Date last modification of documentation sheet: 18-04-2012

Compared to previous version documentation sheet (28-11-2011) the following issues were adapted:
- New section on relevant policy areas added to the documentation sheet
- Link to new (2011) version of the SHA manual added (see references)

Compared to previous version documentation sheet (23-08-2010) the following issues were adapted:
- Change in rationale: "Besides, this indicator is often used as a measure for the occurrence of certain diseases in the population and as an indicator of the quality of primary health care (especially with regard to the care for diabetes, asthma and COPD)." (In stead of "They can also be used as "second best" measure for the occurrence of certain diseases in the population").
- Change in URL to OMC indicators of the health and long term care strand at the Eurostat website

ECHIM Indicator name	**D) Health interventions: health services** 67. Hospital in-patient discharges, selected diagnoses	
Relevant policy areas	- Health system performance, quality of care, efficiency of care, patient safety - (Planning of) health care resources - Health care costs & utilization	
Definition of indicator	The number of hospital in-patient discharges from all hospitals during a given calendar year, expressed per 100,000 population. Calculated and presented by the following 25 categories of the International Shortlist for Hospital Morbidity Tabulation (ISHMT).	

Nr	Description	ICD-10 Codes
1	Total (All Causes)	A00 - Z99 excluding V, W, X &Y codes and excluding healthy newborns Z38
2	Infectious and Parasitic Diseases	A00 - B99
3	Neoplasms	C00 – D48
4	Malignant Neoplasm of Colon, Rectum & Anus	C18 - C21
5	Malignant Neoplasm of Trachea / Bronchus / Lung	C33 - C34
6	Malignant Neoplasm of Breast	C50
7	Malignant Neoplasm of Uterus	C53 - C55
8	Malignant Neoplasm of Prostate	C61
9	Diabetes Mellitus	E10 - E14
10	Mental & Behavioural Disorders	F00 - F99
11	Dementia	F00 - F03
12	Mental and Behavioural Disorders due to Alcohol	F10
13	Mood [Affective] Disorders	F30 - F39
14	Diseases of the Nervous System	G00 - G99
15	Diseases of the Circulatory System	I00 - I99
16	Acute Myocardial Infarction	I21 - I22
17	Cerebrovascular Disease	I60 - I69
18	Diseases of the Respiratory System	J00 - J99
19	Chronic Obstructive Pulmonary Disease and Bronchiectasis	J40 - J44, J47
20	Asthma	J45 - J46
21	Diseases of the Digestive System	K00 - K93
22	Alcoholic Liver Disease	K70
23	Diseases of the Musculoskeletal System & Connective Tissue	M00 - M99

| | 24 | Diseases of the Genitourinary System | N00 - N99 | |
| | 25 | Injury, Poisoning & Certain Other Consequences of External Causes | S00 - T98 | |

Calculation of the indicator	The indicator is calculated as the total number of hospital in-patient discharges from all hospitals during a given calendar year, expressed per 100,000 inhabitants (end of year population). The definition of hospitals (HP.1) follows the International Classification for Health Accounts– Providers of health care (ICHA-HP) of the System of Health Accounts. For definition of an in-patient and a hospital discharge see remarks.
Relevant dimensions and subgroups	- Calendar year - Country - Region (according to ISARE recommendations; see data availability) - Age groups: 0-64 and 65+ Age group exceptions: - dementia: no disaggregation according to age (not relevant for population below 65) - asthma: 0-14 and 15+ (similar to asthma incidence indicator: nr 26; hospital admissions for asthma in particular relevant in children) - injury and poisoning & certain other consequences of external causes: 0-14, 15-24, 25-64, and 65+ (similar to injury incidence indicators: nr 29, 30 and 31; injuries are an important cause of burden of disease particularly in children and young adults).
Preferred data type and data source(s)	Preferred data type: - Registers (administrative data sources, national hospital discharge registers) Preferred source: - Eurostat
Data availability	Annual national and regional data are provided as rates of the number of in-patients per 100,000 inhabitants. 26 EU Member States, Croatia, FYR Macedonia, Iceland, Norway, Switzerland are included in the Eurostat dataset. However, data availability varies by country and by year. Greece was the only EU-27 country not included. Regional data (NUTS II level) available for few countries and depending on year. The ISARE project on regional data collected data (one region of each country) for the number of hospital in-patients discharges in gynecology, obstetrics or maternity (ISARE 3 final report).
Data periodicity	Data are updated annually and available for the period 2000-2008.
Rationale	Hospital in-patient discharges are the most commonly used measure of the utilization of hospital services. Indicators based on hospital discharges from particular diseases can be used as an estimate of the burden of these diseases on health services. Besides, this indicator is often used as a measure for the occurrence of certain diseases in the population and as an indicator of the quality of primary health care (especially with regard to the care for diabetes, asthma and COPD). Finally, this indicator is often used in assessments of costs and efficiency.
Remarks	- Hospital inpatient discharges is one of the indicators of the health and long-term care strand of the Open Method of Coordination (OMC) on Social Inclusion and Social Protection. - Data are not age-standardized by Eurostat. Therefore ECHIM uses breakdown in age groups (0-64, 65+). Data are available however by 5 year age groups, so age-standardized data could be computed. Age-standardized discharge rates are calculated by WHO/EURO and are available in the European Hospital Morbidity database (HMDB) on WHO/EURO's website. This indicator is called age-standardized admission rate per 1000 population but actually it is discharge data which is practically identical to admissions. - ECHIM does not require disaggregation of this indicator by sex, and only by two age groups (0-64 and 65+) to reduce the number of operationalisations. Data are provided by Eurostat for the total population and 5-year age groups. So the aggregated age groups according to the ECHIM definition need to be computed. -A (hospital) discharge is the formal release of a patient from a hospital after a procedure or course of treatment (episode of care). A discharge occurs anytime a patient leaves because of finalisation of treatment, signs out against medical advice, transfers to another health care institution or because of death. Transfers to another department within the same institution are excluded (source Eurostat metadata). - Discharges by diagnosis refer to the principal diagnosis, i.e. the main condition diagnosed at the end of the hospitalisation. The main condition is the one primarily responsible for the

	patient's need for treatment or investigation (source Eurostat metadata).
	- An in-patient is a patient who is formally admitted (or 'hospitalised') to an institution for treatment and/or care and stays for a minimum of one night or more than 24 hours in the hospital or other institution (e.g. nursing and residential care facilities providing in-patient care) (source Eurostat metadata).
	- Patients who die on the day of admission should be counted as in-patient, as they were admitted with the intention to stay overnight. In most Member States the administrative system does not allow to establish whether somebody was admitted as in-patient or day-case, however. In these instances in-patients dying on the day of admission may be counted as day-cases.
	- Total hospital beds are all hospital beds which are regularly maintained and staffed and immediately available for the care of admitted patients. They include beds in all hospitals, including general hospitals (HP.1.1), mental health and substance abuse hospitals (HP.1.2), and other specialty hospitals (HP.1.3).
	- Eurostat indicates to use end-of-year population as denominator. However, it would be more appropriate to use mid-year population here, as this indicator is an 'interval-indicator'.
	- Two different data sets for hospital discharges by diagnosis are available:
	    a) For data from 2000 onwards: according to the International Classification for Hospital Morbidity Tabulation (ISHMT). This shortlist for statistical comparison of hospital activity analysis was adopted in 2005 by Eurostat, the OECD (Organisation for Economic Co-operation and Development) and the WHO-FIC (Family of International Classifications) Network.
	    b) For data covering the period 1989-2002: according to a Eurostat shortlist of some 60 selective diseases based on ICD-10.
	- The International Shortlist for Hospital Morbidity Tabulation (ISHMT) was developed by the Hospital Data Project (HDP).
	- Data collection takes place in agreement with the World Health Organisation (WHO) and the Organization of Economic Co-operation and Development (OECD). Where applicable, common definitions and data specifications are used in the data collection. From 2010 data collection on health care non expenditure data is made jointly with the OECD and WHO-Europe for human and physical resources. This joint questionnaire might be extended to include procedures and hospital patients.

References	- Health Indicators in the European Regions (ISARE) project: http://www.isare.org - Eurostat database Hospital discharges by diagnosis (ISHMT), in-patients, per 100,000 inhabitants: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_co_disch2&lang=en - Eurostat database Hospital discharges by diagnosis (ISHMT) and region, in-patients, total number: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hlth_co_disch1t&lang=en - Eurostat metadata: Health care: resources and patients (non-expenditure data) Reference Metadata in Euro SDMX Metadata Structure (ESMS): http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/hlth_care_esms.htm - Eurostat. Definitions and data collection specifications on health care statistics (non-expenditure data) Version 19 July 2010: http://circa.europa.eu/Public/irc/dsis/health/library?l=/methodologiessandsdatasc/health_care/estat-oecd-definitions-c/_EN_1.0_&a=d - Eurostat/OECD/WHO international shortlist for hospital morbidity tabulation (ISHMT): http://www.who.int/classifications/apps/icd/implementation/hospitaldischarge.htm - Eurostat shortlist for hospital discharges (reference data 1989-2002): http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/hlth_care_esms_an1.pdf - WHO/EURO: European Hospital Morbidity Database: http://data.euro.who.int/hmdb/index.php - System of Health Accounts (SHA): OECD SHA Manual, 2011 edition: http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-30-11-270/EN/KS-30-11-270-EN.PDF - Hospital Data Project 2 (HDP2): http://ec.europa.eu/health/ph_projects/2004/action1/docs/action1_2004_frep_32_en.pdf - OMC indicators of the health and long term care strand at the Eurostat website: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_social_policy_equality/omc_social_inclusion_and_social_protection/health_long_term_care_strand
Work to do	- Ask Eurostat to compute age-standardized rates. If these are available, ECHIM can consider skipping the breakdown by age group, as to limit the number of operationalizations.

	- Discuss with Eurostat whether it is possible to calculate the rates using mid-year population instead of end-of-year population. - Monitor developments Open Method of Coordination.