BRIDGEHEALTH
BRidging Information and Data Generation for Evidence-based Health Policy and Research

Deliverable 4.2

Part 1: Update of ECHI Indicators (RKI)[a]

Part 2: ECHI content evaluation and update on ECHI information repository (RIVM)[b]

[a] Authored by: Angela Fehr[1], Dominika Urbanski[1], Thomas Ziese[1], Mariken Tijhuis[2], Peter Achterberg[2]

[b] Authored by Mariken Tijhuis[1], Peter Achterberg[1], Marieke Verschuuren[1], Angela Fehr[2], Thomas Ziese[2]

[1]Robert Koch Institute, Dept. of Epidemiology and Health Monitoring
General-Paper-Str. 62-66 |12101 Berlin, Germany

[2]National Institute for Public Health and the Environment (RIVM), P.O. Box 3720 |BA Bilthoven, The Netherlands

Scientific Institute of Public Health | Rue Juliette Wytsmanstraat 14 | 1050 Brussels | Belgium| e-mail: bridge.coordination@wiv-isp.be| Website: www.bridge-health.eu|Twitter: @bridge_health

This project is funded by the Health Programme of the European Union

Joint Executive Summary for Parts 1 and 2

Deliverable 4.2 consists of two parts, each of which is devoted to a focus of activity in work package (WP) 4 of the BRIDGE Health project. This joint summary briefly outlines the different foci as well as the links between these activities. The brackets indicate which activity is covered in part 1 and 2 of the deliverable.

WP4 activities focused on the development of the European Core Health Indicators and pursued the following objectives:

a. To re-establish and use networks of national and international health indicators experts (part 1 and 2)

The ECHI have been developed through close cooperation of national and international experts. Owing to a break in time between the Joint Action for ECHIM, which was the last of the four consecutive ECHI-projects which were implemented between 1998 and 2012, and the BRIDGE Health project (2015-2017), no structure for expert networks, devoted to the ECHI, was maintained. WP4 re-established these networks by approaching national experts of the Expert Group on Health Information (EGHI), a consultative EU body, as well as representatives of international organizations and senior public health experts. Over 20 national experts agreed to participate in the WP4 Expert Group on National Health Indicator Implementation (EG-NHII); representatives of international organizations and senior public health experts were invited to join the Advisory Core Group, aiming to ensure the alignment of WP4 activities with international health information developments. Both expert groups were closely involved in the operationalization of WP4 activities. They provided advice on WP4 survey design, contributed to survey implementation and attended two meetings at which the results of WP4 activities as well as next steps for ECHI developments were discussed.

b. To gain an overview of current data availability for the ECHI (part 1)

Data availability is one key factor for the selection of indicators for the ECHI shortlist, and for an indicator to be considered implemented in national health information systems in the EU. The Joint Action for ECHIM (2009-2012) selected preferred international data sources and data types for each indicator which was considered to be implementable to ensure that information for policy is based on comparable data. Preferred data sources, such as the European Health Interview Survey (EHIS), or preferred data types are revised in the course of time, which calls for regular reviews of the ECHI to incorporate these revisions. WP4 implemented a data availability survey for which quantitative results were presented in Deliverable 4.1 (data availability by indicator); a further analysis with a different perspective will be presented here (data availability by indicator and country). We considered that an analysis by country may assist in identifying countries with low overall data availability and, consecutively, pointing at the need to support them in further implementing the ECHI in their national health information systems.

c. To explore needs for technical updates of the ECHI, and to suggest how to implement them (part 1)

With 20 of 67 implemented ECHI being based on the EHIS, and further EHIS-based indicators in the work-in-progress section, the EHIS is a major preferred data source for the ECHI. To date, two EHIS waves have been implemented, the third wave is planned for 2019. Considerable changes have been made over time to the EHIS variables in between the waves, previewed also by the experts in the Joint Action for ECHIM, who advised to update EHIS-based indicators on the basis of these developments. WP4 reviewed the EHIS-based indicators and presents in this report proposed changes to the relevant ECHI documentation sheets. The update of the documentation sheets showed that the majority of changes in EHIS-based ECHI indicators are rooted in changes between EHIS waves 1 and 2. Taking into account the relatively small amount of variables which were changed between EHIS wave 2 and EHIS wave 3, we conclude that EHIS variables will probably

remain relatively stable in the future – implying also more stability for ECHI indictors. Regular updates of the ECHI shortlist are needed, however, to keep track of scientific and methodological developments which affect the preferred data sources and types as well as comparability both in terms of changes in these sources/types and of emerging new data sources.

d. To evaluate the content and policy relevance of the ECHI (part 2)

The overall aim of the evaluation of content and policy relevance of the ECHI was to review the content of the ECHI-indicator shortlist in relation to its original aims and objectives in the broader perspective of a changing European policy priority landscape, a changing health information and indicator environment, a variable stakeholder engagement and altered demands for a future common health indicator set for the EU. The expert survey carried out by WP4 in 2017 revealed that the ECHI indicators were generally seen as policy relevant. Still, a need was seen for strengthening the links between the ECHI-shortlist and policy makers/policy priorities. Identifying new indicator areas for the EU and its MS requires that a structured procedure be put in place. The current ECHI format would benefit from a structural update, involving the development of layers or sections to more adequately accommodate the need for stability/monitoring and flexibility/actionability. Also, more efforts are needed to actively promote and evaluate the use of ECHI in national and European reporting.

e. To design and implement a concept for a web-based ECHI repository (part 2)

The aim of this activity was to develop a central concept for an information repository with a sustainable future, creating ECHI memory and possibly expanding towards including interactive facilities to exchange expertise and build capacity. A first priority in the repository is to preserve and disseminate the available background and meta-information on ECHI-indicators to create a single access point for information about the indicators and their data sources, metadata and use. To this end, several products are under development or have been developed, among them a a first prototype for a web space a meta-database containing ECHI documentation sheets, an Endnote database with relevant publications, an online form to collect suggestions on different aspects of ECHI and an alert from PubMed etc. for new information on ECHI indicators. A highly important question to answer in the near future is where to host the ECHI information repository and what software to use. Some room for this has been created under the Joint Action on Health Information - InfAct.

In conclusion, with the outcomes of the data availability mapping, the content and policy evaluation and the repository concept, WP4 pinpointed needs for updating and further developing the ECHI, and prepared the ground for the necessary next steps. Of particular benefit for all of these activities were the exchange with and the input from long-standing national and international health information experts, providing knowledge on details as well as strategic guidance. The central and most prominent recommendation coming from our WP, which spans all of our activities, is that the ECHI will only continue to be usable, policy relevant and technically up-to-date if a sustainable process is being put into place which allows to regularly review the ECHI set, to be alerted to necessary changes, to perform updates on content and meta-data, to support member states with their implementation, to maintain expert exchange and to contribute to ECHI-based data analysis and health reporting to support policy making a various geographical levels. Such a process requires a permanent institutional mechanism at EU level. Also, to increase the visibility and use of the ECHI, and the acknowledgement of their quality and potential for health reporting at national and European levels, both the indicators and their surrounding (dynamic) information, such as outcomes, meta-data and publications, should be collated and made available online through a web-based repository. The current decentralized ECHI information, spread over different websites, which may even disappear, does not contribute to its effective use. We thus recommend that the upcoming Joint Action on Health Information will dedicate itself to this key aspect of European health information, and that a permanent structure will be established soon to acknowledge the importance of these methods, tools, outcomes and analysis for improving public health in Europe.

BRIDGEHEALTH
BRidging Information and Data Generation for Evidence-based Health Policy and Research

D 4.2 (Part 1) : Update of ECHI Indicators

Indicator development needs

Technical Report Work Package 4 / RKI

Authored by: Angela Fehr[1], Dominika Urbanski[1], Thomas Ziese[1], Mariken Tijhuis[2], Peter Achterberg[2]

[1]Robert Koch Institute, Dept. of Epidemiology and Health Monitoring
General-Paper-Str. 62-66 |12101 Berlin, Germany

[2]National Institute for Public Health and the Environment (RIVM), P.O. Box 3720 |BA Bilthoven, The Netherlands

BRIDGE Health Coordination:
Scientific Institute of Public Health | Rue Juliette Wytsmanstraat 14 | 1050 Brussels | Belgium| e-mail: bridge.coordination@wiv-isp.be| Website: www.bridge-health.eu|Twitter: @bridge_health

This project is funded by the Health Programme of the European Union

Table of Contents

List of figures and Tables 3
PART I: UPDATE OF ECHI Indicators 5
Executive summary 5
Key points 6
I. Introduction 7
A. Development, structure, and update requirements of the ECHI shortlist 7
B. Data availability for the ECHI by country 10
II. Aim 10
III. Methods 10
IV. Results 11
A. Current Status of EHIS Indicators – Implications for the ECHI 11
1. ECHI Indicator No 6: Population by education 13
2. ECHI Indicator No 15: Smoking related deaths 16
3. ECHI Indicator No 16: Alcohol related deaths 20
4. ECHI Indicator No 21a: Diabetes, self-reported prevalence 24
5. ECHI Indicator No 23a: Depression, self-reported prevalence 27
6. ECHI Indicator No 26a: Asthma, self-reported prevalence 30
7. ECHI Indicator No 27a: COPD, self-reported prevalence 33
8. ECHI Indicator No 29a: Injuries: home, leisure, school; self-reported incidence 36
9. ECHI Indicator No 30a: Injuries: road, traffic; self-reported incidence 42
10. ECHI Indicator No 33: Self-perceived health 47
11. ECHI Indicator No 34: Self-reported chronic morbidity 50
12. ECHI Indicator No 35: Long-term activity limitations 53
13. ECHI Indicator No 36: Physical and sensory functional limitations 58
14. ECHI Indicator No 37: General musculoskeletal pain 61
15. ECHI Indicator No 38: Psychological distress 63
16. ECHI Indicator No 39: Psychological well-being 66
17. ECHI Indicator No 42: Body mass index 68
18. ECHI Indicator No 43: Blood pressure 70
19. ECHI Indicator No 44: Regular smokers 73
20. ECHI Indicator No 47: Hazardous alcohol consumption 75
21. ECHI Indicator No 49: Consumption of fruit 77
22. ECHI Indicator No 50: Consumption of vegetables 79

23. ECHI Indicator No 52: Physical activity 81
24. ECHI Indicator No 54: Social support 84
25. ECHI Indicator No 57: Influenza vaccination rate in elderly 86
26. ECHI Indicator No 58: Breast cancer screening 88
27. ECHI Indicator No 59: Cervical cancer screening 90
28. ECHI Indicator No 60: Colon cancer screening 92
29. ECHI Indicator No 71: General practitioner (GP) utilization 94
30. ECHI Indicator No 72: Selected outpatient visits 96
31. ECHI Indicator No 74: Medicine use, selected groups 101
B. Data availability by indicator and country 105
C. Data availability (preferred international data source) by country 112
V. Implications and limitations 116
VI. Conclusions and recommendations 118
VII. References 118

List of figures and Tables

Figure 1: EU-projects for development and implementation of ECHI indicators 8

Table 1: EHIS-based ECHI indicators by topics 9
Table 2: 6.1 Documentation sheet 13
Table 3: 15.1 Documentation sheet 16
Table 4: 16.1 Documentation sheet 20
Table 5: 21a.1 Documentation sheet 24
Table 6: 21a.2 Operational indicators 25
Table 7: 23a.1 Documentation sheet 27
Table 8: 23a.2 Operational indicators 28
Table 9: 26a.1 Documentation sheet 30
Table 10: 26a.2 Operational indicators 31
Table 11::27a.1 Documentation sheet 33
Table 12: 27a.2 Operational indicators 34
Table 13: 29a.1 Documentation sheet 36
Table 14: 29a.2 Operational indicators 38
Table 15: 30a.1 Documentation sheet 42
Table 16: 30a.2 Operational indicators 44
Table 17: 33.1 Documentation sheet 47
Table 18: 34.1 Documentation sheet 50
Table 19: 35.1 Documentation sheet 53
Table 20: 35.3 Remarks on comparability 55
Table 21: 36.1 Documentation sheet 58
Table 22: 37.1 Documentation sheet 61
Table 23: 39.1 Documentation sheet 66
Table 24: 42.1 Documentation sheet 68
Table 25: 43.1 Documentation sheet 70
Table 26: 43.2 Operational indicators 71
Table 27: 44.1 Documentation sheet 73
Table 28: 47.1 Documentation sheet 75
Table 29: 49.1 Documentation sheet 77
Table 30: 50.1 Documentation sheet 79
Table 31: 52.1 Documentation sheet 81
Table 32: 54.1 Documentation sheet 84

Table 33: 57.1 Documentation sheet 86
Table 34: 58.1 Documentation sheet 88
Table 35: 59.1 Documentation sheet 90
Table 36: 28.1 Documentation sheet 92
Table 37: 71.1 Documentation sheet 94
Table 38: 72.1 Documentation sheet 96
Table 39: 72.2 Operational indicators 99
Table 40: 74.1 Documentation sheet 101
Table 41: 74.2 Operational indicators 103
Table 42: Data availability of ECHI shortlist indicators by indicator and country 105
Table 43: Data availability of ECHI shortlist indicators by country 112

PART I: UPDATE OF ECHI Indicators

Executive summary

This report takes a first step towards an update of indicators on the shortlist of the European Core Health Indicators (ECHI). The most recent update of the ECHI took place during the Joint Action for ECHIM (JA ECHIM) between 2009 and 2012. In its final report, the JA ECHIM recommended that regular reviews and updates for the indicators shall be performed in the future to take account of changes in survey methodology or other related technical developments of relevance for the ECHI. In line with this recommendation, this report focuses on the 31 shortlist indicators for which the European Health Interview Survey (EHIS) is the preferred data source or which derive key information from the EHIS. The documentation sheets currently available reflect the first wave of the EHIS (2006-2010). A second wave of the EHIS took place between 2013 and 2015, i.e. after the publication of the last EHIS update. A third wave is being prepared to take place in 2019. Since variables in EHIS waves 2 and 3 may differ from those in wave 1, WP4 undertook to review, and where necessary, revised these documentation sheets. It is important to note that these revisions are work in progress; the proposals for changes in the documentation sheets will have to be validated through expert consultation. Also, changes for other, non-EHIS derived indicators may have taken place between today and the end of the Joint Action for ECHIM. This will be explored and relevant updates for the EHCI be performed in the course of the Joint Action on Health Information (starting in 2018).

Secondly, the report presents current data availability for the ECHI by country. This part of the report is based on an availability mapping, conducted by WP4 in 2016. It is also a continuation of Deliverable 4.1 which presented the results of this mapping by indicator. The two perspectives, i.e. exploring data availability by indicator and by country (for all ECHI), reflect different goals which are pursued in the process of updating the ECHI: Analysing data availability by indicator allows identifying indicators which may, for different reasons, cause a problem for implementation in EU countries. An analysis by country may help to identify countries with low overall data availability which may point to a need for support in further implementing the ECHI in national health information systems.

Both, the suggested updates for EHIS-derived or EHIS-related indicators and the analysis of data availability for the ECHI in the participating countries will have to be discussed with national, European and international experts on health information. As for the update of the documentation sheets, such expert consultation shall enable a consensus about revisions of documentation sheets which will lead to a publication of a revised version. Our work does seem to show that a large part of the changes of EHIS-based ECHI indicators took place between EHIS wave 1 and EHIS wave 2, when EHIS became mandatory for all EU-countries. This might have implications for future work related to keeping the EHIS-based ECHI indicators updated – we hope that work done under WP4 can be a fruitful basis for future update processes. Also, it has proven extremely helpful to rely on already available work (such as the EHIS wave manuals). Expert consultation on the status of data availability for the ECHI in European countries, can, i.a., lead to the establishment of

procedures aimed at supporting countries in increasing data availability for their health information systems.

Of note: The conceptualizing of WP4 activities and deliverables included a special development activity for the area of disability indicators as these were planned to be integrated in the EHIS-wave 3 in 2019. It was foreseen that it would involve scientific development work on the elaboration and testing of a relevant disability module including expert consultation. Deliverable 4.2 should thus include information on the design and definition of a set of disability indicators and related survey methodology. In the course of the BRIDGE Health project, however, it became apparent that a module on disability (barriers to participation) had been developed and would be pre-tested in the course of EHIS wave 3. This development made the relevant activity obsolete for WP4. The focus was thus laid on necessary updates for those ECHI which are based on or related to the European Health Interview Survey (EHIS) as relevant ECHI meta-date had been developed for EHIS wave 1.

Key points

The data availability survey and the review of EHIS-derived indicators on the ECHI shortlist revealed the following key issues:

- Regular reviews of data availability for indicators in the implementation section should be performed to identify issues that may lead to reduced data availability;
- Regular reviews of data availability for indicators in the work-in-progress section allow to identify indicators that may be transferred to the implementation section;
- Expert consultation is needed to decide upon the public health relevance and further development of indicators in the development section. This can be done in the framework of the Joint Action on Health Information;
- Regular reviews and updates of EHIS-derived or EHIS-related ECHI indicators are necessary to ensure compatibility between EHIS indicators and the indicators on the ECHI shortlist as well as comparability over time;
- A process shall be developed where Eurostat, as they have comprehensive information about data availability, delivers an availability overview to the ECHI process for the Eurostat-based indicators (outcome of expert consultation);
- Time-intervals for updates of the ECHI should not be shorter than five years (outcome of expert consultation);
- Update processes may include a further differentiation of the policy areas in the ECHI shortlist to match departmental portfolios and to better respond to health in all policies-objectives (outcome of expert consultation).

I. Introduction

This Technical Report is the second of two deliverables of Work Package (WP) 4 of the BRIDGE Health Project. WP4 focused its activities on further developing the European Core Health Indicators (ECHI). Within this focus, four priorities were established and shared between the partners Robert Koch-Institute (RKI) and National Institute for Public Health and the Environment (RIVM): 1) Re-establishing a network of health indicator experts (RKI), 2) Mapping data availability and performing technical updates of the ECHI (RKI), 3) Mapping policy relevance of the ECHI (RIVM) and 4) Designing a sustainable repository for the ECHI and related information (RIVM). The second deliverable of WP4 is split in two parts. Part one (presented here) focuses on the results of the data availability mapping and on the technical update of the ECHI. It does so by first giving a general overview of the ECHI shortlist and EHIS as a relevant data source, and of results on data availability by country in this introduction. The report then goes on to present new results of the mapping activities of WP4: a) an updated version of the ECHI indicators which are based on EHIS indicators, b) an overview of ECHI data availability by indicator and country and c) and overview of ECHI data availability by country. After presenting the findings of these mapping activities, implications as well as limitations of these overviews are presented. Part 1 of this report closes by giving recommendations for future development processes for the ECHI.

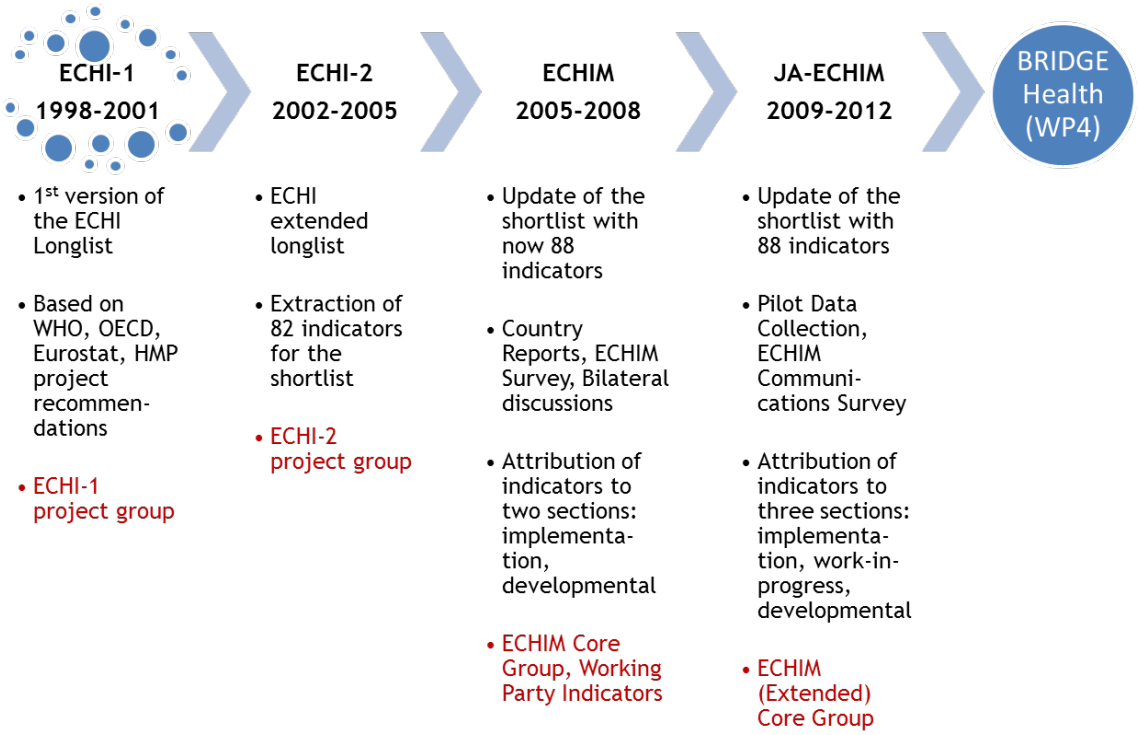
Part 2 of this deliverable concerns an evaluation of ECHI content and policy relevance as well as the concept for an ECHI information repository.[1, 2][1]

A. Development, structure, and update requirements of the ECHI shortlist

The ECHI were developed between 1998 and 2012, following the adoption of the EU Community action programme on health monitoring within the framework for action in the field of public health (1997 to 2001). The programme stipulated "[t]o establish comparable Community health indicators by means of a critical review of existing health data and indicators, by developing methodologies for obtaining comparable health data and indicators, and by developing appropriate methods for the collection of the progressively comparable health data needed to establish these indicators."[3] These indicators were to provide the necessary data and knowledge to maintain and protect a high level of health in the EU Member States. The programme also aimed to promote cooperation among EU Member States in the field of health monitoring and public health. The current ECHI shortlist is the product of four consecutive, EU-funded projects and of close cooperation among experts from EU Member States and from international organisations. (Figure 1)

[1] As described in WP 4.4 Milestone 15 (Tijhuis et al., 2016) and in part 2 of DL4.2 (Tijhuis et al., 2017)

Figure 1: EU-projects for development and implementation of ECHI indicators



Source: Own figure

From a list of originally over 200 proposed indicators, 88 were selected for the shortlist. For six of these 88 indicators, self-reported and register-based variants have been defined, so that the total number of indicators is 94.

The shortlist is organized in chapters, policy areas and sections. There are five chapters (demography and socio-economic situation, health status, health determinants, health services, health promotion) and five policy areas (health services and health care, ageing and population, health determinants, diseases and mental health, health in all policies) which reflect the public health approach that was taken towards the shortlist. The shortlist is further divided into three sections which reveal the implementation status of the indicators. During the development of the shortlist, it was agreed that full data availability and final conceptual development were not available for all indicators and topics which the experts considered relevant for the shortlist. The shortlist therefore contains indicators that are ready to support policy making (implementation section / n=67), those that are nearly ready to be implemented (work in progress-section / n=14) and those which are in need of further conceptual and methodological development (developmental section / n=13). Previous projects stipulated that update processes for the ECHI shall include an assessment of the indicators in terms of their allocation to these sections. If applicable, a recommendation should be issued to move an indicator from one section to the other. To this end, clear criteria were developed to guide and enable a transparent process.

The ECHI are based on a variety of international data sources, among them Eurostat, WHO and OECD, as well as various data types, e.g. survey data or administrative data. A key

data source for the ECHI is the European Health Interview Survey (EHIS). Currently, twenty indicators in the implementation section of the shortlist derive their data from the EHIS; for several indicators in the work-in-progress and the development section, the EHIS is discussed as potential preferred data source.

The following table gives an overview of the shortlist chapters in which the EHIS-based ECHI indicators can be found. The brackets indicate that EHIS is not yet primary/preferred data source, but is being discussed as such for the future.

Table 1: EHIS-based ECHI indicators by topics

Chapter	**Indicators**
A) Demography and socio-economic situation	(No 6: Population by education)
B) Health status	No 15: Smoking related deaths No 16: Alcohol related deaths No 21a: Diabetes, self-reported prevalence No 23a: Depression, self-reported prevalence No 26a: Asthma, self-reported prevalence No 27a: COPD, self-reported prevalence No 29a: Injuries: home, leisure, school; self-reported incidence No 30a: Injuries: road, traffic; self-reported incidence (No 33: Self-perceived health) (No 34: Self-reported chronic morbidity) (No 35: Long-term activity limitations) No 36: Physical and sensory functional limitations No 37: General musculoskeletal pain No 38: Psychological distress No 39: Psychological well-being
C) Determinants of health	No 42: Body mass index No 43: Blood pressure No 44: Regular smokers No 47: Hazardous alcohol consumption No 49: Consumption of fruit No 50: Consumption of vegetables No 52: Physical activity No 54: Social support
D) Health interventions: health services	No 57: Influenza vaccination rate in elderly No 58: Breast cancer screening No 59: Cervical cancer screening No 60: Colon cancer screening No 71: General practitioner (GP) utilization No 72: Selected outpatient visits No 74: Medicine use, selected groups
E) Health interventions: health promotion	

While the first wave of the EHIS (2006-2009) was conducted on a gentlemen's agreement in 17 EU countries as well as in Turkey and Switzerland, it has become mandatory for all EU countries as from its second wave (2013-2015). The mandatory conduct of the EHIS is stipulated in EU Regulation 1338/2008. Details on the implementation of the various waves are laid down in individual implementation acts which include i.a. the list of variables for

each survey wave. The implementing acts are complemented with manuals for the conduct of the survey, containing supporting information such as model questionnaires, translation protocols or interviewer instructions to be used as guidelines in the 28 implementing countries. In between the survey waves, the list of variables is reviewed and, if necessary or desirable, revised by expert working groups and consented by all participating countries. While it remains to be the objective to keep changes to the variables in between EHIS waves to a minimum, such changes may be necessary due to scientific or methodological developments. Consequently, the ECHI which derive their data from EHIS variables also have to be reviewed and revised over time to take account of such changes in the EHIS.

B. Data availability for the ECHI by country

Previous ECHI projects explored data availability for the ECHI in national and international data sources and assisted EU member states in implementing these indicators into national health information systems. Currently, all indicators based on the EHIS should be available in all EU member states, since the EHIS is a compulsory instrument.

As for the overall data availability of the ECHI shortlist, the WP4 mapping survey revealed that, with few exceptions, data were available for at least 75% of the 23 countries which participated in the survey. Exceptions included indicators 29B (Injuries: home/leisure, violence, register-based incidence), 78 (Survival rates cancer) and 79 (30-day in-hospital case-fatality AMI and stroke). EU member states which participated in the mapping survey (21 of 23 responders) reported 100% availability for the preferred data source for 31 of the 67 indicators in the implementation section (s. Deliverable 4.1 for methods and responses of the data availability survey). In the report presented here, the analysis of data availability by indicator is complemented by an analysis of data availability by country. This perspective assists in identifying difficulties in indicator implementation in participating countries which may lead to the uptake of supporting measures, such as bilateral contacts or national implementation teams, as had been used in previous ECHI projects.

II. Aim

The aim of the WP4 activity presented here was

- to elaborate proposals for updates of those indicators which derive the data from the EHIS;
- to visualize data availability by country as a basis for the identification of implementation support.

III. Methods

The following documents were used for reviewing the ECHI and for proposing the updates of ECHI documentation sheets:

- ECHI documentation sheets as published in the Final Report Part II of the Joint Action for ECHIM[4]
- Manual and model questionnaires for EHIS waves 1, 2 and [5]
- Annex 1 of the draft implementating regulation for EHIS wave 3, containing the microdata to be submitted

IV. Results

A. Current Status of EHIS Indicators – Implications for the ECHI

The following section contains the documentation sheets (dated 2012) of those ECHI indicators for which EHIS has been defined as the preferred data source (implementation section) or which, in the future, could be related/derived from EHIS (work-in-progress section). It also includes indicators which are currently in the development section and there do not yet have an agreed upon preferred data source, but which had previously been included in the EHIS and may in future be part of this survey again.

In these documentation sheets, suggestions for revisions and updates are included. They derive from developments of the EHIS instrument since the last update of these documentation sheets in the framework of the Joint Action for ECHIM in 2012. The suggested updates and revisions are marked as follows:

- Yellow highlighting: Comprehensive update / revision, e.g. a text block
- **Bold lettering**: Minor update / revision, e.g. single word or number
- Grey highlighting: Information should be dropped.

Information on data comparability between EHIS wave 1, wave 2 and wave 3 is mainly derived from the respective EHIS methodological manuals. When including this information as an update in the documentation sheets, the original wording from the EHIS manuals was either not or only slightly adjusted. The remark "Update as of EHIS wave 2" indicates that there were no changes for this indicator between EHIS wave 2 and EHIS wave 3. "Comparability with wave 1" also indicates that there were no further changes between EHIS wave 2 and EHIS wave 3.

In addition to individual changes suggested for the documentation sheets, we propose to revise the information box which precedes the documentation sheets of all EHIS-related indicators. The reason for this suggestion is that, currently, various sections of EHIS-related ECHI documentation sheets contain information about EHIS wave 1 implementation, periodicity, dimensions, its legal basis and the then (2012) anticipated developments. We suggest removing this information from these sections of the documentation sheets, combining it instead in the information box and updating it with the status of 2017. The suggested revision is illustrated below. (Text box 1 and

Text box **2**).

Text box 1: Current EHIS-related information box

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.

Text box 2: Suggested update of the EHIS-related information box

October 2017 **Additional information for indicators for which EHIS is preferred (interim) source**
This documentation sheet was originally designed to match the questionnaire of the European Health Interview Survey (EHIS) as it was used in EHIS wave 1 (2006-2010). For EHIS wave 2 (conducted between 2013 and 2015) and wave 3, which is envisaged to take place in 2019, the questionnaires were revised, and questions underlying ECHI indicators may have been changed. Therefore, this documentation sheet has been updated in October 2017, taking account of EHIS waves 2 and 3 developments. EHIS waves: AT, BE, BG, CZ, CY, DE, EE, EL, ES, FR, HU, LV, MT, PL, RO, SI, SK as well as CH and TR conducted a first wave of the 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. The results of the first wave were disseminated thereafter, i.a. through the ECHI Data Tool (formerly Heidi Data Tool). As of the 2nd wave (2013-2015), all EU Member States were obliged to conduct the EHIS. The 2nd wave was also implemented in Iceland and Norway. Some other countries used the 2nd wave EHIS questionnaire in their national health interview surveys (e.g.Turkey or Serbia). EHIS dimensions: EHIS data are available by sex, eight age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups. EHIS legal basis: 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 define the details of the statistics Member States have to deliver to Eurostat. Regulation 141/2013 as regards statistics based on the European Health Interview Survey (EHIS) was the implementing act for EHIS wave 2 (2013-2015); at the time of this writing, the implementing act for EHIS wave 3 (2019) is in draft status. As of EHIS wave 4, the survey will be conducted under the umbrella of the Framework regulation for the production of European statistics on persons and households (Integrated European Social Statistics - IESS). Read more additional information in textbox 3 in chapter 2.2 of the Joint Action for ECHIM Final Report Part II.

Following below are the proposed updates of the documentation sheets of the EHIS-derived or EHIS-related indicators on the ECHI shortlist. The information box above would precede the documentation sheets of all EHIS-derived indicators.

1. ECHI Indicator No 6: Population by education

Table 2: 6.1 Documentation sheet

ECHIM Indicator name	**A) Demographic and socio-economic factors** 6. Population by education
Relevant policy areas	• Health inequalities (including accessibility of care) • Health in All Policies (HiAP)
Definition	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.
Calculation	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).
Relevant dimensions and subgroups	• Calendar year • Country • Region (according to ISARE recommendations; see data availability) • Sex • Age group (25-64)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (based on Labour Force Survey (LFS))
Data availability	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.
Data periodicity	Eurostat data based on the LFS are available annually and quarterly.
Rationale	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.
Remarks	• "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. • 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+. • 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. • 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). • 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. • If possible elderly should be included because the prevalence/incidence of health problems is highest in the oldest age groups. • 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). • Sample frame LFS: rotating random sample survey of persons (15+) in private households. • In the EHIS wave 1 questionnaire, the ISCED classification was used (no education and 6 ISCED classes, 7 categories in total). So data for 7 categories was available. Update as of EHIS wave 2: The revised education item in EHIS waves 2 and 3 capture 9 categories in total: no education as well as 8 ISCED education classes (and the category "no answer"). 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. •
References	• Monitoring socio-economic differences in health indicators in the European Union-project • EUROTHINE - Tackling Health Inequalities In Europe: an integrated approach • Kunst, A. Development of health inequalities indicators for the Eurothine project. 2008 • EHIS 2007-2008 Methodology: Information from CIRCA • LFS introduction • LFS userguide • ISCED International Standard Classification of Education • Health Indicators in the European Regions (ISARE) project • Schneider, 2009. Measurement of Education in EU-SILC Preliminary Evaluation of Measurement Quality • Eurostat database, dataset Persons with a given education attainment level by sex and age groups (%) • LFS main indicators. Reference Metadata in Euro SDMX Metadata Structure (ESMS)

	• LFS series - Detailed quarterly survey results (from 1998). Reference Metadata in Euro SDMX Metadata • Structure (ESMS) • ISCED 2011 version • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017)
Work to do	• 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. • 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. (Update 2017: (Data are published in 3 groups; http://ec.europa.eu/eurostat/documents/1978984/6037342/Comparison-ISCED-97-11.pdf) • Update as of EHIS wave 3: For the educational level attained, the LFS used the revised classification (ISCED 2011) since 2014; ISCED 1997 was used from 1998 until 2013.

No changes are proposed to the table of operational indicators for this indicator.

2. ECHI Indicator No 15: Smoking related deaths

Table 3: 15.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 15. Smoking-attributable deaths
Relevant policy areas	• Health inequalities (including accessibility of care) • Health system performance, quality of care, efficiency of care, patient safety • Non-communicable diseases (NCDs), chronic diseases • (Preventable) Burden of Disease (BoD) • Preventable health risks • Lifestyle, health behaviour
Definition	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.
Calculation	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. TAF = P0+(P1*RR1)+(P2*RR2)-1 P0+(P1*RR1)+(P2*RR2) TAM = TAF * number of death cases per cause; SAM = Σ TAMs (all causes) P0 = prevalence of never-smokers; P1 = prevalence of current smokers; P2 = prevalence of former smokers; RR1 = relative risk of death for current smokers; RR2 = relative risk of death for former smokers. Prevalence data need decimal expressions to be used for TAF calculation (e.g. P0 = 25% = 0.25; P0+P1+P2 = 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). 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]). Update as of EHIS wave 3: Prevalence data need decimal expressions to be used for TAF calculation (e.g. P0 = 25% = 0.25; P0+P1+P2 = 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). 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]+**3**[1]), percentage of never-smokers (SK.1[3]+**3**[2]). Comparability between EHIS wave 1 and wave 2: SK1: High, high, even if in the phrasing the words "at all nowadays" are removed. SK.4 (in wave 1): Not included in wave 2. Comparability between EHIS wave 2 and wave 3: SK1: medium, specification 'any tobacco products (excluding electronic cigarettes or similar electronic

	devices)' was added to question SK.1 in EHIS wave 3. SK.4 (in wave 1): SK 3 in wave 3, was not included in wave 2. EHIS wave 2 and wave 3 furthermore provides information on exposure to passive smoking indoors (SK.4/5), and EHIS wave 3 also provides information on consumption of e-cigarettes or similar electronic products (SK. 6).
Relevant dimensions and subgroups	• Country • Calendar Year • Sex • Age groups: 35-64 years; 65+ • SES (by educational level ISCED 3 aggregated groups: 0-2; 3+4; 5+6; if available)
Preferred data type and data source	Preferred data type: **Mortality data:** National population statistics (death register) **Smoking prevalence data:** 1) HIS 2) microcensus Preferred source: **Mortality data:** • Eurostat, or national statistical offices (maintaining death register) in case Eurostat database does not contain the required data **Smoking prevalence data:** • Eurostat (EHIS)
Data availability	**Mortality data:** 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. **Smoking prevalence data** Smoking prevalence data can be obtained by EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). As from wave 4, every six years, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	Smoking can cause many diseases which reduce both quality of life and life expectancy. Smoking is one of the best preventable health risk behaviours.
Remarks	• Comparability depends largely on coding quality of death register data and accuracy of national smoking prevalence estimates. Further limitations of the formula applied above: • does neither include duration and type of smoking nor level of tobacco consumption; Update as of EHIS wave 3: EHIS wave 3 variable SK.4 asks how many years a person has smoked tobacco products daily, SK.2 asks the average amount of cigarettes smoked daily, if the person indicates to smoke daily under SK.1 • it is assumed that most of the current smoking is long term smoking all persons who ever smoked –irrespective of type, time span, quantity and period since quitting- are regarded as former smokers • does not take account of various levels of ETS/SHS exposure of non-smokers and infants; Update as of EHIS wave 3: ETS/SHS (and degree of exposure) is asked for all respondents in variable SK.4/5 of EHIS wave 2 and 3. • 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. • 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 was revised for waves 2 and 3.Hence adaptations to the EHIS question underlying this indicator occurred. • EHIS also covers ETS/SHS exposure of responders (SK.**5**) 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. • 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.
References	• 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 • CDC (2005) 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 • Peto R, Lopez AD, Boreham J, Thun M, Heath C (1994) Mortality from Smokers in Developed Countries 1950-2000. Oxford University Press, New York • 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. • Shultz JM, Novotny TE, Rice DP (1991) Quantifying the disease impact of cigarette smoking with SAMMEC II Software. Public Health Rep, 106; 326-33 • 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 • EHIS standard questionnaire (version of 11/2006, used in first wave) • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• EHIS module SK could be refined. • Check Eurostat, WHO for further/alternative data sources on smoking prevalences (e.g. microcensus, special surveys). • Monitor EHIS/Eurostat developments, Update as of EHIS wave 3: Review new SK variables available in wave 3. • Discuss with SANCO/Eurostat possibilities for incorporation of (the

		calculation of) this indicator into regular data collection and publication processes.

No changes are proposed to the table of operational indicators for this indicator.

3. ECHI Indicator No 16: Alcohol related deaths

Table 4: 16.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 16. Alcohol-attributable deaths (AADs)
Relevant policy areas	• Health inequalities (including accessibility of care) • Health system performance, Quality of care, Efficiency of care, patient safety • Non-Communicable diseases (NCD), chronic diseases • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • Mental health • Child health (including young adults)
Definition	Mortality caused by alcohol consumption. Number of premature deaths that may be attributed to alcohol consumption in the population (Alcohol Atributable Deaths (AAD)) out of the total number of deaths*100)
Calculation	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). Alcohol Attributable Deaths (AAD) are defined as: **AAD = AAF*D** **AADs = Sum AAD (all causes)** 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. 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: $AAF = [\Sigma_{i=1}^{k} P_i (RR_i - 1)] / [\Sigma_{i=0}^{k} P_i (RR_i - 1) + 1]$ where i is the category of alcohol usage (i = 1-3) or no alcohol (i=0), RRi is the relative risk at exposure level i, compared with no alcohol consumption, Pi is the prevalence of the ith category of alcohol consumption, and k is the highest drinking category. 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. 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). 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.
Relevant dimensions and	• Country • Gender • Age groups:

subgroups	group 1 (diseases wholly attributable to alcohol): 15-29, 30-44, 45-59, 60-69, 70+; group 2 (diseases partially attributable to alcohol): 30-44, 45-59, 60-69, 70+; group 3 (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)
Preferred data type and data source	**Mortality data:** National population statistics (Death register) or Eurostat database (if it contains the requested data) **Alcohol consumption prevalence data:** 1) EHIS survey 2) National HIS surveys Preferred source: EHIS
Data availability	Alcohol consumption prevalence data can be obtained by EHIS. Alcohol consumption variables available in EHIS wave 3 (as of EHIS wave 2) are: AL.1: In the past 12 months, how often have you had an alcoholic drink of any kind? (1. Every day or almost every day, 2. 5-6 days a week, 3. 3-4 days a week, 4. 1-2 days a week, 5. 2-3 days a month, 6. Once a month, 7. Less than once a month, 8. Not in the past 12 months, as I no longer drink alcohol, 9. Never, only a few sips or trials, in my whole life. Comparability with EHIS wave 1: medium, the phrasing is similar and only the list of alcoholic beverages has been extended in the question itself. The answer categories are more numerous and the scale is reversed. AL.2: Thinking of Monday to Thursday, on how many of these 4 days do you usually drink alcohol? (1. On all 4 days, On 3 of the 4 days, 3. On 2 of the 4 days, 4. On 1 of the 4 days, 5. On none of the 4 days.) Comparability with EHIS wave 1: none. AL.3: From Monday to Thursday, how many drinks do you have on average on such a day when you drink alcohol? (1. 16 or more drinks a day, 2. 10-15 drinks a day, 3. 6-9- drinks a day, 4. 4-5 drinks a day, 5. 3 drinks a day, 6. 2 drinks a day, 7. 1 drink a day, 8. 0 drinks a day. Comparability with EHIS wave 1: none. AL.4: Thinking of Friday to Sunday, on how many of these 3 days do you usually drink alcohol? (1. On all 3 days, 2. On 2 of the 3 days, 3. On 1 of the 3 days, 4. On none of the 3 days.) Comparability with EHIS wave 1: none. AL.5: From Friday to Sunday, how many drinks do you have on average on such a day when you drink alcohol? (1. 16 or more drinks a day, 2. 10-15 drinks a day, 3. 6-9- drinks a day, 4. 4-5 drinks a day, 5. 3 drinks a day, 6. 2 drinks a day, 7. 1 drink a day, 8. 0 drinks a day. Comparability with EHIS wave 1: none. AL.6: In the past 12 months, how often have you had [6 or more] drinks containing alcohol on one occasion? For instance, during a party, a meal, an evening out with friends, alone at home… (1. Every day or almost, 2. 5-6 days a week, 3. 3-4 days a week, 4. 1-2 days a week, 5. 2-3 days in a month, 6. Once a month, 7. Less than once a month, 8. Not in the past 12 months, 9. Never in my whole life). Comparability with EHIS wave 1: none. According to the Commission implementing decision of 19 February 2013 (EHIS wave 2), granting derogations to certain Member States to Regulation (EC) No 1338/2008, France and the Netherlands did not deliver variables AL1 till AL6.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics). Higher frequency is not necessary for this indicator

	because mortality for alcohol related causes do not change very much year by year.
Rationale	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.
Remarks	• 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. • 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 a poverty, malnutrition, or hopelessness, which introduce error (Schmidt LA, Mäkelä P, Rehm J, Room R. Alcohol and social determinants of health). • The EHIS questionnaire was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• 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. • 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. • WHO - Global Status Report on Alcohol 2004. • 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 • Alcohol consumption and alcohol-attributable burden of disease in Switzerland, 2002; Int. J Public Health 52 (2007) 383–392. • 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 • 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 • 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 • Alcohol-attributable fraction for England. Alcohol-attributable mortality and hospital admissions. http://www.cph.org.uk/showPublication.aspx?pubid=403 • EHIS standard questionaire 2007-2010 http://circa.europa.eu/Public/irc/dsis/health/library?l=/methodologiessandsdatasc/healthsinterviewssurvey/2007-2008_methodology&vm=detailed&sb=Title • WHO-Global Information System on Alcohol and Health (GISAH) 2nd draft of the International guide for monitoring alcohol consumption and related harm (WHO, in press) • 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 • ODHIN project (Optimizing delivery of health care interventions)

	• ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017)
Work to do	• Check with Eurostat WHO and OECD the preferable data sources • 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)

No changes are proposed to the table of operational indicators for this indicator.

4. ECHI Indicator No 21a: Diabetes, self-reported prevalence

Table 5: 21a.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 21(a). Diabetes: self-reported prevalence
Relevant policy areas	• Sustainable health care systems • Health system performance, quality of care, efficiency of care, patient safety • Non-communicable diseases (NCDs), chronic diseases • (Preventable) Burden of Disease (BoD) • (Planning of) health care resources • Health in All Policies (HiAP)
Definition	Proportion of individuals reporting to have ever been diagnosed with diabetes and to have been affected by this condition during the past 12 months. Update as of EHIS wave 2: Proportion of individuals reporting to been affected by this condition during the past 12 months.
Calculation	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. Update as of EHIS wave 2: Proportion of individuals reporting to have been affected by this condition during the past 12 months, derived from European Health Interview Survey (EHIS) question **CD.1J**: During the past 12 months, have you had any of the following diseases or conditions? Diabetes (yes / no). Comparability with EHIS wave 1: Variable HS.4 is the same as in EHIS wave 1, however, there is no equivalent to EHIS wave 1 HS.5 and HS.6 as of wave 2). EHIS data will not be age standardized.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). As from wave 4, every six years, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• In the EHIS questionnaire, 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. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred. • (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.
References	• WHO, Diabetes fact sheet 2011 • EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

Table 6: 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. Update as of EHIS wave 2: Proportion of individuals aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of men

				aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of women aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 15-64 reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 65+ reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, to have had 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. Update as of EHIS wave 2: Proportion of people aged 15+, whose highest completed level of education is ISCED class 3 or 4, to have had 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. Update as of EHIS wave 2: Proportion of people aged 15+, whose highest completed level of education is ISCED class 5 or 6, to have had this condition during the past 12 months.

5. ECHI Indicator No 23a: Depression, self-reported prevalence

Table 7: 23a.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 23(a). Depression: self-reported prevalence
Relevant policy areas	• Non-communicable diseases (NCDs), chronic diseases • (Preventable) Burden of Disease (BoD) • Mental health • (Planning of) health care resources
Definition	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. Update as of EHIS wave 2: Proportion of individuals reporting to have been affected by this condition during the past 12 months.
Calculation	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). Update as of EHIS wave 2: Proportion of individuals reporting to have been affected by this condition during the past 12 months, derived from European Health Interview Survey (EHIS) question **CD.1O:** During the past 12 months, have you had any of the following diseases or conditions? Depression (yes / no). Comparability with EHIS wave 1: Variable HS.4 is the same as in EHIS wave 1, however, there is no equivalent to EHIS wave 1 HS.5 and HS.6 as of wave 2. EHIS data will not be age standardized.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • SES (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). As from wave 4, every six years, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred. • (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.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • 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. • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

Table 8: 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. Update as of EHIS wave 2: Proportion of individuals aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of men aged 15+ reporting 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. Update as of EHIS wave 2: Proportion of women aged 15+ reporting to have had this condition during the past 12 months.
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. Update as of EHIS wave 2: Proportion of people aged 15-64 reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 65+ reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting to have had this condition during the past 12 months.

6. ECHI Indicator No 26a: Asthma, self-reported prevalence

Table 9: 26a.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 26(a). Asthma: self-reported prevalence
Relevant policy areas	• Non-Communicable diseases (NCD), chronic diseases • (Preventable) Burden of Disease (BoD) • Environmental health • Child health (including young adults) • (Planning of) health care resources
Definition	Proportion of individuals reporting to have ever been diagnosed with asthma and to have been affected by this condition during the past 12 months. Update as of EHIS wave 2: Proportion of individuals reporting to have been affected by this condition during the past 12 months.
Calculation	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: (yes/ no). Update as of EHIS wave 2: Proportion of individuals reporting to have been affected by this condition during the past 12 months, derived from European Health Interview Survey (EHIS) question: **CD.1A**: During the past 12 months, have you had any of the following diseases or conditions? Asthma (allergic asthma included) (yes / no). Comparability with EHIS wave 1: Variable HS.4 is the same as in EHIS wave 1, however, there is no equivalent to EHIS wave 1 HS.5 and HS.6 as of wave 2). EHIS data will not be age standardized.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	Asthma is a significant public health problem and a high-burden disease for which prevention is partly possible and treatment can be quite effective.
Remarks	• Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred. • (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.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments • Monitor EHES developments

Table 10: 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. Update as of EHIS wave 2: Proportion of individuals aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of men aged 15+ reporting to have had this condition during the past 12 months.
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. Update as of EHIS wave 2: Proportion of women aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 15+ , whose highest completed level of education is ISCED class 0, 1 or 2, reportingto have had 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. Update as of EHIS wave 2: Proportion of people aged 15+ , whose highest completed level of education is ISCED class 3 or 4, reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 15+ , whose highest completed level of education is ISCED class 5 or 6, reporting to have had this condition during the past 12 months.

7. ECHI Indicator No 27a: COPD, self-reported prevalence

Table 11::27a.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 27(a). Chronic obstructive pulmonary disease (COPD): self-reported prevalence
Relevant policy areas	• Sustainable health care systems • Healthy ageing, ageing population • Non-Communicable diseases (NCD), chronic diseases • (Preventable) Burden of Disease (BoD) • Life style, health behaviour • (Planning of) health care resources
Definition	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. Update as of EHIS wave 2: Proportion of individuals reporting to have been affected by this condition during the past 12 months.
Calculation	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). Update as of EHIS wave 2: Proportion of individuals reporting to have been affected by this condition during the past 12 months, derived from European Health Interview Survey (EHIS) question **CD.1B:** H During the past 12 months, have you had any of the following diseases or conditions? Chronic bronchitis, chronic obstructive pulmonary disease, emphysema (yes / no). Comparability with EHIS wave 1: Variable HS.4 is the same as in EHIS wave 1, however, there is no equivalent to EHIS wave 1 HS.5 and HS.6 as of wave 2). EHIS data will not be age standardized.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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). • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred. • (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.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

Table 12: 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. Update as of EHIS wave 2: Proportion of individuals aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of men aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of women aged 15+ reporting to have had 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. Update as of EHIS wave 2: Proportion of people aged 15-64 reporting to have had this during the past 12 months.

8. ECHI Indicator No 29a: Injuries: home, leisure, school; self-reported incidence

Table 13: 29a.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 29(a). Injuries: home, leisure, school: self-reported incidence Update as of EHIS wave 2: 29(a). Injuries: home and leisure: self-reported incidence
Relevant policy areas	• Healthy ageing, ageing population • (Preventable) Burden of Disease (BoD) • Preventable health risks • Child health (including young adults) • (Planning of) health care resources • Health in All Policies (HiAP)
Definition	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. 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. Update as of EHIS wave 2: 1) Proportion of individuals reporting to have had an accident at home and/or during leisure activities, during the past 12 months, which resulted in injury. 2) Proportion of individuals reporting to have had an accident at home and/or during leisure activities, during the past 12 months, which resulted in **at least one** injury for which medical treatment was sought.
Calculation	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. Update as of EHIS wave 2: 1) Proportion of individuals reporting to have had a home and leisure accident during the past 12 months, derived from EHIS questions **AC.1B** and **AC.1C**. **AC.1B**: In the past 12 months, have you had any of the following type of accidents resulting in injury? Home accident (yes / no)? **AC.1C**: In the past 12 months, have you had any of the following type of accidents resulting in injury? Leisure accident (yes /no). Respondents answering yes to either or both of the above mentioned questions should be added. Comparability with EHIS wave 1: medium for road traffic accidents and for the sum of home and leisure accidents. For the answer categories in EHIS wave 1, accidents at work and accidents at school were listed and home and leisure accidents were put in one category. 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). Update as of EHIS wave 2:

	2) Proportion of individuals reporting to have had a home and/or leisure accident during the past 12 months, derived from EHIS: questions **AC.1B** and **AC.1C** Respondents answering yes to either or both of the above mentioned questions should be added, and from these respondents the ones answering positively to **AC.2** should be extracted; **AC.2: Did you need medical care as a result of this accident? (1. Yes, I was ADMITTED to a hospital or any other health facility and stayed overnight/ 2. Yes, I was ADMITTED to a hospital or any other health facility but didn't stay overnight/ 3. Yes, from a doctor or nurse/ 4. No consultation or intervention was necessary).** CAVE: In EHIS wave I, for every accident the follow up question regarding received medical care was asked. In EHIS wave II and wave III, the follow up question is only asked for the most serious accident, if there are more than one accident of any considered types (traffic, home or leisure). Comparability with EHIS wave 1: medium, only intervention related to the most serious accident is observed and only for the group of road traffic, home and leisure accidents the comparison can be done. EHIS data will not be age standardized.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-24; 25-64; 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6) • Region (according to ISARE recommendations; see data availability)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• 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. Update as of wave 2: EHIS wave 2 and 3 distinguish the following accident categories: road traffic accident, home and leisure accident. Injuries resulting from **poisoning or inflicted by animals or insects** are also included. Injuries caused by wilful acts of other persons are **excluded** in these categories. • 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)).

	• 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred. • (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.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • 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 • EHIS 2007-2008 Methodology: Information from CIRCA • Health Indicators in the European Regions (ISARE) project • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

Table 14: 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. Update as of EHIS wave 2: Proportion of individuals aged 15+ reporting to have had an accident at home and/or during leisure activities 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. Update as of EHIS wave 2: Proportion of men aged 15+ reporting to have had an accident at home and/or during leisure activities 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. Update as of EHIS wave 2: Proportion of women aged 15+ reporting to have had an accident at home and/or during leisure activities 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. Update as of EHIS wave 2: Proportion of individuals aged 15-24 reporting to have had an accident at home and/or during leisure activities l 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. Update as of EHIS wave 2: Proportion of individuals aged 25-64 reporting to have had an accident at home and/or during leisure activities 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. Update as of EHIS wave 2: Proportion of individuals aged 65+ reporting to have had an accident at home and/or during leisure activities during the past 12 months, which resulted in injury.
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. Update as of EHIS wave 2: 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 and/or during leisure activities l 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. Update as of EHIS wave 2: 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 and/or during leisure activities 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. Update as of EHIS wave 2: 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 and/or during leisure activities 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. Update as of EHIS wave 2: Proportion of individuals aged 15+ reporting to have had an accident at home or during leisure activities during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of men aged 15+ reporting to have had an accident at home and/or during leisure activities during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of women aged 15+ reporting to have had an accident at home and/or during leisure activities during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of individuals aged 15-24 reporting to have had an accident at home and/or during leisure activities during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of individuals aged 25-64 reporting to have had an accident at home and/or during leisure activities during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of individuals aged 65+ reporting to have had an accident at home and/or during leisure activities during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: 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 and/or during leisure activities during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: 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 and/or during leisure activities during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: 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 and/or during leisure activities during the past 12 months, which resulted **in at least one** injury for which medical care was sought.

9. ECHI Indicator No 30a: Injuries: road, traffic; self-reported incidence

Table 15: 30a.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 30(a). Injuries: road traffic: self-reported incidence
Relevant policy areas	• (Preventable) Burden of Disease (BoD) • Preventable health risks • Child health (including young adults) • (Planning of) health care resources • Health in All Policies (HiAP)
Definition	1) Proportion of individuals reporting to have had a road traffic accident, which resulted in injury during the past 12 months. 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. Update as of EHIS wave 2: 2) Proportion of individuals reporting to have had a road traffic accident, during the past 12 months, which resulted in **at least one** injury for which medical treatment was sought.
Calculation	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). Update as of EHIS wave 2: 1) Proportion of individuals reporting to have had a road traffic accident during the past 12 months, derived from EHIS question **AC.1A:** In the past 12 months, have you had any of the following type of accidents resulting in injury? Road traffic accident (yes / no) Comparability with EHIS wave 1: This question is the same as in EHIS wave I, only the name of the variable changed. 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). Update as of EHIS wave 2: 2) Proportion of individuals reporting to have had a road traffic accident during the past 12 months, derived from EHIS: question **AC.1A** and **AC.2**. **AC.1A**: In the past 12 months, have you had any of the following type of accidents resulting in injury? Road traffic accident (yes / no) If yes, select respondents who answered positively to **AC.2**; **AC.2: Did you need medical care as a result of this accident? (1. Yes, I was ADMITTED to a hospital or any other health facility and stayed overnight/ 2. Yes, I was ADMITTED to a hospital or any other health facility but didn't stay overnight/ 3. Yes, from a doctor or nurse/ 4. No consultation or intervention was necessary).** CAVE: In EHIS wave I, for every accident the follow up question regarding received medical care was asked. In EHIS wave II and wave III, the follow up question is only asked for the most serious accident, if there was more than one accident of any considered types (traffic, home or leisure). Comparability with EHIS wave 1: medium, only intervention related to the most serious accident is observed and only for the group of road traffic, home and leisure accidents the comparison can be done. EHIS data will not be age standardized.

Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-24; 25-64; 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6) • Region (according to ISARE recommendations; see data availability)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 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. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

Table 16: 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.
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. Update as of EHIS wave 2: Proportion of individuals aged 15+ reporting to have had a road traffic accident during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of men aged 15+ reporting to have had an accident a road traffic accident during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of women aged 15+ reporting to have had a road traffic accident during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of individuals aged 15-24 reporting to have had a road traffic accident during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of individuals aged 25-64 reporting to have had a road traffic accident during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: Proportion of individuals aged 65+ reporting to have had a road traffic accident during the past 12 months, which resulted in **at least one** injury for which medical care 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. Update as of EHIS wave 2: 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 **at least one** injury for which medical care 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. Update as of EHIS wave 2: 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 **at least one** injury for which medical care 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. Update as of EHIS wave 2: 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 **at least one** injury for which medical care was sought.

10. ECHI Indicator No 33: Self-perceived health

Table 17: 33.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 33. Self-perceived health
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Mental health • (Planning of) health care resources
Definition	Proportion of persons who assess their health to be (very) good.
Calculation	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.
Relevant dimensions and subgroups	• Calendar year • Country • Sex • Age group (16-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6; see remarks).
Preferred data type and data source	Preferred data type: • Health Interview Survey (HIS) Preferred source: • Eurostat (EU-SILC. In future possibly EHIS (see remarks)).
Data availability	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). EHIS: AT, BE, BG, CZ, CY, DE, EE, EL, ES, FR, HU, LV, MT, PL, RO, SI, SK as well as CH and TR conducted a first wave of the 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. The results of the first wave were disseminated thereafter, i.a. through the ECHI Data Tool (formerly Heidi Data Tool). As of the 2nd wave (2013-2015), all EU Member States were obliged to conduct the EHIS. The 2nd wave was also implemented in Iceland and Norway. Some other countries used the 2nd wave EHIS questionnaire in their national health interview surveys (e.g.Turkey or Serbia). EHIS data are available by sex, eight age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
Data periodicity	EU-SILC is carried out annually. Eurostat requests countries to provide the data within one year after data collection. EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• 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). • Eurostat currently does not age-standardize EU-SILC data. For comparability reasons ECHIM would prefer age-standardized data, however. • 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. • 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). • In EHIS wave I, II and III question HS1 asks: How is your health in general? Is it …(very good/ good/ fair/ bad/ very bad). EHIS data will not be age standardized 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 is currently only carried out once every five years, and possibly only once every six years in the future, while EU-SILC is carried out annually. • 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." • 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. • 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.
References	• Eurostat database, data set 'Self-perceived health by sex, age and educational level (%) [hlth_silc_02]' • Eurostat metadata 'Health status : indicators from the SILC survey (from 2004 onwards)' • Eurostat metadata, SILC variables on health status • Eurostat, Description of target variables, Cross-sectional and Longitudinal, 2010 operation (Version February 2010) for SILC • All national questionnaires used in SILC • OMC, indicators of the health and long term care strand, Eurostat website • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017)

	• EHIS standard questionnaire (used in first wave) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Follow EHIS developments • Discuss with Eurostat possibility to age-standardize the health variables from EU-SILC

No changes are proposed to the table of operational indicators for this indicator.

11. ECHI Indicator No 34: Self-reported chronic morbidity

Table 18: 34.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 34. Self-reported chronic morbidity
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Mental health • (Planning of) health care resources
Definition	Proportion of people reporting that they have any long-standing chronic illness or long-standing health problem.
Calculation	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.
Relevant dimensions and subgroups	• Calendar year • Country • Sex • Age group (16-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6; see remarks).
Preferred data type and data source	• Preferred data type: • Health Interview Survey (HIS) Preferred source: • Eurostat (EU-SILC. In future possibly EHIS (see remarks)).
Data availability	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). EHIS: AT, BE, BG, CZ, CY, DE, EE, EL, ES, FR, HU, LV, MT, PL, RO, SI, SK as well as CH and TR conducted a first wave of the 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. The results of the first wave were disseminated thereafter, i.a. through the ECHI Data Tool (formerly Heidi Data Tool). As of the 2nd wave (2013-2015), all EU Member States were obliged to conduct the EHIS. The 2nd wave was also implemented in Iceland and Norway. Some other countries used the 2nd wave EHIS questionnaire in their national health interview surveys (e.g.Turkey or Serbia). EHIS data are available by sex, eight age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
Data periodicity	EU-SILC is carried out annually. Eurostat requests countries to provide the data within one year after data collection. EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	Widely used measure of general health, contributing to the evaluation of health problems, the burden of diseases and health needs at the population level.

Remarks	• Eurostat currently does not age-standardize EU-SILC data. For comparability reasons ECHIM would prefer age-standardized data, however. • 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. • 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). • 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). In EHIS wave I, II and wave III, the question HS2 asks: Do you have any longstanding illness or longstanding health problem (illnesses or health problems which have lasted, or are expected to last, for 6 months or more)? (yes/no). 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). • 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." • 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: problems that are seasonal or intermittent, even where they 'flare up' for less than six months at a time; 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; 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); problems that the respondent treats himself or herself (e.g. with over-the-counter drugs); problems that have lasted (or recurred), or are expected to last (recur) over a six month period or longer. • 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.
References	• Eurostat database, data set 'People having a long-standing illness or health problem, by sex, age and educational level (%) [hlth_silc_05]' • Eurostat metadata 'Health status: indicators from the SILC survey (from 2004 onwards)' • Eurostat metadata, SILC variables on health status • Eurostat, Description of target variables, Cross-sectional and Longitudinal, 2010 operation (Version February 2010) for SILC • All national questionnaires used in SILC • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS standard questionnaire (used in first wave) • EHIS wave 2 model questionnaire (version of 27/March/2013)
Work to do	• Follow EHIS developments • Discuss with Eurostat possibility to age-standardize the health variables from EU-SILC

No changes are proposed to the table of operational indicators for this indicator.

12. ECHI Indicator No 35: Long-term activity limitations

Table 19: 35.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 35. Long-term activity limitations
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • (Planning of) health care resources
Definition	Proportion of people reporting that they have long-term restrictions in daily activities.
Calculation	Proportion of people who answer "yes strongly limited" or "yes limited" to EU-SILC question: For at least the past 6 months, to what extend you have been limited because of a health problem in activities people usually do? (Answering categories; 'severely limited', 'limited but not severely' or 'not limited at all'). Numbers of people answering "severely limited'" or "limited but not severely" should be added and divided by the total number of people who were interviewed. Age-standardization: see remarks.
Relevant dimensions and subgroups	• Calendar year • Country • Sex • Age group (16-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6; see remarks).
Preferred data type and data source	Preferred data type: • Health Interview Survey (HIS) Preferred source: • Eurostat (EU-SILC. In future possibly EHIS (see remarks)).
Data availability	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. Aggregates: EU-27 from 2005 onwards (for 2005 and 2006 only estimates) and EU-28 from 2010 onwards. Results are available by sex, age group and educational level (ISCED). EHIS: AT, BE, BG, CZ, CY, DE, EE, EL, ES, FR, HU, LV, MT, PL, RO, SI, SK as well as CH and TR conducted a first wave of the 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. The results of the first wave were disseminated thereafter, i.a. through the ECHI Data Tool (formerly Heidi Data Tool). As of the 2nd wave (2013-2015), all EU Member States were obliged to conduct the EHIS. The 2nd wave was also implemented in Iceland and Norway. Some other countries used the 2nd wave EHIS questionnaire in their national health interview surveys (e.g.Turkey or Serbia). EHIS data are available by sex, eight age groups (15-24/25-34/35-44/45-54/55-64/65-74/75-84/85+) and ISCED groups.
Data periodicity	EU-SILC is carried out annually. Eurostat requests countries to provide the data within one year after data collection.
Rationale	Widely used measure of general health, contributing to the evaluation of health problems, the burden of diseases and health needs at the population level.

Remarks	• '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). • 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)). • Eurostat currently does not age-standardize EU-SILC data. For comparability reasons ECHIM would prefer age-standardized data, however. • 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. • 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). In EHIS wave I, II and wave III, the question HS3 asks: For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do? (severely limited, limited but not severely, not limited at all) EHIS data will not be age standardized. 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). • 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." • Eurostat metadata: "Eurostat launched several consultations with Member States on the evaluation of implementing health variables in the national SILC surveys. These consultations served as a basis for revising the methodological guidelines with a view of enhancing input harmonization of national questions with EU standard methodology. Results of the 2012 consultation focused on the implementation of PH030 variable (Global Activity Limitation Instrument - GALI) in Member States are available in the document: Overview of the implementation of the GALI question in EU-SILC." • Eurostat metadata: "A coherence analysis with the European Health Interview Survey (EHIS wave 1) which includes exactly the same three questions of the MEHM revealed significant differences in results for some countries. An overview of problems and comments on the progress in the harmonisation of the questions on health in the EU-SILC and with the EHIS questions (2004 - 2007) is provided in the annex. Further analysis between SILC and EHIS wave 2 data is anticipated and results of that analysis will preferably be used for evaluating the coherence of MEHM for two reasons: all Member States

	can be included in the analysis and more harmonization of national questions used in SILC and EHIS can be expected." • 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. • 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.
References	• 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]' • Eurostat metadata 'Health status : indicators from the SILC survey (from 2004 onwards) • Eurostat metadata, SILC variables on health status • Eurostat, Description of target variables, Cross-sectional and Longitudinal, 2010 operation (Version February 2010) for SILC • All national questionnaires used in SILC • OMC, indicators of the health and long term care strand, Eurostat website • Eurostat metadata, Overview of the implementation of the GALI question in EU-SILC • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • EHIS standard questionnaire (used in first wave)
Work to do	• Follow EHIS developments • Discuss with Eurostat possibility to age-standardize the health variables from EU-SILC

No changes are proposed to the table of operational indicators for this indicator.

Table 20: 35.3 Remarks on comparability

35. Long-term activity limitations
Comparability between countries 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. 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).

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:
• the 6 months period is considered as a reference period and not as the minimum duration of the limitation
• the reference is to the respondent's own daily activities and not to the ones that people usually do
• the use of 2 answer categories instead of 3 (e.g. Denmark)
• 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)

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).

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.
6) In 2015, the GALI question was modified in Germany.

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.
• 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 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)
• Jagger C, Gillies C, Cambois E, Van Oyen H, Nusselder W, Robine J-M. The Global Activity Limitation Index measured function and disability similarly across European countries. Journal of Clinical Epidemiology. 2010;63:892-9.
• 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.
• Sen A. Health: perception versus observation. BMJ. 2002 Apr 13;324(7342):860-1.
• Van Oyen H., Van der Heyden J., Perenboom R., Jagger C. Monitoring population disability: evaluation of a new Global Activity Limitation Indicator (GALI). Soc.-Präventivmed, 51, 153-161, 2006

13. ECHI Indicator No 36: Physical and sensory functional limitations

Update as of wave 3: ECHI Indicator No 36: Functional limitations

Table 21: 36.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 36. Physical and sensory functional limitations Update as of EHIS wave 3: Functional limitations
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • (Planning of) health care resources
Definition	The percentage of people who declare having physical and sensory functional limitations (concerning seeing, hearing, mobility, speaking, biting/chewing, and agility).
Calculation	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: PL1. Do you wear glasses or contact lenses? (Yes / No / I am blind cannot see) PL2: Can you see newspaper print? PL3: Can you see the face of someone 4 metres away (across a road)? PL4: Do you wear a hearing aid? (Yes / No / I am profoundly deaf) PL5: Can you hear what is said in a conversation with several people PL6: Can you walk 500 metres on a flat terrain without a stick or other walking aid or assistance? PL7: Can you walk up and down a flight of stairs without a stick, other walking aid, assistance or using a banister? PL8: Can you bend and kneel down without any aid or assistance? PL9: Using your arms, can you carry a shopping bag weighting 5 kilos for at least 10 metres without any aid or assistance? In the calculation of the indicator, the questions on the use of glasses/contact lenses (PL1) and of a hearing aid (PL3) are not considered. People are considered as a) not limited if the responses for all the remaining questions is always “Yes, with no difficulty”, 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”). c) severely limited if the response of at least one question is “With a lot of difficulty” or “Not at all”. Update as of EHIS wave 2: Prevalence of physical and sensory functional limitations measured by the European Health Interview Survey (EHIS) instrument derived from the following questions PL.1-**PL.7** and **PL.9**: PL.1: Do you wear glasses or contact lenses? (Yes/ No/ I am blind **or** cannot see **at all**) Comparability with EHIS wave 1: high PL.2: Do you have difficulty seeing when wearing your glasses or contact lenses? (no difficulty/ some difficulty/ a lot of difficulty/ Cannot do at all, unable to do) Comparability with EHIS wave 1: medium. In EHIS wave 1 two questions were asked. The combined result might be comparable with the EHIS wave 2 indicator. PL.**3**: Do you use a hearing aid? (Yes / No / I am profoundly deaf) Comparability with EHIS wave 1: high, the only change is the word "wear" by

	"use." PL.4: Do you have difficulty hearing what is said in a conversation with one other person in a quiet room, even when using your hearing aid? (no difficulty/ some difficulty/ a lot of difficulty/ Cannot do at all, unable to do) Comparability with EHIS wave 1: medium, the reference to "conversation with several people" is changed and a characteristic of the room where the conversation takes place (quiet or noisy) is added. Combining PL4 and PL5 from EHIS wave 2 an indicator comparable with EHIS wave 1 might be received. PL.5: Do you have difficulty hearing what is said in a conversation with one other person in a noisier room, even when using your hearing aid? (no difficulty/ some difficulty/ a lot of difficulty/ Cannot do at all, unable to do) (for **comparability** see PL4) PL.6: Do you have difficulty walking half a km on level ground, without the use of any aid? (no difficulty/ some difficulty/ a lot of difficulty/ Cannot do at all, unable to do) Comparability with EHIS wave 1: high, the phrasing has been changed compared to EHIS wave 1 question but it measures the same.) PL.7: Do you have difficulty walking up or down 12 steps? (no difficulty/ some difficulty/ a lot of difficulty/ Cannot do at all, unable to do)? Comparability with EHIS wave 1**:** high, the phrasing has been changed compared to EHIS wave 1 question but it measures the same. In EHIS wave 3, the following **new variables** are included: PL.8: Do you have difficulty remembering things or concentrating? (no difficulty/ some difficulty/ a lot of difficulty/ Cannot do at all, unable to do) PL.9: Do you have difficulty biting and chewing on hard foods? no difficulty/ some difficulty/ a lot of difficulty/ Cannot do at all, unable to do (only for people aged 55+) Comparability with EHIS wave 1 and wave 2: none EHIS data will not be age standardized.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from EHIS. According to the Commission implementing decision of 19 February 2013 (EHIS wave 2), granting derogations to certain Member States to Regulation (EC) No 1338/2008, Belgium did not deliver variables PL4, PL5 and PL7, and the Netherlands did not deliver PL5 and PL6.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• 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). 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. • 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). • 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. However, outcomes of the Budapest Initiative were incorporated in the questionnaire for EHIS wave II and wave III. The modifications of the formulation of the questions in wave II, as well as the addition of two items in wave III, reflect changes in line with the proposed Question Set on Functioning. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • The Budapest Initiative (UNECE) of the Washington Group on Disability Statistics • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Commission Implementing Decision of 19 February 2013 (2013/97/EU). • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

No changes are proposed to the table of operational indicators for this indicator.

14. ECHI Indicator No 37: General musculoskeletal pain

Table 22: 37.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 37. General musculoskeletal pain
Relevant policy areas	• (Preventable) Burden of Disease (BoD)
Definition	Prevalence of general musculoskeletal pain, measured by means of health interview survey using representative population sample.
Key issues and problems	Topic needs further development: • 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. • 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) and a general question on bodily pain PN.1 in wave 2 and wave 3. For the questionnaire for EHIS wave II, a recommendation for questions on musculoskeletal pain developed by the EUMUSC.NET project (see remarks) was submitted on behalf of ECHIM. However, this recommendation was not taken over, meaning that there was be no question on general musculoskeletal pain in EHIS wave 2 nor wave 3. • 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.
Preferred data type and data source	Preferred data type: Health Interview Survey Preferred source: ?
Data availability	No data available in the international databases.
Rationale	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.
Remarks	• Representativeness of surveys is not always optimal due to the lack of inclusion of the institutionalized population. • Project musculoskeletal disorders recommendation for HIS-question: ● 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). ● 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. • 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.

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? Yes / No
2) Has this problem lasted for 3 months or more? Yes / No
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

	a) Pain during last 4	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)	o
Osteoarthritis (arthrosis, joint degeneration, "wear and	o
Gout	o
Fibromyalgia	o
Sprain or strain	o
Other (please state)	

3) For this problem, have you been told by a medical doctor what the diagnosis is? Yes / No
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

4) Have you fractured or broken a bone as a result of a fall in the last 12 months Yes / No
If yes, was it your hip (proximal femur) Yes / No

References

- 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 overviev.
- EUMUSC.NET project
- European Union Health Surveys Information Database, EUHSID
- ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017)
- EHIS wave 2 model questionnaire (version of 27/March/2013)
- EHIS standard questionnaire (used in first wave)

Work to do

- Develop further together with experts and international data collectors.

15. ECHI Indicator No 38: Psychological distress

Table 1: 38.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 38. Psychological distress
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Mental health • (Planning of) health care resources
Definition	To be developed, e.g. occurrence and extent of psychological distress during past month.
Key issues and problems	Topic needs further development: • 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. • What data source to use now that EHIS will no longer provide data? Update as of EHIS wave 2: • 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 was to drop the MHI-5 scale from the questionnaire and to not replace it with an alternative for measuring generic mental health. **However, EHIS wave 2 and wave 3 include depression-related module of the Brief Patient Health Questionnaire (Brief PHQ), the PHQ-9, excluding the question focusing on suicidal thoughts. Therefore, 8 items (PHQ-8) are included in wave 2 and wave 3.** MH.1A: Over the last 2 weeks, how often have you been bothered by any of the following problems? Little interest or pleasure in doing things. (not at all/ several days/ more than half the days/ nearly every day) MH.1B: Over the last 2 weeks, how often have you been bothered by any of the following problems? Feeling down, depressed or hopeless. (not at all/ several days/ more than half the days/ nearly every day) MH.1C: Over the last 2 weeks, how often have you been bothered by any of the following problems? Trouble falling or staying asleep, or sleeping too much. (not at all/ several days/ more than half the days/ nearly every day) MH.1D: Over the last 2 weeks, how often have you been bothered by any of the following problems? Feeling tired or having little energy. (not at all/ several days/ more than half the days/ nearly every day) MH.1E: Over the last 2 weeks, how often have you been bothered by any of the following problems? Poor appetite or overeating. (not at all/ several days/ more than half the days/ nearly every day)

	MH.1F: Over the last 2 weeks, how often have you been bothered by any of the following problems? Feeling bad about yourself or that you are a failure or have let yourself or your family down. (not at all/ several days/ more than half the days/ nearly every day) MH.1G: Over the last 2 weeks, how often have you been bothered by any of the following problems? Trouble concentrating on things, such as reading the newspaper or watching television. (not at all/ several days/ more than half the days/ nearly every day) MH.1H: Over the last 2 weeks, how often have you been bothered by any of the following problems? Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than ususal. (not at all/ several days/ more than half the days/ nearly every day) Comparability with EHIS wave 1 for all MH-items: none.
Preferred data type and data source	Preferred data type: Health Interview Survey Preferred source: ?
Data availability	No data available in the international databases. According to the Commission implementing decision of 19 February 2013, granting derogations to certain Member States to Regulation (EC) No 1338/2008, Belgium and the Netherlands did not deliver variables MH.1A till MH.1H.
Rationale	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.
Remarks	• 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. • 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. • Update as of EHIS wave 2: EHIS wave 2 and 3 use the PHQ-8 (the PHQ-9 without the last question referring to suicidal thoughts • 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.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • MINDFUL project • RAND SF-36

	• ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Commission Implementing Decision of 19 February 2013 (2013/97/EU). • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• 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. • Incorporate (new) tool into regular data collections (➛ discuss with international stakeholders).

16. ECHI Indicator No 39: Psychological well-being

Table 23: 39.1 Documentation sheet

ECHIM Indicator name	**B) Health status** 39. Psychological well-being
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • Mental health
Definition	To be developed, e.g. occurrence and extent of psychological well-being during past month.
Key issues and problems	Topic needs further development: • 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. • Update as of EHIS wave 2: As far as the developments of indicator 38 go, this is no longer possible with EHIS data. • What instrument should we use for gathering data on psychological well-being in Europe, now that the EVI has proven inadequate in practice? • What data source to use now that EHIS will no longer provide data?
Preferred data type and data source	Preferred data type: Health Interview Survey Preferred source: ?
Data availability	No data available in the international databases.
Rationale	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.
Remarks	• 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. • EHIS wave 1 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. • 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.

References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • MINDFUL project • RAND SF-36
Work to do	• 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. • Incorporate (new) tool into regular data collections (➛ discuss with international stakeholders).

17. ECHI Indicator No 42: Body mass index

Table 24: 42.1 Documentation sheet

ECHIM Indicator name	**C) Health determinants** 42. Body mass index
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • Child health (including young adults) • (Planning of) health care resources • Health in All Policies (HiAP)
Definition	Proportion of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is ≥ 30 kg/m².
Calculation	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. Update as of EHIS wave 2: BM.1: How tall are you **without shoes**? (cm), and BM.2: How much do you weight without clothes and shoes? (kg). EHIS data will not be age standardized. Comparability with EHIS wave 1: high
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (18-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: Now: HIS In future: HES Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• This indicator is also one of the Health and Long Term Care Indictors of the Social Protection Committee. 'Overweight people' is listed as an indicator to be developed for the set of Sustainable Development Indicators. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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. • 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. • A BMI between 18.5 and 25 is considered to be normal. Overweight is usually defined as having a BMI of ≥ 25 and below 30. People with a BMI of ≥ 30 are considered obese. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • European Health Examination Survey (EHES) • Recommendations International Obesity Task Force on cut off points for childhood obesity • Indicators of the Social Protection Committee, health and long term care strand • Sustainable development indicators, public health • Sustainable development in the European Union - 2009 monitoring report of the EU sustainable • development strategy (including list of indicators and indicators to be developed) • Health Indicators in the European Regions (ISARE) project • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat and EHES developments • 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.

No changes are proposed to the table of operational indicators for this indicator.

18. ECHI Indicator No 43: Blood pressure

Table 25: 43.1 Documentation sheet

ECHIM Indicator name	**C) Determinants of health** 43. Blood pressure
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • (Planning of) health care resources • Health in All Policies (HiAP)
Definition	Proportion of individuals reporting to have been diagnosed with high blood pressure which occurred during the past 12 months. Update as of EHIS wave 2: Proportion of individuals reporting to have had high blood pressure during the past 12 months.
Calculation	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). Update as of EHIS wave 2: Proportion of individuals reporting to have had high blood pressure (hypertension) during the past 12 months, derived from European Health Interview Survey (EHIS) question **CD.1E**: **CD.1E**: During the past 12 months, have you had any of the following diseases or conditions? High blood pressure (hypertension) (yes / no). EHIS data will not be age standardized. Comparability with EHIS wave 1: Variable HS.4 is the same as in EHIS wave 1, however, there is no equivalent to EHIS wave 1 HS.5 and HS.6 as of wave 2).
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (25-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: Now: HIS In future: HES Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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. • Update as of EHIS wave 2: EHIS wave 2 and three do not capture anymore, whether the blood pressure has been diagnosed by a doctor or not. 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. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • European Health Examination Survey (EHES) • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat and EHES developments

Table 26: 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. Update as of EHIS wave 2: Proportion of individuals aged 25+ reporting to have had high blood pressure 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. Update as of EHIS wave 2: Proportion of men aged 25+ reporting to have had high blood pressure 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. Update as of EHIS wave 2: 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. Update as of EHIS wave 2: Proportion of individuals reporting to have had high blood pressure 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+. Update as of EHIS wave 2: Proportion of individuals reporting to have had high blood pressure 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. Update as of EHIS wave 2: Proportion of individuals aged 25+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting to have had high blood pressure 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. Update as of EHIS wave 2: Proportion of individuals aged 25+, whose highest completed level of education is ISCED class 3 or 4, reporting to have had high blood pressure during the past 12 months.
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. Update as of EHIS wave 2: Proportion of individuals aged 25+, whose highest completed level of education is ISCED class 5 or 6, reporting to have had with high blood pressure during the past 12 months.

19. ECHI Indicator No 44: Regular smokers

Table 27: 44.1 Documentation sheet

ECHIM Indicator name	**C) Determinants of health** 44. Regular smokers
Relevant policy areas	• Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • Child health (including young adults) • (Planning of) health care resources • Health in All Policies (HiAP)
Definition	Proportion of people reporting to smoke cigarettes daily.
Calculation	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. Update as of EHIS wave 3: Percentage of respondents answering reporting to smoke cigarettes daily derived from EHIS questions SK.1 and SK.2(1a/1b); SK.1: Do you smoke any tobacco products (excluding electronic cigarettes or similar elecontronic devices)? 1. Yes, daily; 2. Yes, occasionally; 3. Not at all. SK.2/1a: Do you smoke manufactured or hand-rolled cigarettes each day? 1. Yes, 2. No. cigarettes (manufactured and/or hand-rolled), SK.2/1b: On average, how many cigarettes do you smoke each day? (Number of cigarettes per day). EHIS data will not be age standardized. For SK.1 Comparability between wave 1 and 2: comparability between wave 1 and 3 was high, even if in the phrasing the words "at all nowadays" were removed. Comparability between wave 2 and wave 3: is medium, specification 'any tobacco products (excluding electronic cigarettes or similar electronic devices)' was added to question SK1 in EHIS wave 3. For SK.2: Comparability between wave 1 and 2: was still included in wave 2, medium, occasional smokers were not asked in EHIS wave 1 and EHIS wave 2 question focuses only mostly consumed tobacco product. However, a comparable indicator can be derived from EHIS wave 1. Comparability between wave 2 and wave 3: SK.2 is totally different in wave 3, but the two 'new' questions SK.2/1a and SK.2/1b of EHIS wave 3 can be compared with question SK3 in EHIS waves 1 and 2. SK.2/1a and SK.2/1b ask exclusively for daily smoking of cigarettes and the average number of cigarettes smoked per day, so the comparison can be done only on cigarettes.
Relevant dimensions and subgroups	• Calendar year • Country • Sex • Age group (15-24; 25-64; 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)

Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• The percentage of daily cigarette smokers in the population aged 15+ also is one of the Health and Long Term Care Indictors of the Social Protection Committee. "Present smokers, by gender and age group" is one of the Sustainable Development Indicators under development. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • Indicators of the Social Protection Committee, health and long term care strand • Sustainable development indicators, public health • Sustainable development in the European Union - 2009 monitoring report of the EU sustainable development strategy (including list of indicators and indicators to be developed) • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

No changes are proposed to the table of operational indicators for this indicator.

20. ECHI Indicator No 47: Hazardous alcohol consumption

Table 28: 47.1 Documentation sheet

ECHIM Indicator name	**C) Health determinants** 47. Hazardous alcohol consumption
Relevant policy areas	• Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • Child health (including young adults) • (Planning of) health care resources • Health in All Policies (HiAP)
Definition	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.
Calculation	Percentage of men/women having over the week on average ≥2 drinks/day (women) or ≥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. Update as of EHIS wave 2: Percentage of men/women having over the week on average ≥2 drinks/day (women) or ≥3 drinks/day (men), derived from EHIS questions AL.2-AL.5. AL.2: Thinking of Monday to Thursday, on how many of these 4 days do you usually drink alcohol? (1. On all 4 days, 2. On 3 of the 4 days, 3. On 2 of the 4 days, 4. On 1 of the 4 days, 5. On none of the 4 days.) AL.3: From Monday to Thursday, how many drinks do you have on average on such a day when you drink alcohol? (1. 16 or more drinks a day, 2. 10-15 drinks a day, 3. 6-9- drinks a day, 4. 4-5 drinks a day, 5. 3 drinks a day, 6. 2 drinks a day, 7. 1 drink a day, 8. 0 drinks a day. AL.4: Thinking of Friday to Sunday, on how many of these 3 days do you usually drink alcohol? (1. On all 3 days, 2. On 2 of the 3 days, 3. On 1 of the 3 days, 4. On none of the 3 days.) AL.5: From Friday to Sunday, how many drinks do you have on average on such a day when you drink alcohol? (1. 16 or more drinks a day, 2. 10-15 drinks a day, 3. 6-9- drinks a day, 4. 4-5 drinks a day, 5. 3 drinks a day, 6. 2 drinks a day, 7. 1 drink a day, 8. 0 drinks a day. Comparability with EHIS wave 1: none, new questions.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from EHIS. According to the Commission implementing decision of 19 February 2013, granting derogations to certain Member States to Regulation (EC) No 1338/2008, France and the Netherlands did not deliver variables AL.2 till AL.5.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).

Rationale	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.
Remarks	• 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. • 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. • According to current plans, Eurostat will probably not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Commission Implementing Decision of 19 February 2013 (2013/97/EU). • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

21. ECHI Indicator No 49: Consumption of fruit

Table 29: 49.1 Documentation sheet

ECHIM Indicator name	**C) Determinants of health** 49. Consumption of fruits
Relevant policy areas	• Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • Health in All Policies (HiAP)
Definition	Proportion of people reporting to eat fruits (excluding juice) at least once a day.
Calculation	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. Update as of wave 3: Percentage of people reporting to eat fruits (excluding juice) at least once a day, derived from EHIS question DH.1. How often do you eat fruits, excluding juice squeezed from fresh fruit or made from concentrate? 1. Once or more a day / 2. 4 to 6 times a week / 3. 1 to 3 times a week / 4. Less than once a week / 5. Never. EHIS data will not be age standardized. Maybe also relevant: DH.2 (new in wave 2 (FV.2) and wave 3 (DH.2)): How many portions of fruit, of any sort, do you eat each day? (number of portions) and DH.5: How often do you drink 100% pure fruit or vegetable juice, excluding juice made from concentrate and sweetened juice? (1. Once or more a day / 2. 4 to 6 times a week / 3. 1 to 3 times a week / 4. Less than once a week / 5. Never.) Comparability between EHIS wave 1 and 2: medium, the wording of the question is the same, only the answer categories "twice or more a day" and "once a day" are grouped into a single answer category "once or more a day" and fresh juices are included. Comparability between EHIS wave 2 and 3: medium, while juices squeezed from fresh fruit and vegetables had been included in DH.1, DH.2, DH.3 and DH.4 of EHIS wave 2, the new questions DH.5 in EHIS wave 3 asks separately for 'fresh / pure juices' from fruits and vegetables.
Relevant dimensions and subgroups	• Calendar year • Country • Sex • Age group (15-24; 25-64; 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).

Rationale	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.
Remarks	• Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

No changes are proposed to the table of operational indicators for this indicator.

22. ECHI Indicator No 50: Consumption of vegetables

Table 30: 50.1 Documentation sheet

ECHIM Indicator name	**C) Determinants of health** 50. Consumption of vegetables
Relevant policy areas	• Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • Health in All Policies (HiAP)
Definition	Proportion of people reporting to eat vegetables (excluding potatoes and juice) at least once a day.
Calculation	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. Update as of EHIS wave 3: Percentage of people reporting to eat vegetables (excluding potatoes and juice **made from concentrate** at least once a day, derived from EHIS question DH.3. How often do you eat vegetables or salad, excluding potatoes and **fresh juice or juice made from concentrate**? 1. Once or more a day / 2. 4 to 6 times a week / 3. 1 to 3 times a week/ 4. Less than once a week / 5. Never. EHIS data will not be age standardized. Maybe also relevant: DH.4 (new in wave 2 (FV.4) and wave 3 (DH.4)): How many portions of vegetables or salad do you eat each day? (number of portions) and DH.5: How often do you drink 100% pure fruit or vegetable juice, excluding juice made from concentrate and sweetened juice? (1. Once or more a day / 2. 4 to 6 times a week / 3. 1 to 3 times a week / 4. Less than once a week / 5. Never.). Comparability between EHIS wave 1 and 2: medium, the wording of the question is the same, only the answer categories "twice or more a day" and "once a day" are grouped into a single answer category "once or more a day" and fresh juices are included. Comparability between EHIS wave 2 and 3: medium, while juices squeezed from fresh fruit and vegetables had been included in DH.1, DH.2, DH.3 and DH.4 of EHIS wave 2, the new questions DH.5 in EHIS wave 3 asks separately for 'fresh / pure juices' from fruits and vegetables.
Relevant dimensions and subgroups	• Calendar year • Country • Sex • Age group (15-24; 25-64; 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).

Rationale	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.
Remarks	• Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

No changes are proposed to the table of operational indicators for this indicator.

23. ECHI Indicator No 52: Physical activity

Table 31: 52.1 Documentation sheet

ECHIM Indicator name	**C) Health determinants** 52. Physical activity
Relevant policy areas	• Healthy ageing, ageing population • Health inequalities (including accessibility of care) • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • Health in All Policies (HiAP)
Definition	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). Update as of EHIS wave 2: The definition should be updated based on the development of the physical activity questionnaire EHIS-PAQ (as part of the ImpEHIS project) for the second wave of EHIS, which is also being used in the third wave. EHIS-PAQ assesses physical activity related to work, transport and leisure activities during a typical week of the respondents.
Calculation	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. Update as of EHIS wave 2: EHIS instrument regarding physical activity levels (days and/or hours/minutes per week), derived from questions PE.1.-8: Precise operationalisation to be formulated. Items were already changed in wave 2 to the following questions (EHIS-PAQ): PE.1: Firstly think about the TIME you spend DOING WORK. Think of work as the things that you have to do such as paid and unpaid work, work around your home, taking care of family, studying or training. When you are WORKING, which of the following best describes what you do? Would you say … (1. Mostly sitting or standing, 2. Mostly walking or tasks of moderate physical effort, 3. Mostly heavy labour or physically demanding work 4. Not performing any working tasks) PE.2: In a typical week, on how many days do you WALK for at least 10 minutes continuously in order to get to and from places? (Number of days, never) PE.3: How much time do you spend walking in order to get to and from places on a typical day? (1. 10 - 29 minutes per day, 2. 30 - 59 minutes per day, 3. 1 hour to less than 2 hours per day, 4. 2 hours to less than 3 hours per day, 5. 3 hours or more per day) PE.4: In a typical week, on how many days do you BICYCLE for at least 10 minutes continuously to get to and from places? (Number of days, never) PE.5: How much time do you spend bicycling in order to get to and from places on a typical day? (1. 10 - 29 minutes per day, 2. 30 - 59 minutes per day, 3. 1 hour to less than 2 hours per day, 4. 2 hours to less than 3 hours per day, 5. 3 hours or more per day) PE.6: In a typical week, on how many days do you carry out sports, fitness or recreational (leisure) activities for at least 10 minutes continuously? (Number of days, never) PE.7: How much time in total do you spend on sports, fitness or recreational (leisure) physical activities in a typical week? (hours/minutes per week) PE.8: In a typical week, on how many days do you carry out activities

	specifically designed to STRENGTHEN your muscles such as doing resistance training or strength exercises? Include all such activities even if you have mentioned them before. (Number of days, never) Comparability with wave 1: none.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from EHIS. According to the Commission implementing decision of 19 February 2013, granting derogations to certain Member States to Regulation (EC) No 1338/2008, the Netherlands did not deliver variables PE1 till PE8.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• 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. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Finger et al. Archives of Public Health (2015) 73:59: Development of the European Health Interview Survey - Physical Activity Questionnaire (EHIS-PAQ) to monitor physical activity in the European Union • Commission Implementing Decision of 19 February 2013 (2013/97/EU) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual

		Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017..
Work to do	•	Monitor EHIS/Eurostat developments

24. ECHI Indicator No 54: Social support

Table 32: 54.1 Documentation sheet

ECHIM Indicator name	**C) Determinants of health** 54. Social support
Relevant policy areas	• Sustainable health care systems • Health system performance, quality of care, efficiency of care, patient safety • (Preventable) Burden of Disease (BoD) • Preventable health risks • Life style, health behaviour • Mental health
Definition	Proportion of individuals reporting that they have none or 1 person that they can count on if they have serious personal problems.
Calculation	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). Update as of wave 2: Number of persons on whom the respondent can rely on when help is needed, as measured by EHIS question **SS.1:** 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/ **6 or more**). Also available as of wave 2: SS.2: How much concern do people show in what you are doing? (A lot of concern and interest/ Some concern and interest/ Uncertain/ Little concern and interest/ No concern and interest) SS.3: How easy is it to get practical help from neighbours if you should need it? (Very easy/ Easy/ Possible/ Difficult/ Very difficult) Comparability with wave 1: high for SS.1, none for SS.2 and SS.3.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• 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. Update as of wave 2: In the first wave, only the first component (number of people to count on) was asked in EHIS, in wave 2 and 3 all three dimensions are being asked. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• Oslo-3 Social Support Scale (OSS-3) • MINDFUL document "Survey indicators" • EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

No changes are proposed to the table of operational indicators for this indicator.

25. ECHI Indicator No 57: Influenza vaccination rate in elderly

Table 33: 57.1 Documentation sheet

ECHIM Indicator name	**D) Health interventions: health services** 57. Influenza vaccination rate in elderly
Relevant policy areas	• Healthy ageing, ageing population • Health system performance, quality of care, efficiency of care, patient safety • Health threats, communicable diseases • (Preventable) Burden of Disease (BoD)
Definition	Proportion of elderly individuals reporting to have received one shot of influenza vaccine during the last 12 months.
Calculation	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. Update as of wave 2: 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: When was the last time you´ve been vaccinated against flu? (month/ year, 1. Too long ago (before last year), 2. Never). EHIS data will not be age standardized. Comparability with EHIS wave 1: Comparability with EHIS wave 1: high for now PA.1 (used to be PA.2), even if the questioning has been changed (1 question instead of 3).
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS)
Data availability	Data can be obtained from EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	Influenza vaccination in elderly is important for reducing the disease burden of influenza, including mortality.
Remarks	• This indicator is also one of the OECD Health Care Quality Indicators, and one of the Health and Long Term Care Indictors of the Social Protection Committee. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • A recall period of 12 months is used to cover one influenza season. • 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. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • OECD Health Care Quality Indicators • Indicators of the Social Protection Committee, health and long term care strand • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

No changes are proposed to the table of operational indicators for this indicator.

26. ECHI Indicator No 58: Breast cancer screening

Table 34: 58.1 Documentation sheet

ECHIM Indicator name	**D) Health interventions: health services** 58. Breast cancer screening
Relevant policy areas	• Healthy ageing, ageing population • Health system performance, quality of care, efficiency of care, patient safety • Non-Communicable diseases (NCD), chronic diseases • (Preventable) Burden of Disease (BoD) • (Planning of) health care resources
Definition	Proportion of women (aged 50-69) reporting to have undergone a breast cancer screening test within the past two years.
Calculation	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. Update as of EHIS wave 2: 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 question PA.7: When was the last time you had a mammography (breast X-ray)? (Within the past 12 months / 1 to less than 2 years/ 2 to less than 3 years/ 3 years or more/ Never. EHIS data will not be age standardized. Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2); the answer category "never" is added.
Relevant dimensions and subgroups	• Country • Calendar year • Age group (50-69) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS = interim source, see remarks).
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• Breast cancer screening rate is also one of the Health and Long Term Care Indictors 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. • 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. • 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. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • Indicators of the Social Protection Committee, health and long term care strand • OECD Health Care Quality Indicators • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments • 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.

No changes are proposed to the table of operational indicators for this indicator.

27. ECHI Indicator No 59: Cervical cancer screening

Table 35: 59.1 Documentation sheet

ECHIM Indicator name	**D) Health interventions: health services** 59. Cervical cancer screening
Relevant policy areas	• Healthy ageing, ageing population • Health system performance, quality of care, efficiency of care, patient safety • Non-Communicable diseases (NCD), chronic diseases • (Preventable) Burden of Disease (BoD) • (Planning of) health care resources
Definition	Proportion of women (aged 20-69) reporting to have undergone a cervical cancer screening test within the past three years.
Calculation	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. Update as of EHIS wave 2: Percentage of women aged 20-69 reporting to have had a cervical smear test (pap smear) within the last 3 years, derived from EHIS question PA.8: When was the last time you had a cervical smear test? (Within the past 12 months / 1 to less than 2 years/ 2 to less than 3 years/ 3 years or more/ Never). EHIS data will not be age standardized. Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2); the answer category "never" is added.
Relevant dimensions and subgroups	• Country • Calendar year • Age group (20-69) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS = interim source, see remarks).
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	Among all malignant tumours, 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.
Remarks	• This indicator is also one of the Health and Long Term Care Indictors of the Social Protection Committee (SPC). • 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. • 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. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • Indicators of the Social Protection Committee, health and long term care strand • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

No changes are proposed to the table of operational indicators for this indicator.

28. ECHI Indicator No 60: Colon cancer screening

Table 36: 28.1 Documentation sheet

ECHIM Indicator name	**D) Health interventions: health services** 60. Colon cancer screening
Relevant policy areas	• Healthy ageing, ageing population • Health system performance, quality of care, efficiency of care, patient safety • Non-Communicable diseases (NCD), chronic diseases • (Preventable) Burden of Disease (BoD) • (Planning of) health care resources
Definition	Proportion of persons (aged 50-74) reporting to have undergone a colorectal cancer screening test in the past 2 years.
Calculation	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. Update as of EHIS wave 2: 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 question PA.5: When was the last time you had a faecal occult blood test? (Within the past 12 months/ 1 to less than 2 years/ 2 to less than 3 years/ 3 years or more/ Never). EHIS data will not be age standardized. Comparability with EHIS wave 1: high, even if the questioning has been changed (1 question instead of 2). No change in the wording of the question; the answer category "never" is added.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (50-74) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS = interim source, see remarks)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• 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. • 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. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments

No changes are proposed to the table of operational indicators for this indicator.

29. ECHI Indicator No 71: General practitioner (GP) utilization

Table 37: 71.1 Documentation sheet

ECHIM Indicator name	**D) Health interventions: health services** 71. General practitioner (GP) utilisation
Relevant policy areas	• Health inequalities (including accessibility of care) • Planning of) health care resources • Health care costs & utilisation
Definition	Mean number of self-reported visits to general practitioner per person per year.
Calculation	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. Update as of EHIS wave 2: Mean number of visits to general practitioner per person per year, derived from EHIS questions **AM2** and **AM3**. **AM2**: 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 AM2 is 1) → **AM3**: During the past four weeks ending yesterday, 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 **AM3** 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. **Comparability with wave 1:** High, only variable name changed.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • SES (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS) (interim source, see remarks)
Data availability	Data can be obtained from the EHIS. According to the Commission implementing decision of 19 February 2013 (EHIS wave 2), granting derogations to certain Member States to Regulation (EC) No 1338/2008, Belgium did not deliver variable AM3.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• 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.

	• Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • The EHIS definition of consulting a GP comprises visits to the respondent's doctor's practice, home visits as well as consultations by telephone. • 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. • 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. • 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. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Commission Implementing Decision of 19 February 2013 (2013/97/EU). • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments • 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. • Stimulate improvement availability and quality register-based data for this indicator.

No changes are proposed to the table of operational indicators for this indicator.

30. ECHI Indicator No 72: Selected outpatient visits

Table 38: 72.1 Documentation sheet

ECHIM Indicator name	**D) Health interventions: health services** 72. Selected outpatient visits
Relevant policy areas	• Health inequalities (including accessibility of care) • (Planning of) health care resources • Health care costs & utilisation
Definition	1) Mean number of self-reported visits to a dentist or orthodontist per person per year. Update as of EHIS wave 2: Question on number of visits during the past four weeks is no longer included. 2) Mean number of self-reported visits to a medical or surgical specialist per person per year. 3) Proportion of population reporting to have had a contact with a psychologist or psychotherapist during the past 12 months.
Calculation	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. Update as of EHIS wave 2: 1) Mean number of self-reported visits to a dentist or orthodontist per person per year, derived from EHIS question AM1: 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 6 months ago /2) **6 to less than12 months** / 3) **12 months or longer** 4.) Never) Comparability with EHIS wave 1: AM1: High, only the answer categories were split into two more categories. The question HC08 however is no longer reflected in EHIS wave 2 and EHIS wave 3. 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. Update as of EHIS wave 2: 2) Mean number of self-reported visits to a medical or surgical specialist per person per year, derived from EHIS questions **AM4** and **AM5**. **AM4**: 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 **AM4** is 1): ➛ **AM5**: 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 AM5 is extrapolated from 4 to 52 weeks, and divided by the total number of respondents in the sample. Comparability with EHIS wave 1: High, only the variable names changed. 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. Update as of EHIS wave 2: 3) Percentage of respondents reporting to have had a contact with a psychologist or psychotherapist during the past 12 months, derived from EHIS questions **AM6A and AM6B. AM6A**: During the past 12 months have you visited on your own behalf **a Psychotherapist or kinesitherapist? and AM6B: During the past 12 months have you visited on your own behalf a Psychologist, psychotherapist or psychiatrist**? 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. Comparability between EHIS wave 1 and wave 2: A. Physiotherapist or kinesitherapist: high, no change; B. Psychologist, psychotherapist or psychiatrist: medium, the definition is slightly broader (includes psychiatrist). Comparability between EHIS wave 2 and wave 3: A. Physiotherapist, kinesitherapist, chiropractor or osteopath: medium (definition is broader and now includes chiropractor and osteopath); B. high, no change.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • SES (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS) (interim source, see remarks)
Data availability	Data can be obtained from EHIS. According to the Commission implementing decision of 19 February 2013 (EHIS wave 2), granting derogations to certain Member States to Regulation (EC) No 1338/2008, Belgium did not deliver variable AM5.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	Indicator used in assessment of cost and (equity of) access.
Remarks	• 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. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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. Update as of EHIS wave 2: The EHIS instruction for questions AM4-AM6B reads (in wave 2): Next questions are about consultations with

	medical or surgical specialists. Include visits to doctors as outpatient or emergency departments only, but do not include contacts while in hospital as an in-patient or day-patient. Do not include visits to general dentists. • 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. Update as of EHIS wave 2: For specialists, 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. • Update as of EHIS wave 2: Visits to health care providers during the past four weeks are no longer asked for dentist or orthodontist. • 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. • 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. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Commission Implementing Decision of 19 February 2013 (2013/97/EU). • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Monitor EHIS/Eurostat developments • 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 • Advise Eurostat/technical HIS group to also ask repondents to report the number of visits to mental health care providers • Stimulate improvement availability and quality register-based data for this indicator

Table 39: 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. Update as of wave 2: no longer possible
41702				Mean number of self-reported visits to a dentist or orthodontist per person per year, in men aged 15+. Update as of wave 2: no longer possible
41703				Mean number of self-reported visits to a dentist or orthodontist per person per year, in women aged 15+. Update as of wave 2: no longer possible
41704				Mean number of self-reported visits to a dentist or orthodontist per person per year, among people aged 15-64. Update as of wave 2: no longer possible
41705				Mean number of self-reported visits to a dentist or orthodontist per person per year, among people aged 65+. Update as of wave 2: no longer possible
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. Update as of wave 2: no longer possible
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. Update as of wave 2: no longer possible
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. Update as of wave 2: no longer possible
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
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

31. ECHI Indicator No 74: Medicine use, selected groups

Table 40: 74.1 Documentation sheet

ECHIM Indicator name	**D) Health interventions: health services** 74. Medicine use, selected groups
Relevant policy areas	• Health inequalities (including accessibility of care) • Health system performance, quality of care, efficiency of care, patient safety • (Preventable) Burden of Disease (BoD) • (Planning of) health care resources • Health care costs & utilisation
Definition	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. Update as of EHIS wave 2: Percentage of population who report having used medicines prescribed by a physician during the past 2 weeks.
Calculation	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. 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). If yes: W2_S 39 Were they medicines for…? a) Asthma b) Chronic bronchitis, chronic obstructive pulmonary disease, emphysema c) High blood pressure d) Lowering the blood cholesterol level e) Other cardiovascular disease, such as stroke and heart attack f) Pain in the joints g) Pain in the neck or back h) Headache or migraine i) Diabetes j) Allergic symptoms (eczema, rhinitis, hay fever) k) Stomach troubles l) Depression m) Tension or anxiety 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: n) N. Sleeping tablets o) O. Antibiotics such as penicillin (or any other national relevant example) Update as of EHIS wave 2: Percentage of population who report having used medicines prescribed by a physician during the past 2 weeks, derived from the European Health Interview Survey (EHIS) questions **MD1** and **MD 2**. **MD1**: During the past two weeks, have you used any medicines (that were prescribed for you by a doctor – (for women, please exclude contraceptive pills or other hormones)? (yes/no). **MD2**: During the past two weeks, have you used any medicines or dietary supplement or herbal medicines or vitamins not prescribed or recommended by a doctor (for women, please exclude contraceptive pills or other hormones)? (yes/no).

	Comparability with EHIS wave 1: W2_S 38 and MD1/MD2: medium, the question and the concept have been slightly changed: the word "recommended" is dropped, "dietary supplements such as herbal medicines or vitamins" are excluded from the wording of the question and "contraceptive pills or hormones for contraception" are excluded. However, a comparable indicator can be derived from EHIS wave 1. Regarding W2_S 39 and W2_S40: Questions specifying what the medication was prescribed for were dropped in EHIS wave 2 and EHIS wave 3.
Relevant dimensions and subgroups	• Country • Calendar year • Sex • Age group (15-64, 65+) • Socio-economic status (educational level. ISCED 3 aggregated groups: 0-2; 3+4; 5+6)
Preferred data type and data source	Preferred data type: HIS Preferred source: Eurostat (EHIS) (interim source, see remarks)
Data availability	Data can be obtained from the EHIS.
Data periodicity	EHIS wave 1 (2006-2009), wave 2 (2013-2015), wave 3 (2019). Every six years from there, according to the Framework regulation on IESS (Integrated European Social Statistics).
Rationale	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.
Remarks	• 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. • 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. • Update as of EHIS wave 2: Discuss implications of the fact that the reason for prescribing the medication (medical condition) is no longer included in EHIS wave 2 and wave 3 • 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. • Eurostat does currently not age-standardize EHIS data. For comparability reasons ECHIM would however prefer age-standardized data. • 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 was revised for waves 2 and 3. Hence adaptations to the EHIS question underlying this indicator occurred. • The SANCO funded PHIS project is also collecting medicine

	consumption data. Case studies in a limited number of countries (Austria, the Netherlands, Norway, Portugal and Slovakia, total annual pharmaceutical consumption in hospitals and top 5 active substances used in hospitals by pharmaceutical expenditure). • 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). • The PHIS project recommends to include an indicator for prescription per capita per year as well, but this is not available from EHIS.
References	• EHIS standard questionnaire (version of 11/2006, used in first wave) • EHIS 2007-2008 Methodology: Information from CIRCA • 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 • MINDFUL • Statistics on Medicines in Europe -project, EURO-MED-STAT • PHIS Hospital Pharma Report • PHIS indicators Taxonomy Final Version August 2009 • WHO. Priority Medicines for Europe and the World. 2004 • SOGETI 2006. European Commission DG SANCO. Development of public health performance indicators for the pharmaceutical sector: Final report • ANNEX 1 to the COMMISSION REGULATION (EU) No implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council as regards statistics based on the European Health Interview Survey (EHIS) (Ref. Ares(2017)3807243 - 28/07/2017) • EHIS wave 2 model questionnaire (version of 27/March/2013) • Eurostat: European Health Interview Survey (EHIS wave 2). Methodological manual. In: Methodologies and Working papers. Luxembourg Publications Office of the European Union; 2013 • Eurostat: European Health Interview Survey (EHIS wave 3). Conceptual Guidelines and Interview Instructions. Draft for Consultation at ESS Countries. Version 22 June 2017.
Work to do	• Follow EHIS and OECD developments

Table 41: 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. Update as of EHIS wave 2: Proportion of people aged 15+ who report having used medication prescribed by a physician during the past 2 weeks.
41902				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. Update as of EHIS wave 2: Proportion of men aged 15+ who report having used or medication prescribed by a physician during the past 2 weeks.

41903				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. Update as of EHIS wave 2: Proportion of women aged 15+ who report having used medication prescribed by a physician during the past 2 weeks.
41904				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. Update as of EHIS wave 2: Proportion of people aged 15-64 who report having used medication prescribed by a physician during the past 2 weeks.
41905				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. Update as of EHIS wave 2: Proportion of people aged 65+ who report having used medication prescribed by a physician during the past 2 weeks.
41906				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. Update as of EHIS wave 2: Proportion of population aged 15+, whose highest completed level of education is ISCED class 0, 1 or 2, reporting having used medication prescribed by a physician during the past 2 weeks.
41907				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. Update as of EHIS wave 2: Proportion of population aged 15+, whose highest completed level of education is ISCED class 3 or 4, reporting having used medication prescribed by a physician during the past 2 weeks.
41908				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. Update as of EHIS wave 2: Proportion of population aged 15+, whose highest completed level of education is ISCED class 5 or 6, reporting having used medication prescribed by a physician during the past 2 weeks.

B. Data availability by indicator and country

The following assessment of ECHI data availability in the preferred international data source (as defined in the ECHI documentation sheets) reflects the outcomes of the WP4 data availability survey, conducted in 2016. Data availability is shown by country, whereby countries are indicated by a two-letter country code and listed in alphabetical order. Indicators for which EHIS is currently the preferred data source are marked by (EHIS).

It has to be remarked here that EHIS only became mandatory as of EHIS wave 2 which was implemented between 2013 and 2015. Consequently, at the time of the implementation of our survey in 2016, some countries did not yet have data available from the latest EHIS wave. To illustrate, NL noted both unavailable data owing to accepted derogations (alcohol, physical activity, physical limitations) as well as data that were not (yet) available from EHIS wave 2, but would become available in 2017. The indicators covered in the table include those listed in the implementation section (n=67) as well as those in the work in progress section (n=14) which already have a defined preferred international data source (5/14). Indicators from the development section are not included in this overview. To differentiate the two sections, indicators from the latter section are marked WiP.

The colour and structure codes used in the table are as follows:

Data available in the preferred source

Data not available in the preferred source

Missing information (question not answered).

Table 42: Data availability of ECHI shortlist indicators by indicator and country

1. Population by sex/age											
AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	
2. Birth rate, crude											
AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	
3. Mother's age distribution											
AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	
4. Total fertility rate											
AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	
5. Population projections											
AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

6. Population by education

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

7. Population by occupation

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

8. Total unemployment

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

9. Population below poverty line and income inequality

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

10. Life expectancy

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

11. Infant mortality

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

12. Perinatal mortality

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

13. Disease-specific mortality; Eurostat, 86 causes

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

14. Drug-related death

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

15. Smoking-related deaths (WiP)/ (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

16. Alcohol-related deaths (WiP)/ (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

18. Selected communicable diseases

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

19. HIV/AIDS

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

20. Cancer incidence

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

21. (A) Diabetes, self-reported prevalence (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

23. (A) Depression, self-reported prevalence (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

26. (A) Asthma, self-reported prevalence (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

27. (A) COPD, self-reported prevalence (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

28. (Low) birth weight

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

29. (A) Injuries: home/leisure, violence, self-reported incidence (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

29. (B) Injuries: home/leisure, violence, register-based incidence

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

30. (A) Injuries: road traffic, self-reported incidence (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

30. (B) Injuries: road traffic, register-based incidence

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

31. Injuries: workplace

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

33. Self-perceived health

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

34. Self-reported chronic morbidity

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

35. Long-term activity limitations

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

36. Physical and sensory functional limitations (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

40. Health expectancy: Healthy Life Years (HLY)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

41. Health expectancy, others (WiP)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

42. Body mass index (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

43. Blood pressure (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

44. Regular smokers (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

46. Total alcohol consumption

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

47. Hazardous alcohol consumption (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

48. Use of illicit drugs

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

49. Consumption of fruit (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

50. Consumption of vegetables (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

51. Breastfeeding (WiP)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

52. Physical activity (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

53. Work-related health risks

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

54. Social support (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

55. PM10 (particulate matter) exposure

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

56. Vaccination coverage in children

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

57. Influenza vaccination rate in elderly

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

58. Breast cancer screening (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

59. Cervical cancer screening (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

60. Colon cancer screening (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

62. Hospital beds

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

63. Practising physicians

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

64. Practising nurses

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

66. Medical technologies: MRI units and CT scans

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

67. Hospital in-patient discharges, limited diagnoses

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

68. Hospital daycases, limited diagnoses

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

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

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

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

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

71. General practitioner (GP) utilisation (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

72. Selected outpatient visits (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

73. Surgeries: PTCA, hip, cataract

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

74. Medicine use, selected groups (EHIS)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE

IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

75. Patient mobility (WiP)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

76. Insurance coverage

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

77. Expenditures on health

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

78. Survival rates cancer

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

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

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

80. Equity of access to health care services

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

85. Policies on ETS exposure (Environmental Tobacco Smoke)

AL	AT	BE	CY	CZ	DE	EE	ES	FI	FR	HR	IE
IT	LT	LU	LV	NL	NO	PL	PT	RO	SE	SK	

C. Data availability (preferred international data source) by country

The following section summarizes outcomes of the WP4 data availability survey. Representatives from the 36 countries were asked to indicate whether ECHI indicators were available in the preferred international data source as defined in the ECHI documentation sheets. Responses were received from 23 countries, of these 21 EU member states (s. Deliverable 4.1 for description of methods and for details of response). Information is given on indicators in the implementation section (n=67) and in the work-in-progress section where preferred data sources have already been defined (n=5). The results in this section are therefore closely linked to the results of section "Data availability by indicator and country". This means that limitations – such as a time-lag in data availability of indicators derived from EHIS wave 2, also apply to this overview.

Table 43: Data availability of ECHI shortlist indicators by country

Albania	
Proportion of "implemented" indicators available	49%
Proportion of "work-in-progress" indicators available	20%
Proportion of indicators in both sections available	47%
Austria	
Proportion of "implemented" indicators available	100%
Proportion of "work-in-progress" indicators available	60%
Proportion of indicators in both sections available	97%
Belgium	
Proportion of "implemented" indicators available	99%
Proportion of "work-in-progress" indicators available	100%
Proportion of indicators in both sections available	99%
Croatia	
Proportion of "implemented" indicators available	90%
Proportion of "work-in-progress" indicators available	80%
Proportion of indicators in both sections available	89%
Cyprus	
Proportion of "implemented" indicators available	91%
Proportion of "work-in-progress" indicators available	60%

Proportion of indicators in both sections available	89%
Czech Republic	
Proportion of “implemented” indicators available	100%
Proportion of “work-in-progress” indicators available	100%
Proportion of indicators in both sections available	100%
Estonia	
Proportion of “implemented” indicators available	96%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	94%
Finland	
Proportion of “implemented” indicators available	99%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	97%
France	
Proportion of “implemented” indicators available	96%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	94%
Germany	
Proportion of “implemented” indicators available	94%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	93%
Ireland	
Proportion of “implemented” indicators available	97%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	96%
Italy	
Proportion of “implemented” indicators available	75%

Proportion of “work-in-progress” indicators available	60%
Proportion of indicators in both sections available	74%
Latvia	
Proportion of “implemented” indicators available	97%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	96%
Lithuania	
Proportion of “implemented” indicators available	91%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	90%
Luxembourg	
Proportion of “implemented” indicators available	99%
Proportion of “work-in-progress” indicators available	100%
Proportion of indicators in both sections available	99%
Netherlands	
Proportion of “implemented” indicators available	67%
Proportion of “work-in-progress” indicators available	60%
Proportion of indicators in both sections available	67%
Norway	
Proportion of “implemented” indicators available	85%
Proportion of “work-in-progress” indicators available	60%
Proportion of indicators in both sections available	83%
Poland	
Proportion of “implemented” indicators available	97%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	96%
Portugal	

Proportion of “implemented” indicators available	99%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	97%
Romania	
Proportion of “implemented” indicators available	94%
Proportion of “work-in-progress” indicators available	60%
Proportion of indicators in both sections available	92%
Slovakia	
Proportion of “implemented” indicators available	99%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	97%
Spain	
Proportion of “implemented” indicators available	99%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	97%
Sweden	
Proportion of “implemented” indicators available	99%
Proportion of “work-in-progress” indicators available	80%
Proportion of indicators in both sections available	97%

V. Implications and limitations

The update of the documentation sheets showed that the majority of changes in ECHI indicators which are based on EHIS is rooted in changes between EHIS wave 1 and EHIS wave 2. Changes in indicators between EHIS wave 2 and EHIS wave 3 were only identified for: ECHI Indicator No 6: Population by education (for which EHIS is not yet defined as preferred source), ECHI Indicator No 15: Smoking related deaths, ECHI Indicator No 36: Physical and sensory functional limitations, ECHI Indicator No 44: Regular smokers, ECHI Indicator No 49: Consumption of fruit. ECHI Indicator No 50: Consumption of vegetables, ECHI Indicator No 72: Selected outpatient visits. As mentioned above, while the first wave of the EHIS (2006-2009) was conducted on a gentlemen's agreement in 17 EU countries as well as in Turkey and Switzerland, it has become mandatory for all EU countries as from its second wave (2013-2015). This came with large changes in (the amount and formulation) of variables. Looking at changes between EHIS wave 2 and EHIS wave 3 allows the conclusion, that the majority of harmonization has already been done.

We identified the following five groups of indicators based on the extent of changes between EHIS wave 3 (or 2) and EHIS wave 1.

Very slight changes (e.g. variable names, still high comparability)

- No 57: Influenza vaccination rate in elderly
- No 42: Body mass index
- No 57: Influenza vaccination rate in elderly
- No 58: Breast cancer screening (regrouping of answer categories)
- No 59: Cervical cancer screening (regrouping of answer categories)
- No 60: Colon cancer screening
- No 71: General practitioner (GP) utilization (variable name)

Larger changes for parts of the indicator by dropping answer categories or rephrasing so that dimensions are not reflected anymore

- No 21a: Diabetes, self-reported prevalence
- No 23a: Depression, self-reported prevalence
- No 26a: Asthma, self-reported prevalence
- No 27a: COPD, self-reported prevalence
- No 29a: Injuries: home, leisure, school; self-reported incidence
- No 30a: Injuries: road, traffic; self-reported incidence
- No 43: Blood pressure
- No 72: Selected outpatient visits

Larger changes for parts of the indicator by adding/rephrasing answer categories or rephrasing so that new dimensions are also reflected

- No 36: Physical and sensory functional limitations
- No 54: Social support

(Almost) complete change in variables underlying indicators

- No 38: Psychological distress
- No 39: Psychological well-being
- No 47: Hazardous alcohol consumption
- No 52: Physical activity

Apparently ongoing work with changes between wave 2 and wave 3

- No 44: Regular smokers
- No 49: Consumption of fruit
- No 50: Consumption of vegetables
- No 74: Medicine use, selected groups (many categories dropped)

Taking into account the relatively small amount of indicators which were still changed between EHIS wave 2 and EHIS wave 3, we think it is possible that EHIS indicators will remain relatively stable in the future – implying also more stability for ECHI indictors. Regular updates however remain necessary. During our work it became evident that relying on available documentation work, such as the EHIS manuals for each wave, considerably facilitates update processes; we recommend to consult similar documentation, where available, when updating further indicators on the shortlist.

The visualization of data availability by country, as reported through the WP4 data availability survey, has not yet been discussed with the expert bodies which accompanied and supported the activities of WP4. Consequently, the proposed updates for the EHIS-derived or EHIS-related indicators are work ongoing and need validation through consultation. It is being planned to include such consultation activity in the upcoming Joint Action on Health Information. In the long run, sustainable processes involving indicator experts need to be put into place to enable regular reviews of the ECHI shortlist. This will ensure that methodological developments which involve data sources and data types for the ECHI are taken up in the ECHI documentation sheets. Furthermore, the updates of the documentation sheets presented in this report exclusively concern EHIS-derived or EHIS-related indicators on the ECHI shortlist. Additional work is needed to carry out reviews for indicators with non-EHIS data sources. As already indicated in our Deliverable 4.1 where we presented an analysis of data availability by indicator, it may well be that some indicators which are reported as being unavailable, have become available in the meantime through the EHIS wave 2. Some countries, e.g. NL, included this information in their survey response. A follow-up of our data availability mapping which would also include those countries that did not reply to our survey, may be useful to get a more complete picture. Of note, an outcome of the presentation of our activities to both of our expert groups in May 2017 was that closer cooperation should be sought with Eurostat on the issue of data availability, and that Eurostat may provide such information on a regular basis for those indicators which are Eurostat-based. For non EHIS-variables, looking at data availability by indicator and country might help identify clusters of indicators which present themselves as being challenging to implement.

At this point in time, the analysis assists in identifying countries with low overall data availability and in exploring the causes. Previous ECHI-projects executed procedures to support countries in the implementation of the ECHI in their national health information systems. The upcoming Joint Action on Health Information may consider reviewing or re-establishing such procedures aiming to increase overall data availability in Europe. Full-text responses given by countries participating in the data availability survey as well as bilateral contacts can support the preparation of exchanges with countries which exhibited low data availability, pointing to specific supporting needs.

VI. Conclusions and recommendations

Technical updates of the ECHI shortlist are needed since instruments underlying the indicators change over time to reflect scientific and methodological developments. Owing to the number of indicators which need to be reviewed, their variety of preferred data sources and data types as well as the breadth of public health topics covered by the shortlist, such process needs considerable expertise. It thus needs to be embedded in a sustainable structure of expert consultations.

Variations in data availability for the ECHI reveal health information inequalities in Europe. The Joint Action on Health Information will undertake to further review such inequalities for selected countries and to issue recommendations how to reduce them. It is being recommended that the quantitative data as well as the full-text replies gathered by the WP4 data availability survey are considered as source of additional information in this process.

VII. References

1. Mariken Tijhuis PA, Marieke Verschuuren, Angela Fehr, Thomas Ziese: **ECHI content evaluation and update on ECHI information repository. BRIDGE Health WP4, Deliverable 4.2 (Part 2)**. In.: National Institute for Public Health and the Environment (RIVM); 2017.
2. Mariken Tijhuis PA, Marieke Verschuuren, Angela Fehr, Sabrina Hense, Thomas Ziese: **Concepts health indicator repository. BRIDGE Health WP 4.4 - Milestone 15**. In.: National Institute for Public Health and the Environment (RIVM); 2016.
3. **Decision No 1400/97/EC of the European Parliament and of the Council of 30 June 1997 adopting a programme of Community action on health monitoring within the framework for action in the field of public health (1997 to 2001)**. In. Official Journal L 193: 0001 - 0010.
4. Verschuuren M., Achterberg PW., Gijsen R., Harbers MM., Vijge E., Wilk EA van der., Kramers PGN.: **ECHI Indicator development and documentation - Joint Action for ECHIM Final Report Part II**. In. Bilthoven; 2012.
5. Eurostat: **European Health Interview Survey (EHIS wave 2). Methodological manual**. In: *Methodologies and Working papers.* Luxembourg Publications Office of the European Union; 2013.

BRIDGEHEALTH
BRidging Information and Data Generation for Evidence-based Health Policy and Research

D 4.2 (Part 2) : ECHI content evaluation and update on ECHI information repository

Information need matching

Technical report BRIDGE Health WP4 / RIVM

Authored by: Mariken Tijhuis[1], Peter Achterberg[1], Marieke Verschuuren[1], Angela Fehr[2], Thomas Ziese[2],

[1]National Institute for Public Health and the Environment (RIVM), P.O. Box 3720 |BA Bilthoven, The Netherlands

[2] Robert Koch Institute, Dept. of Epidemiology and Health Monitoring | General-Paper-Str. 62-66 |12101 Berlin, Germany

BRIDGE Health Coordination:
Scientific Institute of Public Health | Rue Juliette Wytsmanstraat 14 | 1050 Brussels | Belgium| e-mail: bridge.coordination@wiv-isp.be| Website: www.bridge-health.eu|Twitter: @bridge_health

This project is funded by the Health Programme of the European Union

Table of Contents

Executive summary 2
Key points 3
I. Introduction 4
II. Aim 5
A. Aim and scope 5
B. Objectives 5
III. Approach 6
A. Literature search 6
1. Evaluation questions 6
2. Methods 6
B. Expert consultation 6
1. Evaluation questions 6
2. Methods 7
IV. Findings 9
A. ECHI documentation 9
B. ECHI content and policy relevance 13
C. Development and implementation of an information repository 22
V. Implications and limitations 24
VI. Conclusions and recommendations 24
References 26
A. Appendix 1: Search strategy 28
B. Appendix 2: Proposal for ECHI format evaluation under policy makers 30
C. Appendix 3: Practical input by indicator, starting point for further discussion 31

Executive summary

The European Core Health Indicators (ECHI) shortlist is the EU core set of public health indicators. The core indicators can be used for country comparison of health data, monitoring and policy-making in the EU and its Member States and their regions. It has been in use since 2005 and is the result of joint EU broad efforts, involving MS and also international organisations, in various projects since 1998. These projects have, by definition, not been able to institutionalise the process of maintaining and improving the ECHI system, both in the sense of data developments and content-wise. In addition, it is not clear how policy makers are served best by the list nor what actions need to be taken to give ECHI a more visible and effective role in a sustainable EU health information system.

In this report, we explored the current status and future prospects for ECHI content and policy relevance as well as accessibility and considerations regarding institutionalisation of ECHI. We base our findings on literature research as well as expert consultation.

We conclude that the audience and user needs for ECHI are complex. The indicator list needs to be relatively short and actionable to best serve policy makers, but also provide for more explanatory (detailed) information – for both researchers and policy makers - whenever a change in indicator outcome is signalled. A re-appraised ECHI-core set and a well-organized ECHI-process may better support priority setting in health policy and may also show where investment in data collection and new indicator development is needed. At the same time, the fact that policy priorities have shifted over the years and will continue to do so needs to be handled as well. To support a stronger EU Health Information system the Member States will have to take up the challenge of ECHI-revival and renewal to serve their changing policy needs.

Therefore, we recommend to proceed ECHI development with exploring and piloting a change in the way the indicators are presented to better suit policy and its priorities, a sustainable method for updating the ECHI indicators and a web space for more visibility and shared knowledge, involving both policy makers and public health data experts.

To this end we present 1) some first steps in conceptualising a new ECHI format and 2) a first prototype for an ECHI repository including concepts for improving interaction and knowledge sharing. These first steps will be further developed under the JA on Health Information, working towards a web space under sustainable governance.

Key points

Our evaluations suggest that there is a need to invest in a continuous and collaborative effort from EU Member States through the following action points:

- *Strengthen the links between the ECHI-shortlist and policy makers/policy priorities*
- *Organize a structured procedure to identify new indicator areas for the EU and its MS*
- *Further develop the ECHI format, i.e., develop layering or sections to more adequately accommodate the need for both stability/monitoring and flexibility/actionability*
- *Develop a structured, collaborative and sustainable procedure to maintain and update the ECHI process of indicator development, closely involving the Member States*
- *Actively promote and evaluate the use of ECHI in national and EU reporting efforts*
- *Establish an ECHI indicator platform to share relevant technical and historical information*
- *Develop joint projects and data collections between the major international organisations active in the European region, to efficiently and sustainably embed ECHI in the international health information landscape.*

These key points will now be taken up into the Joint Action on Health Information – InfAct.

I. Introduction

This evaluation and prospect report is a deliverable of the BRIDGE Health project (http://www.bridge-health.eu/). The BRIDGE Health project aims to prepare the transition towards a sustainable and integrated EU health information system**.** Central to Work Package (WP) 4 are the European Core Health Indicators (ECHI).

The ECHI shortlist is the EU core set of public health indicators. The core indicators can be used for country comparison of health data, monitoring and policy-making in the EU and its Member States and their regions. It has been in use since 2005 and is the result of joint EU broad efforts, involving MS and also international organisations, in various projects since 1998. These projects have, by definition, not been able to institutionalise the process of maintaining and improving the ECHI system, both in the sense of developments data in collections and definitions and content-wise. In addition, it is currently not clear how policy makers are served best by the list nor what actions need to be taken to give ECHI a more visible and effective role in a sustainable EU health information system.

In WP4.1 and 4.2, aspects of current data availability have been evaluated [1, 2].

This part of the current report presents findings from WP4.3 and 4.4.

In WP4.3, the focus is on aspects of content and policy relevance. It builds upon historical project documentation, external evaluations and existing peer-reviewed and grey literature, in addition to expert consultations and findings from other BRIDGE Health project work packages.

Subject to WP4.4 is the creation of long term institutional memory in the form of a sustainable web based repository. In this context, a brief report was delivered in December 2016 on concepts for a health indicator repository (MS15). Here, we present an update.

Part of this evaluation has been submitted as an article to the Archives of Public Health. The current report provides additional background information, depth and width to the topic in question.

II. Aim

A. Aim and scope

The overall aim of this evaluation is to review the content of the ECHI-indicator shortlist in relation to its original aims and objectives in the broader perspective of a changing European policy priority landscape, a changing health information and indicator environment, a variable stakeholder engagement and altered demands for a future common health indicator set for the EU.

B. Objectives

The following main objectives were formulated:

1. To evaluate the usefulness of the current ECHI shortlist in the light of changing policy and information needs
2. To propose revisions of the ECHI framework and a sustainable future revision procedure (i.e. implementation on EU level)
3. To explore the realization of a sustainable information repository for ECHI, to support future work and exchange of knowledge and expertise

These objectives were addressed by literature search, additional desk research and expert consultation. This is described in the next section.

III. Approach

This section describes the methods used in fulfilling the objectives, i.e. a literature search into ECHI project documentation, earlier ECHI evaluations and other related literature; and consultations of expert knowledge, through a survey and expert meeting.

The literature search also served as input for the development of the survey and as input for the ECHI indicator repository. Similarly, the expert consultation served as a complement to the literature search.

A. Literature search

1. Evaluation questions

1. Which publications have evaluated ECHI-indicators and the ECHI process before?
2. Which publications describe the use of ECHI-indicators?
3. Which publications describe the usefulness (or uselessness) of health indicators?

2. Methods

In order to identify relevant peer-reviewed and grey literature and documents, we searched PubMed, Scopus, Embase, Google and Google Scholar (see Appendix 1 for the search strategy). In short, we searched for European Community/Core Health Indicators, European Union Health Indicators and European Union Health Information System.

In addition, we requested support in literature identification in our expert consultation (see section B).

All references were collected in a structured reference management system (Endnote X8).

B. Expert consultation

1. Evaluation questions

A survey was developed taking account of previous evaluations and with the aim to serve future demands and development of the shortlist.

The central question of the survey was: how can we improve the current policy focus, balance and appropriateness of the ECHI indicator approach to better serve stakeholders?

Some of the more detailed questions were:

- Does ECHI need revising and if so, what are options to do so?
- What is the potential for adding new health indicators to the core set?

- Which ECHI indicators do experts consider particularly useful or not useful (anymore)?
- What are the (best) options to make ECHI-indicators more sustainable?

2. Methods

a) Survey development

A 2013 external evaluation of the use and impact of ECHI [3], commissioned by the European Commission, concluded that increasing the usefulness for policy planners should become a priority (see also the section on ECHI documentation under Findings). The report states that if the list develops towards being more of a policy instrument, addressing evolving information needs of policy makers and steering the strategic policy planning and monitoring process across Europe, this would have implications for the ECHI shortlist size, flexibility and balance. Hence, these aspects were included in the survey.

The survey consisted of 3 parts:

- Respondent background and affiliation
- Shortlist criteria, flexibility, size, balance, policy relevance and utility
- Support in identifying literature in which ECHI are used or evaluated

The survey was created in an online form management system (https://en.formdesk.com/) and accessible via a link sent by email. Pausing and resuming without loss of data was made possible. Questions were formulated variably in open and closed (checkbox and radio) format.

The survey was first piloted with the Advisory Core Group (see section c on involvement of expert groups) in February 2017 and adapted according to feedback. It was then launched with the Members of EGHI (n=50), with an option to forward to others, in March 2017. Completion was requested in April; reminders to non-responders were sent twice. Final results were received in May 2017.

b) Survey participation

Twenty experts contributed to the survey, representing a total of n=18 countries (see Fig 1). Combined, they were knowledgeable of all public health areas, some being generalists and some with expertise in one or more specific areas, most often morbidity/disability and mortality. About half of the respondents were affiliated with a government structure and about half with a (science-based governmental) public health institute. About half characterized their work as a bridging between science and policy, about a quarter as relating most to policy and a quarter as relating most to science. As far as tasks within the policy cycle, n=15 were involved in monitoring and forecasting, and n=12 in benchmarking, and n=5 were involved in health system performance assessment, target-setting and policy evaluation each.

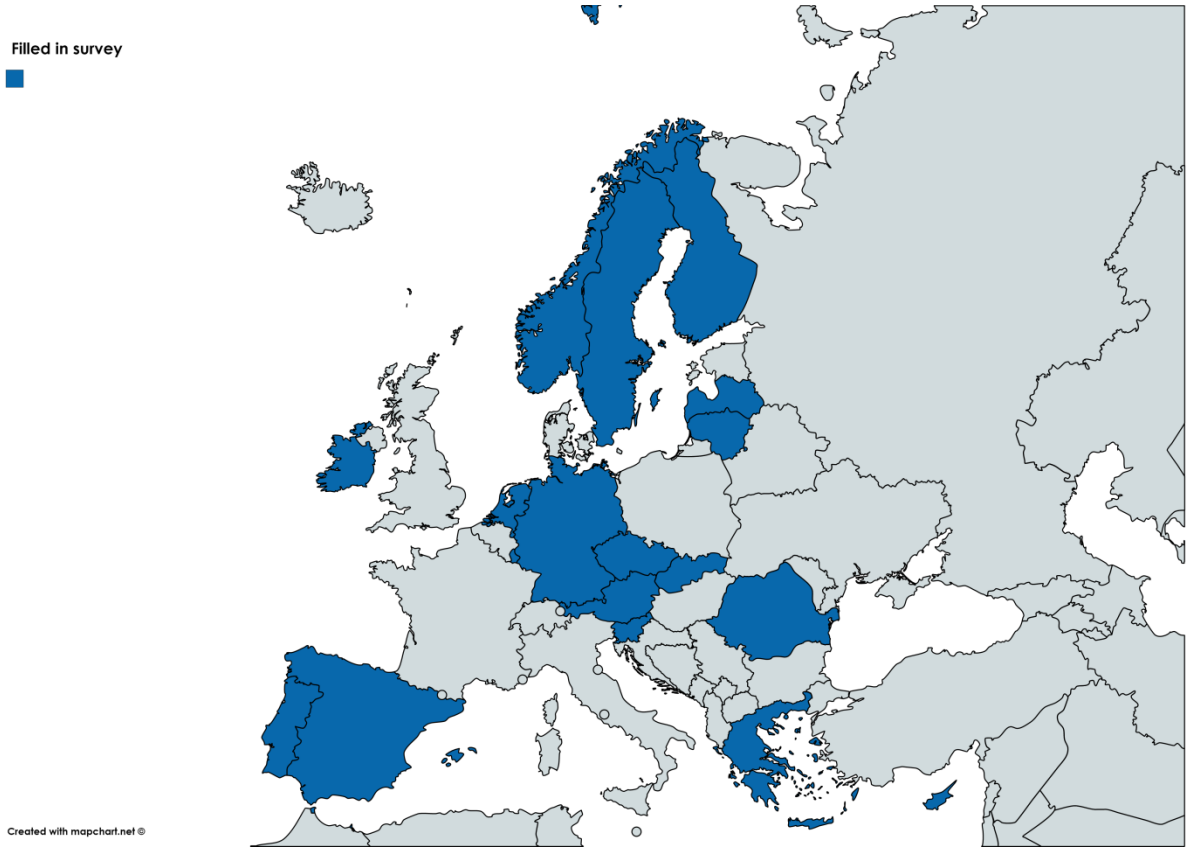


Fig 1: countries that contributed to the survey

c) Involvement of expert groups

WP4 established two experts groups to support its activities and to strengthen and maintain the network of national and international health information experts:

- An Advisory Core Group (ACG), comprising representatives of international organizations (Eurostat, OECD, WHO) and/or of academia in the field of public health. This group was asked to provide strategic direction to the work of WP4, ensuring that its activities align well with developments at European and international levels.
- An Expert Group on National Health Indicator Implementation (EG-NHII) consisting of over 20 members of the EU Expert Group on Health Information (EGHI[1]). Its main task was to assist WP4 in identifying issues surrounding the national use and implementation of ECHI-indicators.

The survey's main findings were presented and discussed in a face-to-face expert meeting in May 2017 with members of EG-NHII and ACG, and interested WP/HA leaders/representatives.

[1] https://ec.europa.eu/health/indicators/expert_group_on_health_information_en

IV. Findings

A. ECHI documentation

There have been 4 ECHI projects, covering the years 1998 until 2012. Each has delivered a final report, as summarised below.

Project	Period	Author/year of final report
ECHI-I	1998-2001	ECHI working group, 2001 [4]
ECHI-II	2002-2004	Kramers et al., 2005 [5]
ECHIM	2005-2008	Kilpeläinen et al., 2008 [6]
Joint Action for ECHIM	2009-2011	Part I, Tuomi-Nikula et al., 2012 [7] Part II, Verschuuren et al., 2012 [8] Part III, Thelen et al., 2012 [9]

These projects formulated recommendations on the future advancement of ECHI, see Box 1. In addition, during the JA ECHIM, an ECHI transition network was established, which delivered a proposal on how to maintain a health indicator system for the EU after the Joint Action for ECHIM, in 2011[10]. It can be seen that the recommendations mainly deal with process (e.g., international collaboration) and technical (e.g., data availability) matters and less with content-related matters.

Next to these reports from the ECHI projects themselves, two large external reports commissioned by DG SANTE (then SANCO) reviewed ECHI, either directly or indirectly;
The first one was a direct 'Evaluation of the use and impact of the European Community health indicators ECHI by Member States' [3]; the second one a 'Cost/benefit analysis of a sustainable EU Health Information System' [11] which included ECHI.

The first report, evaluating of ECHI use and impact, by the Public Health Evaluation and Impact assessment Consortium (PHEIAC) under the lead of the Economisti Associati (Bologna, Italy) appeared in 2013. It based its findings on an extensive literature review, a large number of interviews and a widespread survey among the Member States. We here summarise some of the main findings (see also Box 1 for the recommendations from this report):

- Knowledge of ECHI is skewed: poor visibility and recognition of ECHI exists in the formal policymaking process (i.e., among staff responsible for planning and monitoring of policies or for policy evaluation and the assessment of healthcare services) when compared to the health information services. Also, there is a lack of publications on concrete use of data and policy lessons that can be drawn from them.
- ECHI indicators are generally widely used, but uptake of ECHI is skewed; ECHI are used for descriptive or benchmarking purposes, but use for policy planning or monitoring purposes or for health system assessment is limited, as is uptake in general strategies and planning documents. At the same time, benchmarking efforts are often fragmented, uncoordinated and poorly documented initiatives, whose pay-off is not always visible to those not directly involved.

- The combination of financial constraints and poor visibility/recognition in the formal policymaking process does not help in building a case for ECHI.
- There is general consensus on having a system of European Indicators like ECHI in place and on the importance of embedding ECHI into a permanent institutional mechanism at EU level. The ECHI would benefit from a clearer legal status. Financing issues, both for individual indicators as for having the ECHI system in place, need to be handled.
- There is overwhelming consensus that enhanced coordination and synergy with the work of OECD and WHO should be sought.

The second report, analysing cost/benefit aspects of having a sustainable EU Health Information System was published in 2017. Its purpose was to review the costs and the benefits of the EU health information system (consisting of the various health information initiatives and the related indicators developed and implemented at EU-level with the support of EU-funding) and to compare the current set-up with a possible system built on a sustainable ground. It started from the aim to compare different policy options, but then evolved to a more explorative assessment comparing status quo with a theoretical scenario where fully harmonized and policy-relevant indicators are implemented comprehensively across MS. In the report key findings, ECHI was referred to as the first and most structured attempt to set up an integrated information system and EU-wide data platform on health. The report's recommendations focus on enhancing current developments towards a sustainable governance structure and enhancing policy-related use of indicators (see Box 1). To circumvent between-country comparability difficulties (due to implementation disparities or country-specific biases) it was thought promising to use same-country assessments of trends and then compare these trends across countries.

Box 1: Recommendations for advancement of ECHI, internal and external

ECHI transition project recommendations (2011)[10]:

- The ECHI indicator system should be maintained and improved.
- The central health indicator database and data presentation tool should be further developed.
- The ECHIM network should be maintained.
- The implementation of data sources and indicators in Member States should be continued.
- Collaboration with other international organisations should be enhanced.
- In the longer term, health reporting as well as analysis and interpretation of health data should become priorities.

JA ECHIM PART II recommendations (2012)[8]:

- Ensure sustainability, quality and efficiency of the ECHI indicator work
- Keep the ECHI indicator documentation up to date and easily accessible
- Work with supra/international organizations and Member States on further harmonization of existing data collections
- Work on improving implementation-readiness of indicators in the work-in-progress and development section
- Update the ECHI shortlist on a regular basis

Recommendations report PHEIAC on ECHI use and impact (2013)[3]:

- Minor modifications of the ECHI shortlist are possible (e.g., child and adolescent health indicators).
- Simplification / streamlining of the shortlist may be considered (depending on purpose).
- ECHI legal status should be clarified.
- There is a need for increasing ECHI awareness among certain categories of policymakers.
- The work-in-progress section of ECHI should be finalized.
- Cross-country benchmarking should be encouraged (increase the added value).
- It should become a priority to increase the usefulness for policy planners (increase the added value).
- Address financing issues.

Recommendations report Economisti Associati on EU Health Information System (2017)[11]:

- Enhance the consolidation and coordination trends (in the larger European Health Information landscape).
- Enhance policy-related use of harmonised indicators. This would require: (i) mechanisms to reduce the time-lag in the publication of indicators; (ii) more flexible and rapid processes to update the indicators collected in view of emerging policy-relevant challenges, (iii) more policy-oriented "knowledge-based" products complementing the provision of indicators with analysis, (iv) adequate visibility and communication actions, as well as mechanisms for restitution of the information to raw data producers.
- Adopt incremental measures to mitigate the burden of indicators.

In the peer-reviewed literature, we identified a number of publications, covering the years 2003-2015. Part of these cover ECHI directly and have been produced by authors directly involved in the successive projects [12-17]. The journal format was used to explain the ECHI (process) to the scientific community or to describe the ECHI national implementation. Outside this scope, authors have recently used the ECHI shortlist i.a. to compare indicator quality aspects [18], to compare calculation methodology [19] and as a proof of concept [20].

The Google and Google Scholar show a diverse array of national reports, presentations, a doctoral thesis [21] and handbooks [22] which cover ECHI.

Indirect or direct reference to ECHI can be found in various EU documents. In 2007, the European Commission published the white paper 'Together for Health' [23] stating that The Commission is in a unique position to assemble comparable data from the Member States and regions and must answer calls for better information and more transparent policymaking, including through a system of indicators covering all levels (national and subnational). Among adopted actions for the Commission was a 'System of European Community Health Indicators with common mechanisms for collection of comparable health data at all levels, including a Communication on an exchange of health related information'. A programme of Community action on health monitoring, aiming

for the establishment of a Community health monitoring system, was already called for by Decision No 1400/97/EC, which initiated the ECHI projects.

The Council of the European Union, in its 2013 conclusions on the "Reflection process on modern, responsive and sustainable health systems" [24],

- "welcomes the further development and consolidation, while avoiding duplication of work, of a health monitoring and information system at EU level based on the European Core Health Indicators (ECHI) and existing health monitoring and reporting systems developed as a result of a cooperation between Member States supported by the Programmes of Community Action in the field of Health"; and
- "invites the Commission and MS to "cooperate with a view to establishing a sustainable and integrated EU health information system, built on what has been already achieved through different groups and projects, such as ECHI-ECHIm projects, exploring in particular the potential of a comprehensive European health information research infrastructure consortium as a tool"

ECHI is explained on the European Commission Directorate of Health and Food Safety DG SANTE (formerly SANCO) website[2], which also includes a graphic tool and an interactive application to present relevant and comparable information on health at European level, the ECHI data tool[3]. DG SANTE has also established the 'State of Health in the EU cycle'[4]; to support MS in their evidence-based decision making and highlight potential for mutual learning and EU added value. This two year cycle includes four deliverables, among which the biennial Health at a Glance: Europe report [25]. The Health at a glance report is based partly on ECHI indicators and is the result of a strong collaboration with the OECD.

Plans are also being developed to work more closely together with the WHO/Euro European Health Information Initiative (EHII), in which EC is involved as an observer, in aligning indicators and reducing reporting burden, under the Joint Action for Health Information.

ECHI has been taken up in EU decisions and legislation

- Regulation No 1338/2008 established a framework for Community statistics on public health and health and safety at work, which requires MS to produce statistical "data for structural indicators, sustainable development indicators and European Community Health Indicators (ECHI), as well as for the other sets of indicators which it is necessary to develop for the purpose of monitoring Community actions in the fields of public health and health and safety at work"
- Regulation No 2015/359 lays down lays down rules for the development and production of European statistics in the area of healthcare expenditure and financing, one of the subjects for statistics on healthcare listed in Annex II to Regulation (EC) No 1338/2008; This concerns the data, metadata, reference periods, intervals and time limits for the data provision to be supplied. This does not mean the ECHI process has legal status, but it does mean that MS are obliged to produce some of the statistical data that are needed to calculate the indicators.

[2] https://ec.europa.eu/health/indicators/echi_en
[3] https://ec.europa.eu/health/indicators/indicators_en
[4] https://ec.europa.eu/health/state/summary_en

B. ECHI content and policy relevance

The below results provide a summary of the views of the survey respondents unless otherwise specified. Some of the experts present during the final face-to-face meeting had not filled out the survey but did contribute to the discussion.

Criteria for selection, addition and deletion of indicators

The ECHI shortlist is the result of a careful selection procedure which applied the criteria as shown in Box 2. These selection criteria were considered relevant up to this date. However, there were some suggestions for different wording, e.g. to include health system performance under the scope of public health (criterion i).

Box 2: Criteria for the selection of ECHI shortlist indicators [8]

i. 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.
ii. The indicators should serve the user's needs, meaning that they should support potential policy action, both at the EU and Member State level.
iii. 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.
iv. Use the viewpoint of the general public health official ('cockpit') as frame of reference.
v. Focus on the large public health problems, including health inequalities.
vi. Focus on the best possibilities for effective policy action.

Even though the intention was to keep the shortlist basically stable, the ECHI shortlist was not intended to be static per se; because scientific and public health developments may call for an update of the list, criteria were developed for adding and deleting indicators to and from the list. The criteria for addition (Box 3) were generally considered relevant (the criteria each being agreed on by 90-100% of the respondents), but some suggestions for rewording were put forward. For example, the importance of the issue (criterion i, on policy relevance) *should* not *(*but *may* be) reflected by its appearance in leading policy documents; indicators could also serve an agenda-setting function by promoting the uptake of an issue into leading policy documents. In addition, in the definition of policy relevance, next to possibilities for *prevention* also possibilities for *intervention* could be taken up.

The criterion for deletions (Box 3) was considered relevant, but considered to require further specification; also, other criteria may be added, e.g., 'a new and better indicator has been identified for the same concept', or 'there is lack of between-country differences'.

Box 3: Criteria for additions and deletions

Criteria for additions

i. "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".

ii. "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".

iii. "In line with 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".

iv. "In line with the general goals and concepts underlying the ECHI shortlist, the indicators in the shortlist should be suitable for providing a benchmark for reflecting time trends".

v. "In line with the general goals and concepts underlying the ECHI shortlist, the indicators in the shortlist should be suitable for providing a benchmark for international (EU) comparisons".

Criterion for deletions

i. "The indicator is related to a topic that is no longer policy relevant".

Balance, redundancies and new topics

The criteria for additions state that the indicator should not disturb the balance of the shortlist by including too many indicators for similar topics or for 'minor' or contextual topics. This may seem self-evident, but it does not mean balance is a major goal in itself. Especially if policy relevance is considered a driver of the ECHI list, then this may justify taking up more indicators under the same priority theme as well as omitting some topics that are not considered relevant.

Several indicators and operationalisations were considered redundant, but only by a few experts each. They may serve as a signal, but are not further elaborated upon here.

The experts were also asked if indicators or themes were missing or *under*represented, both in open format and additionally by presenting them with a checkbox list of topics that had been collected in the availability survey. The options from the pre-defined list that were most frequently checked were 'health inequalities' (n=9), 'healthy ageing' (n=8) and 'food and nutrition' (n=7); the open format yielded more diverse results (not shown here). In the end, 'a structured procedure is needed to identify new areas of policy information needs in the central indicator set'; out of n=20 experts, n=11 agreed and n=8 strongly agreed with this statement (n=1 had no opinion), see Figure 2 below.

Fig 2: Expert opinion on a structured procedure for new information needs

In addition, the idea was expressed to use ECHI as a pointer to other sets/collections, to allow for a more complete picture of a topic and enable ECHI to be more integrated in a 'system' of indicator sets across the EU. Examples given were pointing to the System of Health Accounts for health expenditure and pointing to Eurostat instead of having 86 causes of mortality under ECHI.

Flexibility/actionability

For a wider use and usability of the ECHI in the EU MS, the ECHI shortlist needs to be a recognizable brand. This would suggest that some form of stability of the list is critical. At the same time, relevant new issues may emerge and the shortlist needs to be sufficiently flexible to address these.

A mixed picture emerged from statements addressing this seeming contradiction. Out of n=20 experts, n=13 agreed and n=1 strongly agreed to the statement that ´stability is more important than flexibility´ and n=6 disagreed; in addition n=9 agreed and n=2 strongly agreed to the statement that ´it is important that ECHI indicators can indicate changes over a relatively short period of time´, whereas n=8 disagreed, see Figure 3 below.

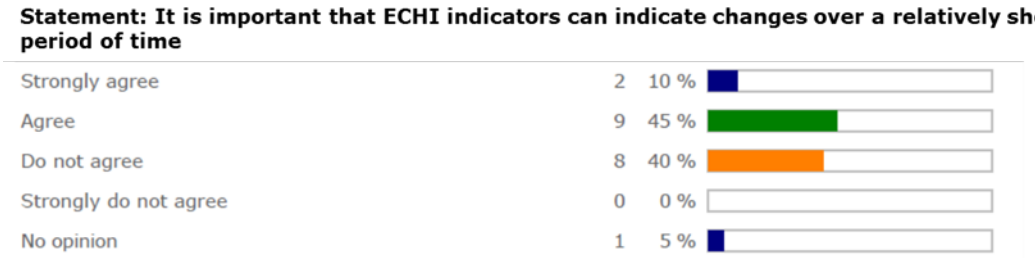


Fig 3: Expert opinion on ECHI short-term sensitivity

A change in format may remedy this and accommodate the dual usage. The experts agreed on the need to investigate the option of changing the ECHI format to capture emerging information needs, for example by distinguishing different sections. Out of n=20 experts, 7 agreed and n=10 strongly agreed that 'the ECHI list would benefit from establishing a stable core section and a flexible additional section to capture emerging information needs' (n=2 disagreed and n=1 had no opinion; see Figure 4).

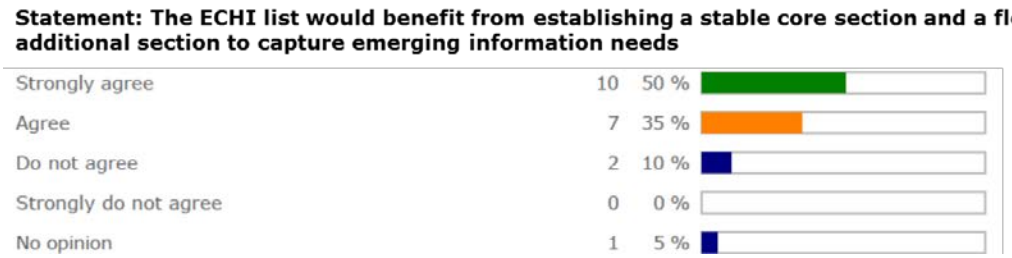


Fig 4: Expert opinion on ECHI division between stable and flexible section

Another option for a format change, discussed during the final expert meeting, would be to use a form of layering such as developed under the SDS Indicator framework [26] and adapted under BRIDGE Health WP12 for their european Health System Indicator (euHS) survey. This framework distinguishes indicators on 4 levels: headline, operational, explanatory and contextual. A related idea, raised in the survey, was the use of a top list of indicators (action-oriented), providing access to more detailed layers of information when needed (more analytic), as data needs are generally much more elaborate than top lists, or shortlists of indicators.

Size

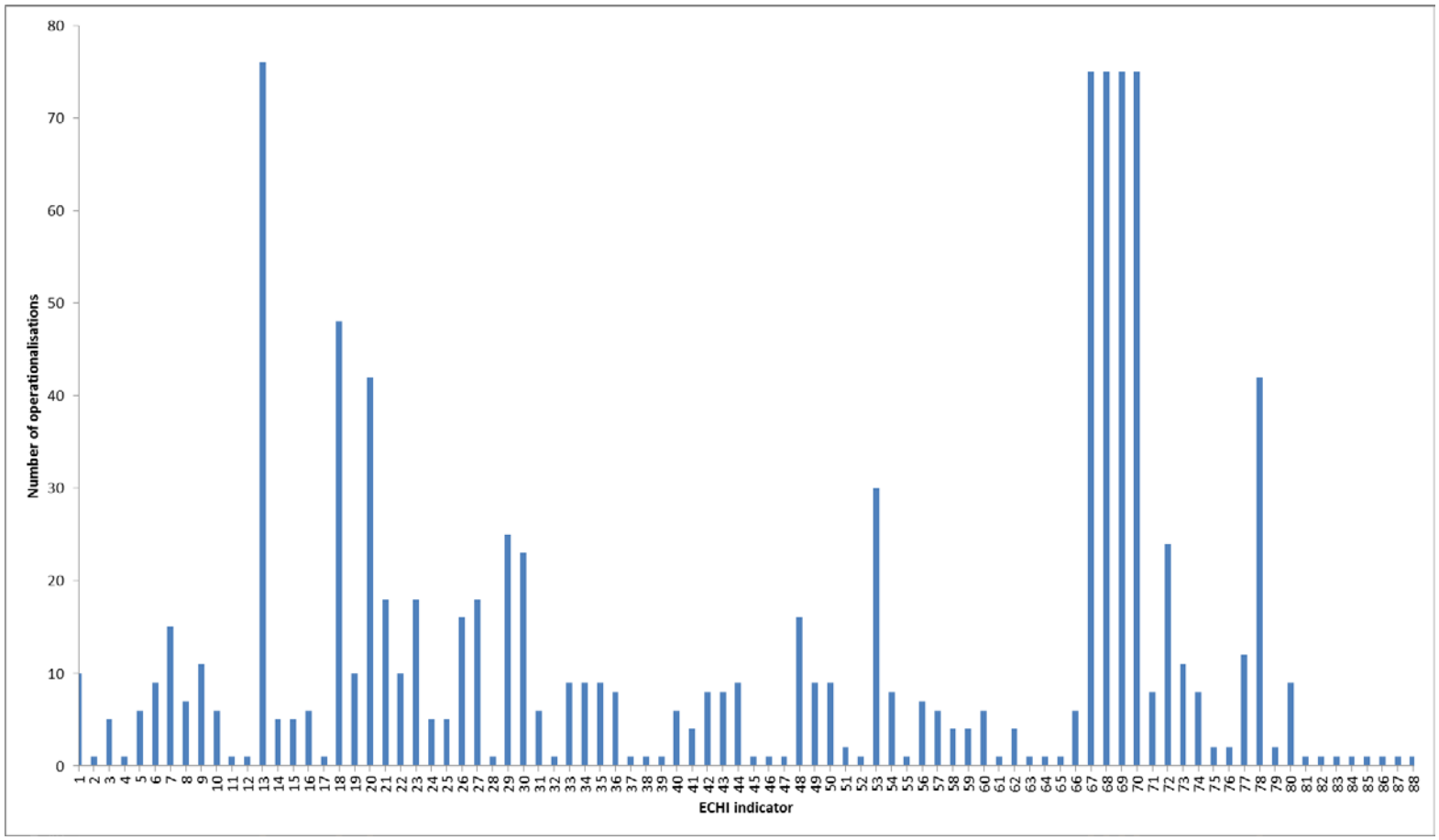
When considering policy makers' needs, to it is also relevant to consider the size of the list. The current number of indicators for all sections together is n=88 (or n=94, when counting separately those indicators that are based on both survey - and register data). These are actually representing a total of >1000 operationalisations (see Figure 5).

Almost all experts considered the current number of indicators satisfactory for the ECHI shortlist but about half thought the number of operationalisations could be reduced. Reason for this is not solely there being too many, but also the difficulty to obtain some of the required disaggregations. It has to be noted that operationalisations in themselves were also considered very useful. Purpose is also important: a report requires a compact list, a database could be filled with more detailed data. To fit more than one purpose, it may be considered to separate a top level of indicators from a detailed level of more specific data.

Examples of operationalisations are:

- indicator '3.Mother's age distribution': by age <20 yrs, age >35 yrs and 3 levels of education;
- indicator '5.Population projections': by sex and 3 age categories;
- indicators '70.Average length of stay (ALOS), limited diagnoses': by age, sex & multiple causes of disease.

Figure 5: number of operationalisations (y-axis) for each indicator (x-axis)



For policy purposes, most agree that a different format, consisting of a compact stable core and an additional flexible part would be more optimal (see figure 6 below and related suggestions under 'balance' and 'flexibility/actionability').

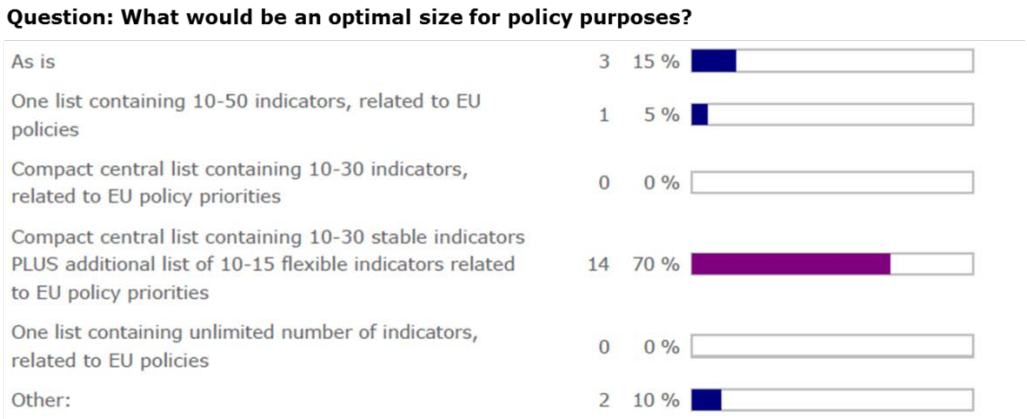


Figure 6: Expert opinion on pre-defined size options for the ECHI list

One of the suggestions for the open format 'other' option was: a "Compact central list containing *30-50* stable indicators PLUS additional list of 10-15 flexible indicators related to EU policy priorities".

Some experts stated that the number was not important, as long as the indicators are really internationally comparable and are a reflection of policy.

Relevance and use

In the survey, the ECHI indicators were generally seen as policy relevant. The experts were asked to indicate which indicators had particularly low and high relevance and expressed concrete ideas on individual indicator's relevance. Reasons given for attributing 'low' policy relevance to an indicator were that

- a better indicator was available (e.g. update from PM10 to PM2.5 - which has already been processed in the ECHI tool),
- it was very unspecific (e.g. lifestyle policies and integrated programmes in settings),
- its interpretation was unclear (e.g., is it better to have more hospital beds?), or that
- it was too specific (e.g., excess mortality by extreme temperature).

Quite a few indicators were considered highly relevant by at least some experts. To name a few that were reported by at least 5 experts and also emerged as particularly relevant in a previous evaluation [3]: 10.Life expectancy; 13.Disease-specific mortality; 20.Cancer incidence; 42.Body mass index; 44.Regular smoking; 56.Vaccination coverage in children and 77.Expenditure on health. In addition, the current survey's top 10 highly relevant indicators also included: 21B.Diabetes; 40.Healthy Life Years; 52.Physical activity and 80.Equity of access to health care services.

However, it seems necessary to ask policy makers' opinions from both EU and all MS to elaborate on this further, as well as to create consensus on what defines policy relevance and what its role should be in the ECHI list.

In the survey, the experts were asked for examples of documents in which ECHI indicators are used, documents that have specifically evaluated ECHI use, documents that provide examples of national policy making by using ECHI or that serve national policy making most efficiently.

It was reported that ECHI indicators are probably often used without explicitly mentioning they are ECHI, as many of them are also indicators from Eurostat, OECD, WHO/Euro. There were some, but not many, examples of ECHI policy relevance or use in policy (see Box x). There were no suggestions on the request for documents that specifically evaluate ECHI use. Health at a glance was reported by most participants as influencing national policy most. One participant did not think any European reports influence national policy makers, only national and regional reports.

Box: 4: Support in identifying literature on ECHI use or policy relevance

Documents that have used ECHI indicators?

- Latvia: Many reports, documents or publications have used ECHI indicators, but usually they are not identified as ECHI indicators. One example: the Statistical Yearbook of Health Care: https://www.spkc.gov.lv/en/statistics
- Czech Republic: Selected indicators are presented here: http://reporting.uzis.cz/cr/index.php?pg=statisticke-vystupy--ukazatele-zdravotniho-stavu--indikatory-echi; some are used - but not specifically mentioned - in the National Health Report (Zpráva o zdraví obyvatel Ceské republiky 2014) and the National Yearbook on Health (Zdravotnická ročenka České republiky 2015).
- Romania: Health profile (Raport Național privind Starea de Sănătate a Populației României)
- Spain: Online tool: http:inclasns.msssi.es
- Ireland: Healthy Ireland, the national framework for action to improve the health and wellbeing of the people of Ireland. **http://health.gov.ie/healthy-ireland**
- **Germany: the ECHI form part of the health monitoring and health reporting. Analyses based on the ECHI are presented in the Journal of Health Monitoring (**http://www.rki.de/EN/Content/Health_Monitoring/JoHM_en/JoHM_en_node.html**) and the yearly 'Health in Germany 2015' report (http://www.rki.de/EN/Content/Health_Monitoring/Health_Reporting/HealthInGermany/health_germany_node.html)**

Documents that specifically evaluate ECHI use?

None reported

Examples of impact on national policy making by use of ECHI indicators?

- Netherlands: European perinatal mortality (Peristat) reports have triggered policy developments, including introduction of country-wide system of perinatal audit.
- Denmark: International comparisons of life expectancy and mortality patterns have triggered prevention policies in the mid-nineties (' Lifetime in Denmark'. Second Report from the Life Expectancy Committee of the Ministry of Health, Denmark, 1994).

- UK: Comparisons of cancer survival have triggered policies:
- ECHI used in development of National Cancer Control Programmes (http://www.epaac.eu/national-cancer-plans)

Reports that serve national policy making most efficiently?

- OECD Health at a Glance
- WHO (Health for All)
- NOMESCO Health Statistics in the Nordic Countries
- Eurostat publications
- JAF
- HBSC report

The experts were also asked **how the utility of ECHI could be advanced**. The following box sums up the goals that were considered necessary:

Box: 5: Expert opinion on how the utility of ECHI could be advanced

- A clearer link to policies and policy options
- Better and more visible links to other indicator and data sets (ECHI part of a broader system)
- Better visibility of ECHI
  - for health policy makers
  - for society
- More active and formal approach to national entities
- Invest more in international comparability of the indicators

Some of the instruments that were suggested towards these goals were, among others:

- The use of policy targets and policy evaluation
- Regular ECHI-based reports, for different audiences, e.g. policy maker, researcher, society and in different formats
- Response DG SANTE/EMPL/RTD on ECHI indicator reports
- Active recommendations to use ECHI and how to use them (a "for dummies" meta-dataset).
- Support MS in implementing into national report tools
- Discussion of indicator set in Parliament every 2 yr
- Press releases
- Normative act on data collection

The experts were also asked how the ECHI list can be made more meaningful for international comparisons and for supporting time trends. Although these questions are not strictly within the scope of this text, the answers do show a need for better presentation/visuals, which forms a link with the next topic in this report, the repository/web space. Hence we do show the experts' suggestions here.

How can the ECHI list be made more meaningful for international comparisons?

- **Harmonised concepts** and **sources**, regular collection, increasing number of countries.
- **Presentation**
  - methodological requirements (e.g., confidence intervals),
  - one well developed indicator database with
  - easy access to information on comparability difficulties,
  - data presentation tool that marks issues with comparability
  - and provides easy access to methodological section or explanation,
  - with longer and more detailed indicator descriptions/metadata,
- Use the indicators for **national benchmark reports** and link the outcomes to relevant **best practices** in other countries

How can the ECHI list be made more meaningful for supporting time trends?

- **Updates**: The ECHI indicators have to be collected annually; it could be updated regularly; EHIS more frequent; Should be collected regularly and not change so often; Develop a method for historical update when needed.
- **Presentation**: Find attractive ways of calculation and presentation (Indexing to standard year). Use moving graphs (bulbs) etc.; An information on comparability difficulties should be easily available together with data presentation. The data presentation tool could mark those years, which are not fully comparable, by some flag and provide easy access to methodological section or explanation; Adding flags to indicate breaks in series; Implementing user friendly tools for analysis (i.eg. over the period change, linear regression, etc.); Long time series.
- Have a permanent panel, with a small number of indicators
- More **publicity**

C. Development and implementation of an information repository

During the final meeting, the experts discussed the concept of an ECHI information repository (subject of the BRIDGE Health Milestone 15 report) that was sent to them before the meeting. Central concept is the information repository as a single point of access aimed at a sustainable future, creating ECHI memory and possibly expanding towards including interactive facilities to exchange expertise and build capacity. The experts welcomed the concept of a web space where everything comes together; this web space could also include the idea of a pointer function towards other international organisations and projects, to avoid the time consuming task of collecting their meta-data or data (as has been part of previous projects). The web space may also be used to improve the visibility and presentation of ECHI, the need for which was seen in the previous section. The experts provided recommendations concerning the presentation and explanation of the ECHI indicators, relating to aspects of accessibility and dissemination. They warned that technical aspects still need to be thoroughly thought, for example, the use of open source software and web publication principles.

A first priority in the repository will be to preserve and disseminate the available background and meta-information on ECHI-indicators to create the single access point for information about the indicators and their data sources, metadata and use (Fig 6).

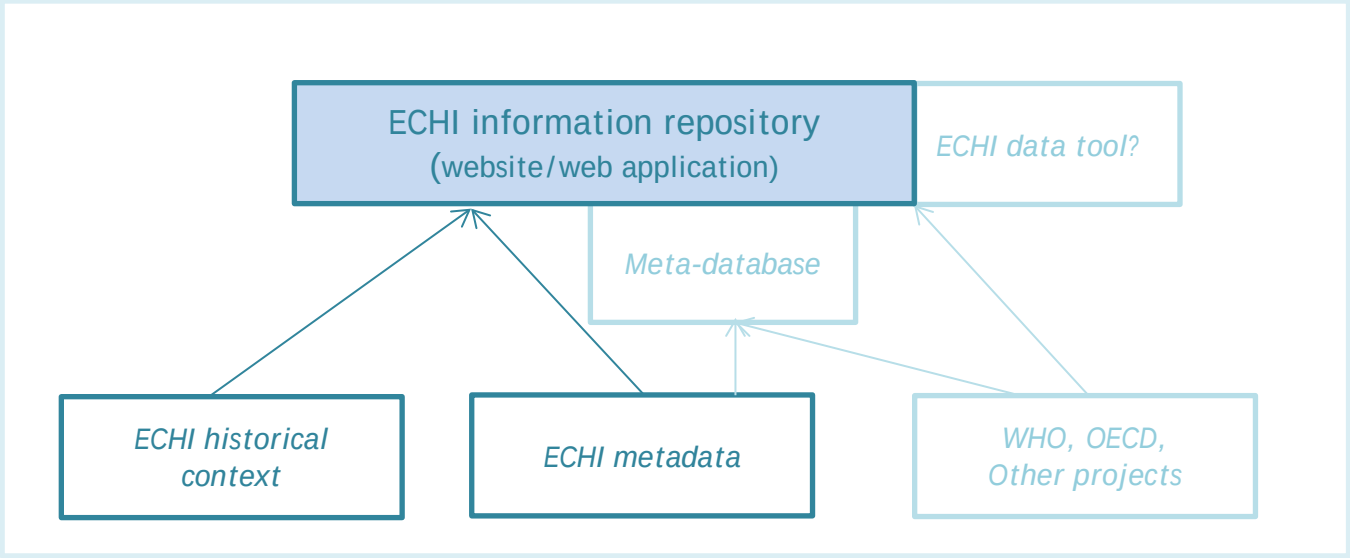


Figure 6: schematic representation of the health indicator repository of information

Thus, a central starting point is to collect the available background and meta-information on ECHI-indicators as compiled in the various ECHI and ECHIM projects and Joint Actions as well as information from related projects that have fed into setting up the ECHI-indicator lists. This includes scientific publications related to the ECHI-process and to the quality and actual use of these indicators.

Within the life of the BRIDGE Health project, we have

- Collected ECHI historical context
- Collected ECHI meta-data
- Contributed to designing a structure for presenting the above on a website
- Collected discussion points for current and future implementation

as described in BRIDGE Health Milestone 15.

Currently, the following concrete products are *under development*

- Website: see www.echi.nl, that includes a simple first prototype of the repository
- Endnote: all ECHI-related articles, for general use
- An online form to collect suggestions on different aspects of ECHI
- Alert from PubMed etc. when new information on ECHI indicators becomes available
- Meta-database: Access database containing the doc sheets, for easy searching

Providing public access to these products is a challenge, but options are being explored.

A highly important question to answer in the near future is where to host the ECHI information repository and what software to use. Some room for this has been created under the Joint Action on Health Information - InfAct.

Under InfAct, with regard to the ECHI repository, we recommend to

- Explore the sustainable governance of a web space with priority
- Explore possibilities for web based updating the ECHI documentation sheets
- Explore possibilities for web based exchange of expertise
- Restore the connection between the primary ECHI process and the ECHI data tool that is hosted by the EC
- Visualise and tighten the connection of ECHI with both Eurostat and the other players in the health information landscape in the European region that can contribute to institutionalised data collection and reporting

V. Implications and limitations

Our evaluations suggest that the time is there to revise the ECHI list and make it policy and future proof.

In the work described here, we have focused on collecting and preserving ECHI-relevant literature and obtaining views and ideas from health information experts on how to create a sustainable, policy-relevant ECHI process. Although we were only able to consult a relatively small (but highly knowledgeable) group of experts, the combination of previous evaluations and this one shows that there is common ground for revising the ECHI shortlist format and incorporating aspects of policy priorities and actionability.

We have, however, not yet found a way to involve policy makers to the extent and country coverage that we would feel necessary to accommodate their variable needs and priorities. This requires some more time and thinking. Based on our findings (section A and B) we have performed a first step in identifying relevant characteristics which may now be attributed to the indicators to help reformatting the shortlist (see Appendix 2). Also, we collected comments per indicator, as a starting point for further discussion (see Appendix 3).

In addition, we have not yet been able to include the final outcomes of the work performed in WP12, which sought to identify core health system performance indicators, but was not yet available at the time of writing this report. During the process of BRIDGE Health, we did see promising results for achieving a better coverage of health system performance issues. This will be followed-up.

VI. Conclusions and recommendations

We performed an evaluation of the ECHI-indicator shortlist with a view to optimise its sustainability and use(ability) by EU stakeholders.

Important criteria for a future ECHI shortlist are that it be balanced, i.e. accommodating both descriptive and actionable purposes, easily understandable and part of a sustainable governance structure. The future ECHI-indicator set should be a central element of a more elaborate health information system for the EU and its Member States, in close collaboration with the larger European health information landscape. Data availability, comparability and alignment are issues of continued importance.

We recommend that EU Member States invest in a continuous and collaborative effort to:

- Strengthen the links between the ECHI-shortlist and policy makers and policy priorities; and use this as input to
    - Further develop the ECHI format, i.e., to develop layering or sections to more adequately address the need for both stability and flexibility, also taking into account a suitable size, accommodating both the need for general monitoring and actionability by defining specific policy targets and commitments.

- Organize a structured procedure to identify new areas of health policy information for the EU and its MS. this would also involve revising the criteria for addition.

o Evaluate how to improve the role of health systems performance in ECHI, e.g. by incorporating (when available) results from the BRIDGE Health WP12-survey, which is aimed at harmonising monitoring of health systems and health policy.

o Develop a structured procedure to maintain and update the ECHI process and safeguard a sustainable governance structure

o Actively promote and evaluate the use of ECHI, as using the data will teach us valuable lessons. We call out to the research and policy communities to report on the concrete use of ECHI and resulting policy lessons.

o Establish an ECHI indicator platform, i.e. a single point of access for

- Easy and sustainable access to existing methodologies, expertise, historical and current knowledge; an important aspect here is that this platform may link through to other websites and indicators, i.e. fulfil a pointer function, where possible, in order to be more efficient. This will also contribute to visualising the place the ECHI have in the overarching European health information landscape.

- Exchange of expertise and capacity building on health indicators and their use in EU

- And possibly also facilitating a structural mechanism for updating the ECHI meta-data, both content-wise and technical

o Develop joint projects and data collections with the major international organisations active in the European region, to efficiently and sustainably embed ECHI in the international health information landscape.

o Analyse data (indicators) on health and care in the EU and its MS along the lines of a new and flexible ECHI-shortlist on a regular basis and provide input to the evaluation of past policies and assist in addressing new common health policy issues among MS.

References

1. Fehr A, Urbanski D, Ziese T, Tijhuis MJ, Verschuuren M, Achterberg P: **D4.2. Part 1: Update of ECHI Indicators**. In. Berlin, Germany: Robert Koch Institute; 2017.
2. Hense S, Fehr A, Ziese T, Tijhuis MJ, Verschuuren M, Achterberg P: **D4.1 - Status of ECHI indicators. Methodological evaluation report and proposal for indicator repair needs. Technical Report, BRIDGE Health - WP4.** In. Berlin, Germany: Robert Koch Institute (Germany) and National Institute for Public Health and the Environment (RIVM, The Netherlands); 2016.
3. Public Health Evaluation and Impact Assessment Consortium (PHEIAC): **Evaluation of the use and impact of the European Community Health Indicators ECHI by Member States - Final Report**. In.: European Union; 2013.
4. **ECHI working group. Design for a set of European Community Health Indicators. Final report by the ECHI project.** In. Bilthoven, The Netherlands.: National Institute of Public health and the Environment (RIVM). 2001.
5. Kramers P: **Public health indicators for the European Union: context, selection, definition. Final report by the ECHI project phase II.** . In. Bilthoven: National Institute for Public Health and the Environment, Centre for Public Health Forecasting; 2005.
6. Kilpeläinen K, Aromaa A: **European Health Indicators: development and initial implementation** In. Helsinki, Finland: National Public Health Institute; 2008.
7. Tuomi-Nikula A, Gissler M, Sihvonen A-P, Kilpeläinen K: **Implementation of the European Health Indicators - first years. Final Report of the Joint Action for ECHIM**. In. Helsinki: National Institute for Health and Welfare (THL); 2012.
8. Verschuuren M, Achterberg P, Gijsen R, Harbers M, Vijge E, Wilk Evd, Kramers P: **ECHI Indicator development and documentation - Joint Action for ECHIM Final Report Part II**. In. Bilthoven; 2012.
9. Thelen J, Kirsch NH, Finger J, Lippe E, Ryl L: **Final Report Part III. ECHIM Pilot Data Collection, Analyses and Dissemination**. In. Berlin: Robert Koch Institute; 2012.
10. Kramers P, Aromaa A, Verschuuren M: **A sustained future for ECHI. Proposal on how to maintain a health indicator system for the EU after the Joint Action for ECHIM**. In. Bilthoven - Helsinki; 2011.
11. Economisti Associati for DG Sante EU: **Cost/benefit analysis of a sustainable EU Health Information System. Final report**. In. Luxemburg; 2017.
12. Harbers MM, Verschuuren M, de Bruin A: **Implementing the European Core Health Indicators (ECHI) in the Netherlands: an overview of data availability**. *Archives of public health = Archives belges de sante publique* 2015, **73**(1):9.
13. Verschuuren M, Gissler M, Kilpelainen K, Tuomi-Nikula A, Sihvonen AP, Thelen J, Gaidelyte R, Ghirini S, Kirsch N, Prochorskas R *et al*: **Public health indicators for the EU: the joint action for ECHIM (European Community Health Indicators & Monitoring)**. *Archives of public health = Archives belges de sante publique* 2013, **71**(1):12.
14. Kilpelainen K, Tuomi-Nikula A, Thelen J, Gissler M, Sihvonen AP, Kramers P, Aromaa A: **Health indicators in Europe: availability and data needs**. *European journal of public health* 2012, **22**(5):716-721.
15. Aromaa A: **Implementation of joint health indicators in Europe - Joint Action for ECHIM. Arpo Aromaa on behalf of the ECHIM core group**. *Archives of public health = Archives belges de sante publique* 2012, **70**(1):22.
16. Verschuuren M, Kramers P, Gudfinnsdottir GK, Aromaa A: **Providing a solid evidence base for policy makers: ECHI initiative**. *Eurohealth* 2010, **16**.

17. Kramers PG: **The ECHI project: health indicators for the European Community**. *European journal of public health* 2003, **13**(3 Suppl):101-106.
18. Suija K, Kivisto K, Sarria-Santamera A, Kokko S, Liseckiene I, Bredehorst M, Jaruseviciene L, Papp R, Oona M, Kalda R: **Challenges of audit of care on clinical quality indicators for hypertension and type 2 diabetes across four European countries**. *Family practice* 2015, **32**(1):69-74.
19. Van der Heyden J, De Bacquer D, Gisle L, Demarest S, Charafeddine R, Drieskens S, Tafforeau J, Van Oyen H, Van Herck K: **Additional weighting for education affects estimates from a National Health Interview Survey**. *European journal of public health* 2017, **27**(5):892-897.
20. Schneider C, Joos S, Bozorgmehr K: **Disparities in health and access to healthcare between asylum seekers and residents in Germany: a population-based cross-sectional feasibility study**. *BMJ open* 2015, **5**(11):e008784.
21. Rosenkötter N: **Advancing public health surveillance in Europe (dissertation)**. Maastricht: Maastricht University; 2017.
22. Bardehle D: **Health indicators and health reporting.** In: *Health Systems and Their Evidence Based Development A handbook for Teachers, Researchers and Health Professionals.* edn. Edited by Bjegović V, Donev D. Lage, Germany: Hans Jacobs Publishing Company; 2004.
23. European Commission: **WHITE PAPER. Together for Health: A Strategic Approach for the EU 2008-2013**. In. Brussels; 2007.
24. The Council of the European Union: **Council conclusions on the "Reflection process on modern, responsive and sustainable health systems"**. In. Brussels; 2013.
25. OECD/EU: **Health at a Glance: Europe 2016**: OECD Publishing; 2016.
26. **Indicator framework for monitoring the EU Sustainable Development Strategy** [http://ec.europa.eu/eurostat/web/sdi/indicator-framework. Accessed July 25th 2017]

A. Appendix 1: Search strategy

PubMed

A. ECHI

(ECHI[tw] OR ECHIM[tw] OR European core health indicator[tw] OR European community health indicator[tw] OR European core health indicators[tw] OR European community health indicators[tw]) NOT (echino*[tiab] OR HOX[tiab] OR "Employment-contingent health insurance"[tiab] OR ECHIS[tiab])

B. EU health indicator

((“European Union”[tw] OR “European Commission”[tw] OR EU[tw] OR EC[tw]) AND health indicator*[tw]) NOT (“electrical conductivity”[tiab] OR “Escherichia coli”[tiab] OR “elemental carbon”[tiab] OR “emotional competence”[tiab])

C. European health information system

(“European Union”[tw] OR “European Commission”[tw] OR EU[tw] OR EC[tw]) AND Health information system*[tw] NOT (“electrical conductivity”[tiab] OR “Escherichia coli”[tiab] OR “elemental carbon”[tiab] OR “emotional competence”[tiab])

Scopus

A. ECHI

TITLE-ABS-KEY (echis OR echim OR "European core health indicators" OR "European community health indicators" OR "European core health indicator" OR "European community health indicator") AND NOT TITLE-ABS-KEY (echin* OR echis* OR echoe* OR hox OR "Employment-contingent health insurance" OR river OR "echis nostoma" OR nigeria OR japan OR ich OR "engineering biotechnological institute" OR "enoyl CoA hydratase 1") AND NOT AUTHOR-NAME (echis) AND (EXCLUDE (SUBJAREA , "ARTS ") OR EXCLUDE (SUBJAREA , " MATH ") OR EXCLUDE (SUBJAREA , " AGRI "))

B. European health indicator

TITLE-ABS-KEY (("European Union" OR "European Commission" OR eu OR ec) AND ("health indicator*")) AND NOT ("electrical conductivity" OR "Escherichia coli" OR soil OR "emotional competence")

C. European health information system

TITLE-ABS-KEY (("European Union" OR "European Commission" OR eu OR ec) AND TITLE-ABS ("Health information system*")) AND NOT ("electrical conductivity" OR "Escherichia coli" OR soil OR "emotional competence")

Embase

A. ECHI

('european core health indicators':ti,ab,kw OR 'european core health indicator':ti,ab,kw OR 'european community health indicators':ti,ab,kw OR 'european community health indicator':ti,ab,kw OR 'echi':ti,ab,kw) NOT (echo*:ti,ab,kw OR echin*:ti,ab,kw OR echis:ti,ab,kw OR 'echi-nocandins':ti,ab,kw OR 'echi-nococcus':ti,ab,kw OR 'east carolina heart institute':ti,ab,kw OR hox:ti,ab,kw OR 'employment-contingent health insurance':ti,ab,kw OR 'rgd echi':ti,ab,kw OR gaba:ti,ab,kw OR 'enoyl coa hydratase 1':ti,ab,kw) AND [1998-2017]/py

Google scholar
http://scholar.google.com (advanced search)
A. ECHI
"European core health indicators" OR "European community health indicators" filetype:pdf
(Since 1998) (No patents or citations)
→n=304
Check toplist n=100

Google
https://www.google.com (advanced search)
A. ECHI
allintext: "European community health indicators" OR "European core health indicators"
filetype:pdf
allintitle: "European community health indicators" OR "European core health indicators"
Check toplist n=60

B. Appendix 2: Proposal for ECHI format evaluation under policy makers

This appendix contains some first steps for a follow-up study to explore possibilities for a new ECHI format, based on conclusions in this report. The embedded excel file contains some concepts that have arisen in the main text, that can be used to further explore a possible new format, i.e.

-the identification of indicators that could contribute to setting policy targets and/or

-the attribution of indicators to different levels (e.g., headline, operational, explanatory, contextual) and/or

-the reconsideration of the current links with policies or the attribution of new links

The sample to explore this with will need to include policy makers and provide the opportunity to represent EU-wide consensus.

Practically we would envisage an online methodology with broad coverage to implement this evaluation.

Concepts for a new ECHI format.xlsx

C. Appendix 3: Practical input by indicator, starting point for further discussion

The below remarks and recommendations are the result of combined input by experts in the current evaluation, as well as the detailed input from the 2013 PHEIAC report [3].

This is a working document and the comments should not be seen as a concrete proposal for changes, but could be a starting point for further evaluation and discussion in the Joint Action on Health Information.

In this, it is important to involve policy makers.

Table: collection of expert comments on individual indicators, to further spark discussion (working document)

Indicator[5]	Data source[6]	Combined remarks and/or recommendations[7]
Demographic and socio-economic		
01. Population by sex/age	A	Context; Maybe limit to pop > 65 yrs (% total pop) and/or dependency ratio and/or pop > 80 yrs.
02. Birth rate, crude	A	Context
03. Mother's age distribution	A	Teenage pregnancies may represent broader social issue. PHEIAC < 4.00
04. Total fertility rate	A	Context. Overlap with #2 for policymaking
05. Population projections	A	May remove, incidental computation and reporting instead
06. Population by education	B	May remove, replace by measure of educational achievement in a country. What is needed for inequalities?
07. Population by occupation	B	May remove, occupation no longer fixed or clear; maybe income
08. Total unemployment	B	Define health policy relevance: long-term unemployment?
09. Population below poverty line and income inequality	B	Survey: split into 2 different indicators
Health status		
10. Life expectancy	A	
11. Infant mortality	A	
12. Perinatal mortality	D	May split in foetal and neonatal mortality (Peristat)
13. Disease-specific mortality; Eurostat, 86 causes	A	May need to rethink all mortality related indicators. Maybe define major categories with policy relevance. Survey: serve as pointer
14. Drug-related deaths	F	Select EMCD core indicator(s)

[5]Colours represent current availability status: white: implementation section (n=67), light grey: work in progress section (n=14), dark grey: development section (n=13)

[6]Letters represent A: Eurostat routine data collection; B: EU LFS & SILC; C: EHIS; D: WHO HfA; E: OECD; F: various EU (EMCDDA, ECDC, EEA, ESAW, IDB, EUROFOUND), G: various WHO (UN ECE, CICID, GISAW); blank=WiP or Dev section; envisaged sources are EHIS, Eurostat diagnosis specific morbidity data, Eurostat patient mobility, EurOhex, OECD waiting times project; some sources are not decided yet.

[7]Includes information from the report's Annex A as well as perceived usefulness from table 4.2, scored on a scale from 0 to 5 in the PHEIAC report - we here arbitrarily distinguish indicators below 4 and above 4.5 (indicators in development section have not been evaluated).

Indicator[5]	Data source[6]	Combined remarks and/or recommendations[7]
15. Smoking-related deaths		Survey: calculation complicated, need for explanation May be removed, incidental computation & reporting instead. PHEIAC > 4.50
16. Alcohol-related deaths		Survey: calculation complicated, need for explanation May be removed, incidental computation & reporting instead.
17. Excess mortality by extreme temperatures (formerly 'by heat waves')		Survey: too specific; Limited policy relevance, large administrative burden. May be removed, incidental computation & reporting instead.
18. Selected communicable diseases	F	May consider AMR and/or food safety DALY's
19. HIV/AIDS	G	
20. Cancer incidence	G	
21. (A) Diabetes, self-reported prevalence	C	Organise/combine the selfreported disease indicators
21. (B) Diabetes, register-based prevalence		May be removed, estimation & reporting every X year instead.
22. Dementia		May be removed, estimation & reporting every X year instead.
23. (A) Depression, self-reported prevalence	C	May be removed, estimation & reporting every X year instead.
23. (B) Depression, register-based prevalence		May be removed, estimation & reporting every X year instead. PHEIAC > 4.50
24. AMI		May be replaced by OECD AMI survival = HCQI
25. Stroke		May be replaced by OECD Stroke survival = HCQI
26. (A) Asthma , self-reported prevalence	C	See remark under 21; PHEIAC < 4.00
26. (B) Asthma, register-based prevalence		May be removed, estimation & reporting every X year instead. PHEIAC > 4.50
27. (A) COPD , self-reported prevalence	C	See remark under 21
27. (B) COPD, register-based prevalence		May be removed, estimation & reporting every X year instead. PHEIAC > 4.50
28. (Low) birth weight	D	Discuss definition (cut off)
29. (A) Injuries: home/leisure, violence, self-reported incidence	C	Discuss selection/definition PHEIAC < 4.00
29. (B) Injuries: home/leisure, violence, register-based incidence	F	May be removed, estimation & reporting every X year instead. PHEIAC > 4.50
30. (A) Injuries: road traffic, self-reported incidence	C	Discuss selection/definition; PHEIAC < 4.00
30. (B) Injuries: road traffic, register-based incidence	G	Discuss actionability; PHEIAC > 4.50
31. Injuries: workplace	F	Discuss actionability
32. Suicide attempt		

Indicator[5]	Data source[6]	Combined remarks and/or recommendations[7]
33. Self-perceived health	B	Discuss definition
34. Self-reported chronic morbidity	B	Discuss definition
35. Long-term activity limitations	B	Specify; PHEIAC < 4.00
36. Physical and sensory functional limitations	C	Survey: could include cognitive limitations
37. General musculoskeletal pain		
38. Psychological distress		
39. Psychological well-being		Take general well-being (life satisfaction)
40. Health expectancy: Healthy Life Years (HLY)	A	Discuss definition
41. Health expectancy, others		Survey: merge with 40, or remove altogether
Health determinants		
42. Body mass index	C	3 indicators: adults overweight AND obesity; Add: children
43. Blood pressure	C	May be removed, do estimation every X year instead.
44. Regular smokers	C	2 indicators: adults and children (HBSC)
45. Pregnant women smoking		Check data availability (Peristat); discuss definition
46. Total alcohol consumption	D	Discuss best alcohol indicators; Add: alcohol & children (HBSC)
47. Hazardous alcohol consumption	C	Discuss best alcohol indicators, include children
48. Use of illicit drugs	F	Composite indicator feasible? Else: select?
49. Consumption of fruit	C	Discuss definition/target; PHEIAC < 4.00
50. Consumption of vegetables	C	Discuss definition/target; PHEIAC < 4.00
51. Breastfeeding	D	Discuss definition
52. Physical activity	C	Discuss definition;
53. Work-related health risks	F	Discuss definition;
54. Social support	C	Discuss definition; PHEIAC < 4.00
55. PM10 (particulate matter) exposure	F	Survey: change to PM2.5
Health interventions: health services		
56. Vaccination coverage in children	D	PHEIAC > 4.50
57. Influenza vaccination rate in elderly	C	
58. Breast cancer screening	C	Discuss definition/target; PHEIAC > 4.50
59. Cervical cancer screening	C	Discuss definition/target; PHEIAC > 4.50
60. Colon cancer screening	C	Discuss definition/target
61. Timing of first antenatal visits among pregnant women		Discuss with Peristat; Regular reporting in Peristat report?
62. Hospital beds	A	Survey: no clear interpretation (is it better to have more?) May be removed; Applies to most resources and activity indicators, Discuss appropriate indicators

Indicator[5]	Data source[6]	Combined remarks and/or recommendations[7]
63. Practising physicians	A	May be removed (see 62)
64. Practising nurses	A	May be removed (see 62)
65. Mobility of professionals		Discuss definition; May be removed
66. Medical technologies: MRI units and CT scans	A	Discuss selection
67. Hospital in-patient discharges, limited diagnoses	A	Survey: serve as pointer
68. Hospital daycases, limited diagnoses	A	Survey: serve as pointer; PHEIAC < 4.00
69. Hospital day-cases as percentage of total patient population (in-patients & day-cases), selected diagnoses	A	Survey: serve as pointer; PHEIAC < 4.00
70. Average length of stay (ALOS), limited diagnoses	A	Survey: serve as pointer
71. General practitioner (GP) utilisation	C	Discuss definition; May consider unmet need for medical care
72. Selected outpatient visits	C	May be removed
73. Surgeries: PTCA, hip, cataract	A	Discuss selection
74. Medicine use, selected groups	C	Discuss selection
75. Patient mobility		May be removed, regular report every X year instead; PHEIAC < 4.00
76. Insurance coverage	E	
77. Expenditures on health	A	Survey: serve as pointer (to SHA); PHEIAC > 4.50; but difficult as benchmark for health policymaking
78. Survival rates cancer	F	
79. 30-day in-hospital case-fatality AMI and stroke	E	May not be fully complete due to being purely hospital-based
80. Equity of access to health care services	B	Definition may be changed somewhat
81. Waiting times for elective surgeries		May be removed, regular report every X year instead
82. Surgical wound infections		May be removed, regular report every X year instead; Local data preferred for policy-making
83. Cancer treatment delay		Project-dependent; may not be relevant for policy-making; May be removed, regular report every X year instead
84. Diabetes control		Project-dependent; May be removed, regular report every X year instead; May replace with different indicator
Health interventions: health promotion		
85. Policies on ETS exposure (Environmental Tobacco Smoke)	G	
86. Policies on healthy nutrition		Atypical indicator, may be removed; Survey: replace with better measurable, more specific indicators
87. Policies and practices on healthy lifestyles		Atypical indicator, may be removed; Survey: replace with better measurable, more specific indicators

Indicator[5]	Data source[6]	Combined remarks and/or recommendations[7]
88. Integrated programmes in settings, including workplace, schools, hospital		Atypical indicator, may be removed; Survey: replace with better measurable, more specific indicators

Scientific Institute of Public Health | Rue Juliette Wytsmanstraat 14 |
1050 Brussels | Belgium| e-mail: bridge.coordination@wiv-isp.be|
Website: www.bridge-health.eu|Twitter: @bridge_health

© 2017