of Health, Ageing and Retirement in Europe'. *European Journal of Ageing*, 2005; 2: 245-253.
- Sen A. Health: perception versus observation. *BMJ*. 2002 Apr 13;324(7342):860-1.

## 81. WAITING TIMES FOR ELECTIVE SURGERIES

### 81.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 81. Waiting times for elective surgeries
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• (Planning of) health care resources</li> </ul>
<i>Definition</i>	Average inpatient waiting time for elective (i.e. non-urgent) surgeries of Percutaneous Transluminal Coronary Angioplasty (PTCA), hip replacement and cataract operation, measured in number of days. Elective surgery is defined as when surgery is necessary, but the timing of the procedure can be scheduled and the patient can be sent home.
<i>Key issues and problems</i>	<p>Topic needs much development. The keys issues are:</p> <ol style="list-style-type: none"> <li>1) Are the 3 procedures currently selected OK and enough? The three procedures were originally selected as examples from those that have best data availability at OECD, and as being similar to the ones measured under the ECHI indicator 73. Surgeries: PTCA, hip, cataract.</li> <li>2) There is a choice between concepts of “waiting times of the patients admitted” and “waiting times of the patients on the list at a census date”. Member States measure waiting times in very different ways. The most important distinction is between the ‘waiting times of the patients admitted’ (i.e. recording waiting of all patients at the time of admission for treatment) and the ‘waiting times of the patients on the list at a census date’ (i.e. taking a periodic census of patients on a list and recording waiting up to that date). We propose to take the first one.</li> <li>3) The measure of the length of waiting time, mean or median or both? Mean waiting times tend to be systematically higher than median waiting times. We propose to take the median.</li> <li>4) There is no regular/sustainable data collection for this indicator topic. Also OECD has not followed up on its earlier pilot data collections.</li> </ol>
<i>Preferred data type and data source</i>	<p>Preferred data type: National hospital data.</p> <p>Preferred data source: OECD Waiting-time-project, based on national hospital data.</p>
<i>Data availability</i>	Eurostat, WHO-HfA and OECD: No data available. OECD Waiting-time -project: Data available at most for six EU27 countries in year 2000 (DK, FI, NO, NL, SE, UK; plus Insalud of Spain). Data have not been collected for other years.
<i>Rationale</i>	Indicator for the accessibility of health care, with focus on elective interventions. Long waiting times can lead to deterioration in health, loss of effectiveness and extra costs. They generate dissatisfaction for the patients and among the general public
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• OECD Waiting-time -project recommends an indicator called “waiting times of the patients admitted” which is defined as “The time elapsed for a patient on the elective surgery waiting list from the date they were added to the waiting list to the date they were admitted to an inpatient or day-case surgical unit for the procedure (PTCA, hip replacement, cataract operation). Both mean and median times in days.</li> <li>• The procedures investigated in this project were: Hip replacement, Knee replacement, Cataract surgery, Varicose veins, Hysterectomy, Prostatectomy, Cholecystectomy, Inguinal and femoral hernia, CABG and PTCA.</li> <li>• However, data have not been updated since their initial publication in OECD Health Working Papers No 6 and 7 in 2003. And OECD have no immediate plan to introduce data collection on waiting times for selected elected surgeries as part of their regular (annual) data collection activities.</li> </ul>
<i>References</i>	<p>OECD Waiting-time-project, especially reports:</p> <ul style="list-style-type: none"> <li>• <a href="#">Jeremy Hurst and Luigi Siciliani. Tackling Excessive Waiting Times for Elective Surgery: A Comparison of Policies in Twelve OECD Countries. OECD Health Working Papers (2003)6</a></li> <li>• <a href="#">Luigi Siciliani and Jeremy Hurst. Explaining Waiting Times Variations for Elective Surgery across OECD Countries. OECD Health Working Papers (2003)7</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Monitor OECD with regards to the data availability and indicator definition and calculation.</li> </ul>

## 82. SURGICAL WOUND INFECTIONS

### 82.1 Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b>  82. Surgical wound infections
<i>Relevant policy areas</i>	- Health system performance, quality of care, efficiency of care, patient safety - Health threats, communicable diseases - Preventable health risks
<i>Definition</i>	To be developed (see key issues and problems)
<i>Key issues and problems</i>	<p>Several efforts by ECDC, OECD, WHO, SImPatIE project to define indicator and collect data. However, data availability and comparability is restricted and definitions vary:</p> <ol style="list-style-type: none"> <li>1) ECDC: <ol style="list-style-type: none"> <li>a) the cumulative incidence of surgical site infections (SSI): which is the crude percentage of operations resulting in a SSI,</li> <li>b) the incidence density, which is the number of SSI per 1,000 post-operative days at risk (i.e. without prior SSI) in the hospital. The incidence density is the preferred measure for the comparison of incidence between countries as it uses only observations during the hospital stay in both numerator and denominator, and comparisons are therefore less affected by variation in length of post-operative stay or intensity of case-finding post-discharge. However, the incidence density can only be calculated when the discharge date is known. Therefore, a third indicator was added in 2008: the cumulative incidence excluding postdischarge infections.</li> </ol> </li> <li>2) WHO: Average rate (in all hospitals) of inpatient surgical operations with postoperative surgical wound infection (i.e. with code for postoperative wound infections, ICD-9: 998.5 and ICD-10: T81.4) during the given calendar year, expressed as percentage of all surgical operations.</li> <li>3) Safety Improvement for Patients in Europe, SImPatIE recommendation: Percent of patients experiencing a wound infection (ICD-9 998.51 and 998.52; secondary diagnosis only) out of all hospitalised patients. (Indicator PSI 11: Wound Infection)</li> <li>4) OECD: Assessment by Patient Safety Panel-project: It is unlikely that standardized comparable data to support the indicator of Wound Infection are available consistently across OECD countries. Therefore OECD has given up about five years ago to try to collect data on the indicators surgical wound infections and catheter-related bloodstream infections. In the latter case, the remaining ambiguities in the definition (whether it should include or exclude inflammatory conditions) and more than 100-fold variation between the minimum and maximum values, make this indicator unfit for reporting purposes. In the recent years, OECD has focused their effort more specifically on postoperative sepsis: <ul style="list-style-type: none"> <li>- Numerator: Number of hospital discharges with a sepsis as a secondary diagnosis. The following ICD codes are included: <ul style="list-style-type: none"> <li>- ICD-9-CM: 038.* Septicaemia, 755.5* Septic shock, 998.0 Postoperative shock</li> <li>- ICD-10-WHO: A40.*-A41.* Septicaemia, R57.8 Other shock, T81.1 Procedure shock</li> <li>- Denominator: All elective surgical discharges of patients 15 years and older, excluding pre-existing sepsis or infection, immunocompromised state, MDC 14 (pregnancy, childbirth, and puerperium) and a short length of stay.</li> </ul> </li> </ul> <p>Data on postoperative sepsis were published in the Health at a Glance 2011 edition for Germany, Denmark, France, Sweden, Belgium, Spain, and Ireland, as well as for a number of non-EU countries (Israel, United States, New Zealand, Australia, Switzerland, and Canada).</p> <p>It is yet not clear whether one of the existing data collection initiatives can serve as an appropriate base for gathering in a sustainable way high quality, comparable data, with adequate EU coverage, which can be used by ECHIM in the future.</p> </li></ol>
<i>Preferred data type and data source</i>	<p>Preferred data type: Hospital (discharge) data</p> <p>Preferred data source: ?</p>

<i>Data availability</i>	<ul style="list-style-type: none"> <li>• ECDC collects data on surveillance of surgical site infections for 14 countries and for the following operation categories: CABG: coronary artery bypass graft; CHOL: cholecystectomy; COLO: colon surgery; CSEC: Caesarean section; HPRO: hip prosthesis; KPRO: knee prosthesis; LAM: laminectomy</li> <li>• In the ECDC annual epidemiological report the following figures are published: <ul style="list-style-type: none"> <li>- Trends in cumulative incidence of surgical site infections in Europe by category of surgical intervention, 2004–09</li> <li>- Trends in cumulative incidence of surgical site infections in hip prosthesis by country, 2004–09</li> </ul> </li> <li>• WHO-HfA has data for some countries, but for many countries data are from 1990s. Data are not truly comparable (different definitions, year of data varies, for example).</li> <li>• Assessment by SImPatIE-project: Data definitions, data quality, and availability vary across institutions and across Europe, which makes this indicator unsuitable for nation wide comparison or benchmarking under the current conditions.</li> <li>• OECD postoperative sepsis: This indicator will need further development in terms of data availability and comparability before it can be published in regular OECD publications such as “Health at a Glance”.</li> </ul>
<i>Rationale</i>	<p>Indicator for the safety of operative interventions. Wound infection can lead to re-operation and prolonged hospital stay, to increased morbidity and mortality for patients and to increased costs for the health care system. Amenable to interventions: the incidence of wound infection can be reduced by proper pre-, intra- and post-operative care, in particular strict hygiene.</p>
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• ECDC: Inter-country comparisons of SSI rates should be made with caution because at least part of the inter-country differences can be explained by several factors, for example: <ul style="list-style-type: none"> <li>- Differences in intensity of post-discharge surveillance methods</li> <li>- Differences in post-operative length of stay</li> <li>- Bias due to selection of hospitals with specific problems in countries with low participation in HAI-Net SSI (see references)</li> <li>- Differences in the mix of hospitals that participated each year.</li> <li>- Differences in patient case-mix and mix of types of intervention (some interventions have a higher intrinsic risk of infection)</li> <li>- Different interpretations of the same case definitions, resulting in different reported percentages of superficial infections</li> <li>- Organisational aspects such as mandatory participation with public disclosure of SSI indicators.</li> </ul> </li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Safety Improvement for Patients In Europe, SImPatIE</a></li> <li>• <a href="#">SImPaTIE project, documentation on indicator ‘Wound infection’</a></li> <li>• <a href="#">Successor project SImPaTIE = EUNetPas</a> (NB no focus on data collection; focus on best practice exchange)</li> <li>• <a href="#">OECD Health Care Quality Indicators (HCQI) project</a></li> <li>• <a href="#">OECD Work in Patient Safety</a></li> <li>• <a href="#">OECD, Health at a Glance 2011 report</a></li> <li>• <a href="#">IPSE (Improving Patient Safety in Europe), a network for the surveillance of healthcare-associated infections (HCAI) in Europe</a>. In July 2008, the coordination of IPSE was transferred to ECDC</li> <li>• <a href="#">The Healthcare-Associated Infections Surveillance Network (HAI-Net, coordinated by ECDC. The activities of HAI-Net are largely based on the activities of the former IPSE network.</a></li> <li>• <a href="#">European Centre for Disease Prevention and Control. Annual Epidemiological Report on Communicable Diseases in Europe 2009. Stockholm, European Centre for Disease Prevention and Control</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Solve key issues and problems; follow development existing data collections and discuss issues of availability and comparability with ECDC, WHO and OECD</li> <li>• Based on experiences OECD: discuss shifting focus indicator from surgical wound infections to postoperative sepsis</li> </ul>



## 83. CANCER TREATMENT DELAY

### 83.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 83. Cancer treatment delay
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, quality of care, efficiency of care, patient safety</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> </ul>
<i>Definition</i>	To be established, e.g. the average time (in days) between the date of first visit to general practitioner and the date of first treatment, by cancer site (breast, colon and rectal cancer). Time between incidence date and date of first treatment could also be an option.
<i>Key issues and problems</i>	<p>Topic needs much further development. The keys issues are:</p> <ol style="list-style-type: none"> <li>1) Is it appropriate to choose the following cancers: breast, colon and rectal cancer.</li> <li>2) Are first visit to general practitioner and first treatment the most appropriate starting and end points to measure treatment delay? For each cancer patient, five (six) dates in his/her patient history can be distinguished: 1) First visit to general practitioner, 2) First request for a clinical/hospital appointment, 3) First clinical/hospital appointment, 4) Date of definitive diagnosis, 5) Date of first treatment (surgery, systemic therapy or radiotherapy), And for colon and rectal cancers, also 6) Information on elective or emergency surgery. Based on EUROCHIP-2 outcomes, time between first GP visit and first treatment seems the best option. The EUROCHIP-3 project looked into the availability of data for an indicator based on the definition of time between incidence date and date of first treatment (see remarks).</li> <li>3) Data availability?</li> </ol>
<i>Preferred data type and data source</i>	<p>Preferred data type: Population-based national Cancer Registries</p> <p>Preferred data source: Not decided yet.</p>
<i>Data availability</i>	European Cancer Health Indicator Project, EUROCHIP-2: Pilot data available. EUROCHIP-3: survey carried out on data availability (no actual data collected).
<i>Rationale</i>	Indicator for the quality of cancer care. Indicators on cancer treatment quality are necessary to investigate the determinants of inequalities across Europe in terms of care. Explains part of the differences in cancer survival.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• EUROCHIP-2 has organizing pilot studies in 12 European countries to find out if it is possible to collect these indicators using CR as data source. The EUROCHIP Pilot Studies protocol is available in internet at the web-site: <a href="http://www.tumori.net/eurochip">www.tumori.net/eurochip</a>. The EUROCHIP-2 final report's Annex 3 includes the results of the pilot studies. According to the pilot study: in reference to indicator "Delay of cancer treatment", the "date of first visit to general practitioner" is the most available one of the 3 pre-diagnostic dates. Indicator based on this definition is collectable in some countries but it needs specific developments according to different national health systems to improve comparability. Thus, in order to collect the necessary data, some modifications in Cancer Register organisation might be necessary.</li> <li>• The EUROCHIP-3 project carried out a survey asking the Cancer Registries in Europe whether they have the necessary variables for calculating the indicator cancer treatment delay, using as definition the time between the incidence date and the date of first treatment. Incidence date according to ENCR rules: 'Date of first histological or cytological confirmation of this malignancy (with the exception of histology or cytology at autopsy). This date should be, in the following order:             <ol style="list-style-type: none"> <li>a) date when the specimen was taken (biopsy)</li> <li>b) date of receipt by the pathologist</li> <li>c) date of the pathology report'.</li> </ol>             It was found that N= 32 (37%) of the responding population based Cancer Registries in the EU collect the data that are needed to calculate the indicator cancer treatment delay according to this definition. It is not know however whether they actually calculate (and use) the indicator on a regular basis. The registries that do collect the necessary data are from Iceland, Ireland, Norway, Finland, Denmark, The Netherlands, Belgium, Slovakia, Slovenia, Romania, Croatia, and Estonia (N.B.: not all of these provide data at national level, however, some registries are regional). From the EUROCHIP-3 WP5 final report: 'Conclusion: The necessary variables to calculate "cancer treatment delay" were collected by 37% of the responding population based CRs. Limited access to data sources was mentioned as the most important reason for not collecting the first treatment date. However, we did not find a difference in the mean number of data sources used between population based CRs who did collect all the necessary data variables and those who did not.'</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">European Cancer Health Indicator Project, EUROCHIP</a></li> <li>• <a href="#">EUROCHIP-2. Final Scientific Report – Annex 03 – report of EUROCHIP-2 Pilot Studies, March 2008</a></li> <li>• <a href="#">EUROCHIP-2. European Cancer Health Indicator Project-II. The Action. FINAL SCIENTIFIC REPORT 31/03/2008</a></li> <li>• <a href="#">European Network of Cancer Registries (ENCR), Recommendations for coding Incidence Date (under downloads)</a></li> <li>• <a href="#">EUROCHIP-3, Work Package n° 5, Deliverable n° 3: Report on cancer registry indicators in various countries</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Discuss with EUROCHIP experts the outcomes of the EUROCHIP-3 study in more detail; is the definition as applied in EUROCHIP-3 the most feasible one, what are the pros and cons compared to other operationalizations?</li> <li>• Discuss with European Commission, WHO (IARC), ENCR and EUROCHIP experts possibilities for incorporating indicator on treatment delay in regular data collections.</li> <li>• Discuss with ECHIM Core Group (or comparable body, if Core Group will not be maintained after the ending of the Joint Action) whether, based on EUROCHIP-3 results, this indicator should be moved from the development to the work-in-progress section of the shortlist.</li> <li>• Discuss with ECHIM Core Group (or comparable body, if Core Group will not be maintained after the ending of the Joint Action) whether the indicator name should be changed into something more neutral, such as 'Waiting times for cancer treatment' (suggestion UK).</li> </ul>

## 84. DIABETES CONTROL

### 84.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>D) Health interventions: health services</b> 84. Diabetes control
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Healthy ageing, ageing population</li> <li>• Health inequalities (including accessibility of care)</li> <li>• Health system performance, Quality of care, Efficiency of care, patient safety</li> <li>• Non-Communicable diseases (NCD), chronic diseases</li> <li>• Preventable health risks</li> </ul>
<i>Definition</i>	Proportion of adult diabetics receiving appropriate care, in terms of regular retinal exams.
<i>Key issues and problems</i>	<p>Topic needs further development. The keys issues are:</p> <ol style="list-style-type: none"> <li>1) The present operationalisation of 'having an indicator on the quality of diabetes care' was chosen after OECD experience. We thus have a process indicator. Earlier options like diabetics tested for HbA1c, diabetics with poor glucose control, (major) amputations in diabetics, and stroke or myocardial infarction in diabetic population were not selected by OECD.</li> <li>2) What is the most appropriate data source type? Population based surveys (self-reports of diabetes diagnosis and most recent eye exam) are likely to capture diabetics who might not be regularly seeing a physician. However, there may be recall bias as respondents may not accurately be able to remember their last exam. Surveys at clinical sites or a review of patient records exclude diabetics who do not regularly seek medical care. Not many countries routinely survey diabetics, or include such detailed questions in general population surveys. Obtaining data from patient records can be burdensome. (OECD Health Care Quality Indicators project note)</li> <li>3) There is no regular/sustainable data collection for this indicator topic.</li> </ol>
<i>Preferred data type and data source</i>	<p>Preferred data type: Surveys at clinical sites. Review of patient records. Population based surveys.</p> <p>Preferred data source: Not decided yet.</p>
<i>Data availability</i>	<ul style="list-style-type: none"> <li>• Eurostat, WHO-HfA and OECD: No data available.</li> <li>• OECD Health Care Quality Indicators project: data on retinal exams in diabetics available in 7 MSs (FR, DE, IT, LV, SK, SE and UK) only for the years 1999 to 2005. Slightly different age ranges are used. In some countries no data by sex is available. Data sources differ (population surveys, patient records, clinical surveys). The first rounds of data collection have shown that the availability of comparable data on this indicator was very limited. Hence, it has now been excluded from the regular HCQI data collection.</li> </ul>

<i>Rationale</i>	Indicator for the quality of diabetes care. Nearly all patients who have type 1 diabetes for about 20 years will have evidence of diabetic retinopathy. Timely treatment and appropriate follow-up care can delay progression and eventual blindness.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• OECD set Health Care Quality Indicators (HCQI) has an indicator “Retinal exam in diabetics” defined as: proportion of diabetic patients (of all patients with type I or type II diabetes) aged 18-75 who received a dilated eye exam or evaluation of retinal photography by an ophthalmologist or optometrist in a given year out of all patients with diabetes (Type 1 and Type 2) aged 18-75 years.</li> <li>• Among a longer series of process as well as outcome indicators, this one (a process indicator) was selected by OECD as relatively feasible and reliable for international comparisons. OECD Health Care Quality Indicators project originally considered four indicators: i) Diabetics tested for HbA1c, ii) Diabetics with poor glucose control, iii) Retinal exams in diabetics and iv) Major amputations in diabetics. Due to an inadequate number of countries that collect the needed data, retinal exams in diabetics was chosen as the recommended indicator.</li> <li>• EU-co-funded project “EUropean Core Indicators in Diabetes” (EUCID) has among the secondary indicators (section “Ophthalmologic complications”) an indicator “% with fundus inspection in last 12 months” which is defined as percentage of diabetic population that had their eye fundus inspected in last 12 months. Data around year 2005 is available by age at least for DK, FI, FR, IE, NL, Scotland and England. (Some additional data exists also for Austria, Belgium and Germany.) The project has collected data on many other diabetes-related indicators too.</li> <li>• EU-co-funded project “EUropean Best Information through Regional Outcomes in Diabetes” (EUBIROD) aims to implement a sustainable European Diabetes Register through the coordination of existing national/regional frameworks and the systematic use of the BIRO technology. Since 2008, a total of 26 partners from 21 countries joined the Consortium. Finally, a pilot European Diabetes Report was automatically produced using the “BIRO system” to collect/analyse data for 2010 from nineteen countries (Italy, Austria, Scotland, Norway, Romania, Malta, Cyprus, Sweden, Hungary, Belgium, Ireland, Netherlands, Slovenia, Luxembourg, Poland, Germany, Croatia, Spain, Latvia). Results are quite detailed, including seventy-nine indicators stratified/risk-adjusted by major conditions type of diabetes, age, sex, duration of diabetes). Preliminary results show that almost all registries submitted data on the numbers of patients undergoing an eye exam in 2010. The current usability for ECHI is limited, however, as only for few of the participating countries the data can be considered nationally representative. Nevertheless, the aim of EUBIROD, which effectively was realized, was to deliver a tool that will enable the European Diabetes Register to operate and produce standardized national figures; when the system develops further in the future, usefulness for ECHI is expected to improve.</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">OECD Health Care Quality Indicators project</a></li> <li>• <a href="#">OECD Health Care Quality Indicators project data, please see the report: “Health Care Quality Indicators Project 2006 Data Collection Update Report”</a></li> <li>• <a href="#">EUropean Core Indicators in Diabetes, EUCID</a></li> <li>• <a href="#">EUCID data, please see: “Final report European Core Indicators in Diabetes project”</a></li> <li>• <a href="#">EUropean Best Information through Regional Outcomes in Diabetes, EUBIROD</a></li> <li>• <a href="#">Description of the registers participating in the EUBIROD</a></li> <li>• <a href="#">European Union Health Surveys Information Database, EUHSID</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Needs further development</li> <li>• Monitor OECD, EUCID and follow up EUBIROD with regards to indicator development and data availability/geographical coverage</li> <li>• Monitor also EHES developments with regards to data from health examination surveys.</li> </ul>

## 85. POLICIES ON ETS EXPOSURE (ENVIRONMENTAL TOBACCO SMOKE)

### 85.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>E) Health interventions: health promotion</b> 85. Policies on Environmental Tobacco Smoke (ETS) exposure
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Environmental health</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	The indicator is a composite index summarizing regulations implemented by health (and other) authorities on smoking restrictions in specified (public) domains.
<i>Calculation</i>	<p>The index is based on data in the WHO tobacco control database. It is computed as the sum of scores of the following seven components:</p> <ol style="list-style-type: none"> <li>1) smoking restrictions in health care facilities</li> <li>2) smoking restrictions in education facilities</li> <li>3) smoking restrictions in government facilities</li> <li>4) smoking restrictions in bars/restaurants</li> <li>5) smoking restrictions in indoor workplaces and offices</li> <li>6) smoking restrictions in theatres and cinemas</li> <li>7) smoking restrictions in public transport (7 items, including bus, taxi, train, domestic air, international air, domestic water, international water)</li> </ol> <p>For each component the data allow three levels of scoring:  0- no restriction or prohibition  1- partial restriction, or voluntary agreement  2- complete ban or prohibition</p> <p>Components 1-3 and 5-6 are given as such in the database.  For components 4 and 7, a combination is made, respectively, from separate scores for bars and restaurants, and from the seven types of public transport recorded separately.  For component 4: 00 and 01 count as 0; 11, 20 and 21 count as 1; 22 count as 2.  For component 7: each subcategory is scored 0-2; compute the sum and subtract the subcategory which is not relevant for the country (e.g. int. water for inland countries); divide the sum by the number of remaining subcategories; round to the nearest integer.  In this manner the total score ranges between 0 and 14.</p>
<i>Relevant dimensions and subgroups</i>	<ul style="list-style-type: none"> <li>• Calendar year</li> <li>• Country</li> </ul>
<i>Preferred data type and data source</i>	Preferred data type: information from national governments Preferred source: WHO-Euro tobacco control database.
<i>Data availability</i>	Data availability for this indicator in the different EU Member States will be mapped in detailed availability overviews and published on this website in due time.
<i>Data periodicity</i>	See work to do-section.
<i>Rationale</i>	Indicator provides a good index with respect to actual measures aimed at creating smoke free areas. Such policies contribute to lowering ETS exposures and thus lowering health risks.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• By its basic definition and calculation method, the indicator is similar to indicator 3.7 in the ENHIS (European Environment and Health Information System): 'Policies to reduce the exposure of children to ETS'.</li> <li>• However, the ENHIS indicator is intended to focus on children. This is expressed by the choice in ENHIS to leave out the workplace (above numbers 3 and 5) as relevant domain and to include the sales to minors. The ECHIM indicator is meant to be broader but to include the relevance for children. Therefore, ECHIM has included the two workplace domains (3 and 5) into the index. On the other hand, ECHIM has excluded the advertisement and sales components, thus restricting the indicator to domains of smoking restrictions.</li> <li>• Besides this, the clear intention is to coordinate the work with ENHIS as a specialized agency in the area, and to coordinate the update calculations. The concept of the indicator is based on the ECOEHIS project.</li> <li>• For data presentation, see the website <a href="http://www.ENHIS.org">www.ENHIS.org</a>. Updates are regularly provided by the WHO European Centre for Environment and Health in Bonn.</li> <li>• A problem in the indicator's interpretation may be that the existence of similar formal measures in different countries may not imply similar levels of enforcement in practice.</li> </ul>

<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">Environment and Health Indicators for European Union Countries, ECOEHIS project</a></li> <li>• <a href="#">ECOEHIS Final Report</a></li> <li>• <a href="#">WHO-Europe, Tobacco control database</a></li> <li>• <a href="#">WHO-Europe, Air quality and health</a></li> <li>• <a href="#">ENHIS</a></li> <li>• <a href="#">Policies to reduce exposure to environmental tobacco smoke in Europe. Report on a WHO Working Group Meeting Lisbon, Portugal, 29–30 May 2000</a></li> <li>• <a href="#">The Comprehensive Database of Health Promotion Policies, Infrastructures and Practices, HP-Source</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Add details on periodicity and quality of information which MS report to WHO-Euro tobacco control database</li> </ul>

## 85.2. Operational indicators

ID	Sub-division	Indicator name	Data source	Operational indicator(s)
50101	Health promotion	85. Policies on ETS exposure (Environmental Tobacco Smoke)	WHO -Euro tobacco control database	Composite measure reflecting level of implementation by (health) authorities of regulations on smoking restrictions in specified (public) domains.

## 85.3. Remarks on comparability

85. Policies on Environmental Tobacco Smoke (ETS) exposure
<p><b>Comparability between countries</b></p> <p>The indicator is a composite index based on data in the WHO tobacco control database. The WHO-Europe tobacco control database contains data on smoking prevalence and various aspects of tobacco control policies grouped in six thematic sections. The present indicator uses information on “Smoke free areas” and “Smoke free public transport” from the section “legislation”. This section is based on texts of national legislation.</p> <p>The indicator provides a general measure of the extent to which countries have taken policy measures to reduce environmental tobacco smoke exposure. An increase in the score gives an indication that countries have developed more comprehensive policies, a reduction the reverse. The indicator should be interpreted with caution because the existence of similar formal measures (legislation) in different countries does not necessarily imply similar levels of enforcement in practice. In addition, voluntary agreement (score 1) could be more effective in reducing ETS exposure than formal bans (score 2). The extent to which ETS exposure actually decreases cannot be assessed with the indicator.</p> <p>Furthermore, the final score is the sum of many different components. Therefore, for drawing conclusions and explaining the differences between countries, it is equally important to examine the separate indicator components.</p> <p><b>Comparability over time</b></p> <p>Information on breaks in trends is not applicable. The policy and legislative information needs to be regularly updated in order to reflect the current situation.</p> <p><b>General note on comparability with national data</b></p> <p>See textbox 4 in <a href="#">chapter 2.4</a> of this report.</p> <p><b>References and further reading</b></p> <ul style="list-style-type: none"> <li>• <a href="#">WHO tobacco control database</a></li> <li>• <a href="#">Environment and Health Information System (ENHIS)</a></li> <li>• <a href="#">ECOEHIS project final report</a></li> <li>• <a href="#">ENHIS final technical report</a></li> </ul>

## 86. POLICIES ON HEALTHY NUTRITION

### 86.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>E) Health interventions: health promotion</b> 86. Policies on healthy nutrition
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Child health (including young adults)</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	A composite index of laws, regulations and good practices on promoting healthier nutrition.
<i>Key issues and problems</i>	<p>Topic needs much further development. The keys issues are:</p> <ol style="list-style-type: none"> <li>1) At the moment there is no satisfactory proposal for indicator definition, calculation and data sources.</li> <li>2) This indicator should expand beyond “campaigns on healthy lifestyles” to include all aspects of health promotion policy at national, regional and local level, including indicators on policy formulation, implementation, infrastructure development, campaigns and programme sand their evaluation, and funding and workforce development.</li> </ol>
<i>Preferred data type and data source</i>	<p>Preferred data type: Policy documents and comparable. Possibly some information can be obtained by interviews.</p> <p>Preferred data source: Not decided yet.</p>
<i>Data availability</i>	Eurostat, WHO-HfA and OECD: No data available.
<i>Rationale</i>	Such policies contribute to healthier nutrition and thus lowering of health risks. An important area of activities in health promotion, thus indicators for monitoring these activities should be developed.
<i>Remarks</i>	<ul style="list-style-type: none"> <li>• Could an indicator/index be constructed from WHO-Europe publications and/or data? WHO-Europe has a programme/project “<u>Nutrition and food security</u>” which has a section “Nutrition policy“. They have many publications on nutrition policies, for example: “<u>Comparative analysis of nutrition policies in the WHO European Region</u>” (from may 2006).</li> </ul>
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">WHO-Europe, Nutrition policy database</a></li> <li>• <a href="#">The European Health Promotion Indicators Development, EUHPID (2002-2004): Davies, J.K., Bauer, G. and Pelikan, J. (2006) The EUPHID Health Development Model for the classification of public health indicators. Health Promotion International, 21 (2). pp. 153-159</a></li> <li>• <a href="#">The Comprehensive Database of Health Promotion Policies, Infrastructures and Practices, HP-Source Working Party on Information on Lifestyle and Specific Subpopulations</a></li> <li>• <a href="#">Making way for a healthier lifestyle in Europe - Monitoring Public Health Nutrition in Europe - List of Indicators –summary report (October 2003)</a></li> <li>• <a href="#">International Union for Health Promotion and Education, IUPHE</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Needs much further development. First consult WHO-nutrition for regular data on food policy items which allow the building of a composite index like it was done for indicator 85 on ETS exposure regulations.</li> </ul>

## 87. POLICIES AND PRACTICES ON HEALTHY LIFESTYLES

### 87.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>E) Health interventions: health promotion</b> 87. Policies and practices on healthy lifestyles
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Child health (including young adults)</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	A composite index of regulations and good practices on promoting healthier nutrition.

<i>Key issues and problems</i>	<p>Topic needs much further development. The keys issues are:</p> <ol style="list-style-type: none"> <li>1) At the moment there is no satisfactory proposal for indicator definition, calculation and data sources.</li> <li>2) The indicators recommended by various (EU co-funded) projects usually include only either alcohol or tobacco related policies. Is that enough? Other possible areas to be added include policies to reduce exposure to sunlight, injuries, suicide. Health promotion activities at the workplace, schools etc. are under indicator 88.</li> <li>3) Distinction should be made between comprehensive programmes and single programmes on e.g. smoking, physical activity, nutrition, stress management etc. Comprehensive programmes are considered to be more effective.</li> <li>4) The index should contain policy items aimed both at individual behaviour and collective actions, such as building promoting physical activity, taxes and trade regulations, etc.</li> <li>5) For pragmatical reasons, we may focus on smoking, alcohol and physical activity in this indicator, since here might be some data. Consult the alcohol programme and other current programmes for this.</li> </ol>
<i>Preferred data type and data source</i>	<p>Preferred data type: Various types of data sources. Preferred data source: Not decided yet.</p>
<i>Data availability</i>	<p>Eurostat, WHO-HfA and OECD: No data available. EU co-financed projects have collected or are collecting data related to especially alcohol related policies. There are currently no data available to monitor the level of implementation of health promotion activities at the workplace.</p>
<i>Rationale</i>	<p>This is an important area of activities in health promotion. Indicators for monitoring these areas should be developed.</p>
<i>Remarks</i>	<p>Recommended indicators on alcohol related policies by EU co-funded projects include:</p> <ol style="list-style-type: none"> <li>1a) WP Lifestyles: A composite indicator of a) Regulations, e.g. legislation, enforcement and adjudication ("Alcohol report", 2006, p283) of the alcohol market price and tax measures; b) Restrictions on availability; c) Regulations on advertising, promotion and sponsorship (p258 of "Alcohol report" (2006), e.g. alcohol advertisement restrictions (equivalent to smoking advertisement restrictions (4.1.3).</li> <li>1b) WP Lifestyles: Regulations aiming at the reduction of alcohol consumption and its consequences (p240ff, p251 of "Alcohol report", 2006) including labelling of warning on containers of alcoholic products (p253, p357/8, p414 of "Alcohol report", 2006) (see chapters 7-9 of "Alcohol report", 2006). Other proposed indicators are:</li> <li>2) WORKHEALTH-1 -project: Proposed indicator "Health promotion activities at the workplace" (with recommendations on how to measure them by HIS).</li> <li>3) EUHPID: Sunlight exposure, injury, suicide, healthy nutrition.</li> </ol>
<i>References</i>	<ul style="list-style-type: none"> <li>• WHO-Europe databases on <u>alcohol and tobacco control</u>, and <u>nutrition policy</u></li> <li>• <u>World Bank, Economics of tobacco control database</u></li> <li>• <u>WORKHEALTH-1 (2002-2004) and WORKHEALTH-2 (2005-7)</u></li> <li>• <u>WORKHEALTH-1 project final report "Indicators for work-related health monitoring in Europe" (Julia Kreis and Wolfgang Bödeker) from December 2004</u></li> <li>• <u>The European Health Promotion Indicators Development, EUHPID (2002-2004): Davies, J.K., Bauer, G. and Pelikan, J. (2006) The EUPHID Health Development Model for the classification of public health indicators. Health Promotion International, 21 (2). pp. 153-159</u></li> <li>• <u>The Comprehensive Database of Health Promotion Policies, Infrastructures and Practices, HP-Source</u></li> <li>• <u>Working Party on Information on Lifestyle and Specific Subpopulations</u></li> <li>• <u>WP Lifestyles / Alcohol Report (2006): "Alcohol in Europe: a public health perspective. A report for the European Commission" (by Peter Anderson and Ben Baumberg; June 2006) and direct link to the report</u></li> <li>• <u>International Union for Health Promotion and Education, IUPHE</u></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Needs much further development</li> <li>• Consult current programmes on alcohol, smoking, physical activity,</li> <li>• Monitor WHO and World Bank databases.</li> <li>• Monitor Health promotion networks for possible data.</li> </ul>

## 88. INTEGRATED PROGRAMMES IN SETTINGS, INCLUDING WORKPLACES, SCHOOLS, HOSPITALS

### 88.1. Documentation sheet

<i>ECHIM Indicator name</i>	<b>E) Health interventions: health promotion</b>  88. Integrated programmes in settings, including workplaces, schools, hospitals
<i>Relevant policy areas</i>	<ul style="list-style-type: none"> <li>• Health inequalities (including accessibility of care)</li> <li>• (Preventable) Burden of Disease (BoD)</li> <li>• Preventable health risks</li> <li>• Life style, health behaviour</li> <li>• Child health (including young adults)</li> <li>• Occupational health</li> <li>• Health in All Policies (HiAP)</li> </ul>
<i>Definition</i>	A composite index of integrated programmes for health promotion policy and practice in different settings, including workplace, schools, hospitals, communities, prisons and other key settings for health promotion interventions.
<i>Key issues and problems</i>	Topic needs much further development. The keys issues are: 1) At the moment there is no satisfactory proposal for indicator definition, calculation and data sources. 2) Scope of this indicator? Because we have to restrict for practical reasons, we may consider a focus on settings like neighbourhoods (especially taking SES differences into account), workplaces, schools. But the key issue is whether meaningful data exist on e.g. budgets for certain specified actions, operation of specified procedures, etc.
<i>Preferred data type and data source</i>	Preferred data type: Policy documents and comparable. Possibly some information can be obtained by interviews. Preferred data source: Not decided yet.
<i>Data availability</i>	Eurostat, WHO-HfA and OECD: No data available.
<i>Rationale</i>	This is an important area of activities in health promotion -which are not just delivered via lifestyle change strategies alone, but include healthy public policy initiatives. Indicators for monitoring these areas should be developed.
<i>Remarks</i>	
<i>References</i>	<ul style="list-style-type: none"> <li>• <a href="#">The European Health Promotion Indicators Development, EUHPID (2002-2004): Davies, J.K., Bauer, G. and Pelikan, J. (2006) The EUPHID Health Development Model for the classification of public health indicators. Health Promotion International, 21 (2). pp. 153-159</a></li> <li>• <a href="#">The Comprehensive Database of Health Promotion Policies, Infrastructures and Practices, HP-Source</a></li> <li>• <a href="#">International Union for Health Promotion and Education, IUPHE</a></li> </ul>
<i>Work to do</i>	<ul style="list-style-type: none"> <li>• Needs much further development. Consult key experts/networks for the presence of data and information that might be feasible for th intended context.</li> </ul>





## ECHI INDICATOR DEVELOPMENT AND DOCUMENTATION

Joint Action for ECHIM Final Report Part II

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The European Community Health Indicators (ECHI) initiative started in 1998 as a project responding to the European Commission's call to establish a core set of public health indicators for the EU: the ECHI shortlist. Since then, the ECHI work has been coordinated through a series of four DG SANCO funded projects: ECHI-I, ECHI-II, ECHIM (the M stands for Monitoring) and the Joint Action for ECHIM.

This report is the second volume of a series of three reports that describe the results and achievements of the fourth ECHI(M) project, the Joint Action for ECHIM. The first report contains all the procedural information on the Joint Action as well as information on the implementation of the ECHI Indicators in the EU Member States. The third report reflects new data developments for the ECHI Indicators, including the outcomes of the ECHIM Pilot Data Collection.

The aim of this report is to be a 'cookbook' for the ECHI shortlist Indicators. It contains all technical indicator documentation, including the processes needed to keep the ECHI shortlist up to date. The main target audience for this report is those who are actually working with the indicators at the EU or Member State level, computing the indicators and/or making the indicators available as an evidence base for policy makers.

