Hospital average length of stay by diagnostic categories

**Average length of stay (ALOS)** is calculated by dividing the number of bed-days by the number of discharges during the year (see definitions for bed-days and discharges).

**Inclusion**
- ALOS in all hospitals, including general hospitals (HP.1.1), mental health hospitals (HP.1.2), and other specialised hospitals (HP.1.3)
- ALOS for healthy newborns

**Exclusion**
- Day cases

**Notes**
- The length of stay of a patient should be counted as the date of discharge minus the date of admission (for example, a patient admitted on the 25th and discharged on the 26th should be counted as 1 day).
- The list of diagnostic categories is based on the International Shortlist for Hospital Morbidity Tabulation (ISHMT). Click below to see the complete shortlist with ICD-10 and ICD-9 codes: [http://stats.oecd.org/HEALTH_QUESTIONNAIRE/ISHMT/JQNMHC_ISHMT.pdf](http://stats.oecd.org/HEALTH_QUESTIONNAIRE/ISHMT/JQNMHC_ISHMT.pdf)

**Sources and Methods**

**Australia**

**Source of data:** Australian Institute of Health and Welfare Hospital Morbidity Database. AIHW analysis of the AIHW National Hospital Morbidity Database.

**Coverage:**
- Data presented are based on overnight admitted patient separations. They exclude same-day separations.
- 2011-12 ALOS value for category ‘Unknown and unspecified causes of morbidity’ has been adjusted to exclude outlier records with unusually long recorded length of stay.
- Data reported in the ISHMT category 2013 “Healthy new born babies” (ICD-10 Z38) have been excluded from the discharge rates and hence from the calculation of “Average length of stay” by diagnostic categories.
- Data exclude separations with a care type of newborn (without unqualified days) and records for hospital boarders and posthumous organ procurement.

**Break in time series:** 2015 for some specific diagnostic categories.
- Changes to the Australian Coding Standard for Rehabilitation (ACS 2104), introduced from 1 July 2015 in the 9th edition of ICD-10-AM mean that Z50- Care involving the use of rehabilitation procedures (which was previously required to be coded as the principal diagnosis) is now an 'Unacceptable principal diagnosis'. The change to the ACS means that the 'reason' for rehabilitation will now be identified using the principal diagnosis (rather than as the first additional diagnosis). Therefore, between 2014–15 and 2015–16, the numbers of separations (and ALOS) with a principal diagnosis in the ICD-10-AM chapter Z00–Z99 Factors influencing health status and contact with health services decreased markedly, accompanied by corresponding increases in other ICD-10-AM chapters—most notably for S00–T98 Injury, poisoning and certain other consequences of external causes, and M00–M99 Diseases of the musculoskeletal system and connective tissue.
**Austria**

Source of data: **Statistics Austria.** Hospital discharge statistics.

Reference period: 31st December.

Coverage:
- Includes all inpatient institutions classified as HP.1 according to SHA/OECD.
- Inpatient bed-days exclude day cases. Day cases are defined by the same admission and discharge dates (before midnight).
- Inpatients include discharges to home, other inpatient-institutions and deaths in hospitals.
- Included are residents and non-residents.
- Healthy newborns are not documented as treatment cases.
- Long-term inpatients are included.
- Documented are treatment episodes. Multi-episode cases cannot be combined into one discharge record because a personal ID of the single episode is not available.
- For each inpatient stay a main diagnosis has to be documented at discharge. The main diagnosis is the disease, which the medical examinations proved to be the principal cause of the inpatient stay. During the inpatient stay acquainted new diseases or new complications are not a main diagnosis. The main diagnosis is a definitely clarified diagnosis. If a final clarification is not possible, the main symptom, the most severe abnormal finding or disease has to be selected as main diagnosis.

Break in time series:
- DRG-based hospital funding, effective since 1997, might have changed coding performance relative to the years before.
- ICD-9 code was used from 1989 to 2000, ICD-10 from 2001 on. The change of ICD-9 to ICD-10 in 2001 may cause breaks in time series for several diagnoses. ICD-10 was changed on national level in reporting year 2013 (ICD-10 BMG 2013) and 2014 (ICD-10 BMG 2014).
- “HIV disease” (ISHMT-code 0105): From 1989 to 1992 included in “Endocrine, nutritional and metabolic diseases” (ISHMT-code 0400); since 1993 in “Certain infectious and parasitic diseases” (ISHMT-code 0100).
- Data are not available for “Coxarthrosis” (ISHMT-code 1301) and “Gonarthrosis” (ISHMT-code 1302) before 2001.

**Belgium**


Reference period: During the year.

Coverage:
- The Federal Public Service of Health, DGGS "Healthcare" is responsible for the registration of the Minimal Hospital Data.
- Hospital days for inpatients concern only acute admissions in acute hospitals (with at least 1 overnight stay in the hospital).
- Patient data in psychiatric hospitals are not included.
- Long lasting stays are excluded (more than 6 months or 184 days).
- Deceased patients are included.

Break in time series:
- Diseases of the nervous system, ISHMT codes 0600 and 0605: the ICD-9-CM 327, 338 and 339 did not exist in the 2005 codebook. These codes do exist in the 2009 codebook which was used for the years from 2009. This explains the data change between 2008 and 2009.
- Symptoms, signs and abnormal clinical and laboratory findings, n.e.c., ISHMT codes 1800 and 1804: as of 2009 (when the ICD-9-Code 327 has been included and used), the code 780.5 is no long used. This explains the data change between 2008 and 2009.
Liveborn infants according to place of birth ("healthy newborn babies") (V30-V39 codes in acute admissions), ISHMT code 2103: Admissions in Maternity and Neonatal Intensive Care are excluded in our selection. This explains the small figures in inpatient cases and hospital days for inpatients until 2007.

- The 2007 total of newborns in all hospital divisions (not only acute) is 120276 newborn babies (inpatients), 577 newborn babies (daycases) & 665193 hospital days for newborn babies.
- The 2006 total of newborns in all hospital divisions (not only acute) is 122769 newborn babies (inpatients), 613 newborn babies (day cases) & 696259 hospital days for newborn babies.
- The 2005 total of newborns in all hospital divisions (not only acute) is 119506 newborn babies (inpatients), 633 newborn babies (day cases) & 696259 hospital days for newborn babies.
- The 2004 total of newborns in all hospital divisions (not only acute) is 117189 newborn babies (inpatients), 575 newborn babies (day cases) & 688464 hospital days for newborn babies.
- The 2003 total of newborns in all hospital divisions (not only acute) is 113809 newborn babies (inpatients), 515 newborn babies (day cases) & 673700 hospital days for newborn babies.
- The 2002 total of newborns in all hospital divisions (not only acute) is 112802 newborn babies (inpatients), 366 newborn babies (day cases) & 679198 hospital days for newborn babies.
- The 2001 total of newborns in all hospital divisions (not only acute) is 114804 newborn babies (inpatients), 355 newborn babies (day cases) & 695248 hospital days for newborn babies.
- The 2000 total of newborns in all hospital divisions (not only acute) is 110316 newborn babies (inpatients), 280 newborn babies (day cases) & 671248 hospital days for newborn babies.

- All causes, ISHMT code 0000: Break in 2005 due to inclusion of newborn babies in the total number of discharges.
- Due to the transition of codification system ICD-9-CM to ICD-10-CM during the year 2015, no data are available for the year 2015, considered as a transition year for the hospitals.
- From 2016 onwards, the ICD-10-BE classification has been used to codify all hospital discharge data, explaining the break in many of the time series.

Canada

Source of data:
- Statistics Canada, Hospital Morbidity Database, 1980/81 to 1993/94.
- Canadian Institute for Health Information, Discharge Abstract Database and Hospital Morbidity Database starting in 1994/95 (the Hospital Morbidity Database was transferred from Statistics Canada to the Canadian Institute for Health Information in 1994/95), Ontario Mental Health Reporting System starting in 2006/07 until 2012/13, and Hospital Mental Health Database starting in 2013/14.

Links to CIHI’s web pages on metadata:

Coverage:
- Data are calculated on a fiscal year basis (April 1st to March 31st).
- Separations in Canada include discharges both alive and dead for the condition most responsible for the length of stay.
- Includes rare instances of same-day separations.
- Excludes surgical day cases.
- All ten Canadian provinces are included for all years. In 1994/95, one territory is included while from 1995/96 onwards all territories are included, except in 2002/03 when the territory of Nunavut is excluded.
- Consistent with hospital morbidity series published in Canada, newborns (healthy and unhealthy babies born at the hospital) are excluded and therefore no data are reported for category 2103 (Healthy newborn babies). The inclusion of healthy newborns would considerably reduce the average length of stay for 2100 (Factors influencing health status and contact with health services). However, the inclusion of unhealthy newborns would only have minor effects on the average length of stay for most categories of the ISHMT due to the low number of unhealthy newborns relative to adult and child discharges. The inclusion of newborns would reduce by 0.5 or 0.6 day (e.g.
from 8.1 days to 7.5 days in 2016/17) the average length of stay for 0000 (All causes).
- Data are for acute care hospitals only, except for the data on mental and behavioural disorders which include psychiatric hospitals starting in 2013/14. Alternate level of care (ALC) patients in acute care hospitals are included. An ALC patient is a patient who is occupying a bed in a facility and does not require the intensity of resources/services provided in that care setting.
- The data are reported as per ICD-9 until 2000/01. In 2001/02, five provinces and one territory provided their data for the first time, according to ICD-10-CA; in 2002/03 two more provinces and two more territories reported according to ICD-10-CA. In 2003/04, only Manitoba and Quebec did not submit their data according to ICD-10-CA. In 2004/05, Manitoba adopted the ICD-10-CA and Quebec did the same in 2006/07.
- Records with invalid/unknown length of stay were excluded. Records with invalid/unknown gender and/or age were included.
- Data from Statistics Canada are provided for all 149 groups of the ISHMT with the exception of OECD categories 1301 (Coxarthrosis), 1302 (Gonarthrosis), 1304 (Other arthropathies) and 1310 (Other disorders of the musculoskeletal system and connective tissue). Data from the Canadian Institute for Health Information are provided for all 149 groups of the ISHMT, with the exception of OECD categories 1301 (Coxarthrosis) and 1302 (Gonarthrosis) until 2005/06. Separate reporting of 1301 and 1302 by Canadian hospitals is not mandatory in ICD-9. Discrete data for the two categories are available starting in 2006/07 when all provinces and territories had implemented ICD-10-CA. Since 1301 and 1302 could not be reported as separate categories before 2006/07, data from the Canadian Institute for Health information for 1304 include counts that would have fallen under 1301 and 1302. While not shown separately, data from Statistics Canada for categories 1301, 1302, 1304 and 1310 are, however, included in the total for chapter 1300 (Diseases of the musculoskeletal system and connective tissue).
- Starting in 2001/02, some provinces reported as per ICD-10-CA, and national data could not be provided anymore for the OECD category 1506 (Other delivery) with ICD-10 codes 081-084. The concepts captured by these codes do not exist in ICD-10-CA. Rather, in ICD-10-CA, the conditions precipitating the mode of delivery are coded with the interventions used for delivery.
- Starting in 2001/02, some provinces reported as per ICD-10-CA and national data could not be provided anymore for the OECD category 1506 (Other delivery) with ICD-10 codes 081-084. The concepts captured by these codes do not exist in ICD-10-CA. Rather, in ICD-10-CA, the conditions precipitating the mode of delivery are coded with the interventions used for delivery.

Break in time series:
- The substantial decrease in average length of stay for some diagnostic categories in 1994/95 may reflect the more restrictive definition of acute care hospitals used by the Canadian Institute for Health Information, as opposed to the definition used previously by Statistics Canada.
- Starting in 2006/07, data for the category Mental and Behavioural Disorders (0500) and its sub-categories include the data from the Ontario Mental Health Reporting System (OMHRS). With the creation of the OMHRS, information on acute care facilities with designated adult mental health beds in Ontario was no longer submitted to CIHI’s Discharge Abstract Database. The number of discharges for category 0500 is higher than the sum of its sub-categories as precise diagnostic information is missing for many of the discharges in the OMHRS. Some discharges with imprecise diagnostic information were allocated to category 0506, although they may in fact belong to categories 0501, 0502 and 0503. Therefore, the discharges for these three categories might be understated. In the OMHRS, it is not mandatory to report diagnostic information for short-stay assessments, discharges that are unplanned or discharges for stays less than seven days. This resulted in an increase in the average length of stay for all the sub-categories of Mental and Behavioural Disorders (0500), in 2006/07.
- Starting in 2013/14, data for the category Mental and Behavioural Disorders (0500) and its sub-categories are from the Hospital Mental Health Database (HMHDB), a pan-Canadian database containing information on discharges involving mental illness or addiction from Canadian psychiatric and general hospitals. The HMHDB is based on the following CIHI data sources:
  - Discharge Abstract Database (DAD)/Hospital Morbidity Database (HMDB);
  - Ontario Mental Health Reporting System (OMHRS); and
  - Hospital Mental Health Survey (HMHS).
Thus, starting in 2013/14, the data for the category Mental and Behavioural Disorders (0500) are more comprehensive than before as they include HMHS data and data from psychiatric hospitals in addition to the previously used data (acute care hospitals in DAD, HMDB and OMHRS). Coverage of institutions in HMHDB depends on coverage in the source databases.
- Due to the adoption of the 2009 version of the ICD-10-CA classification (replacing the 2006 version that was used until 2008), diseases previously captured in 1110 (Other noninfective gastroenteritis and colitis) category now
shifted to 0102 (Diarrhea and gastroenteritis of presumed infections origin), and resulted in the LOS change. Another possible reason for the increase in length of stay can be explained by mild cases with shorter LOS stay being shifted to the 0102 category. As a result, the LOS for 1110 increased and the LOS for 0102 decreased.

**Chile**

**Source of data:** Ministry of Health (MINSAL), Department of Health Statistics and Information (DEIS). Administrative registry from public and private health sectors. Hospital Discharges from 2001 available at [http://www.deis.cl/?page_id=3487](http://www.deis.cl/?page_id=3487).

**Coverage:**
- Data coverage is nationwide. Data include both public and private sectors.
- Annual periodicity. Data are automatically collected monthly from the health establishments’ information systems and validated and published by the Department of Health Statistics and Information (DEIS).

**Note:** the high ALOS for "Dementia" (ISHMT code 0501) and "Schizophrenia, schizotypal and delusional disorders" (0504) in 2010 is due to the discharge of a number of patients who spent an exceptionally long time in hospital.

**Deviation from definition:** Data include same-day separations and deaths.

**Break in time series:** since 2013 the ALOS for Alzheimer is significantly lower and the reason is that there has been a change in the registration of the discharges for Alzheimer. Until 2012 when a patient who was in an establishment of long stay for Alzheimer was transferred to an establishment for acute care, it was not recorded as a hospital discharge.

**Czech Republic**

**Source of data:** Institute of Health Information and Statistics of the Czech Republic. National Registry of Hospitalised Patients.

**Reference period:** Discharges during the year.

**Methodology:**
- Since 2011: The methodology was changed and follows the methodology of data transmitted to the WHO.
- 2010 and previous years: Data follow the previous OECD data collection.

**Coverage:**
- **Coverage by hospital type:** Data are from hospitals and specialised therapeutic institutes (all bedcare health establishments excluding balneologic institutes and convalescence homes for children).
- Hospitalised foreigners are included.
- **Multi-episode cases:** Multi-episode cases treated in one health care establishment have been combined into one discharge record.
- **Inpatient cases:** termination of one patient’s stay in a hospital, including discharge to home, transfer to another institution or death.
- **Day cases:** cases with the same date of admission and discharge, excluding deaths. However, only patients registered as hospitalised patients are included, that is patients admitted to and discharged from a bed care department of a health care establishment. Number of bed-days for day cases is not included.
- **Definition of main diagnosis:** Main diagnosis is defined as the main condition diagnosed at the end of the episode of health care, primarily responsible for the patient's need of treatment or examination.

**Break in time series:** since 2011, bed-days which are longer than 700 days have been cut. This concerns mainly hospitalisations in psychiatric sanatoriums and explains in particular the decrease in ALOS for mental and behavioural disorders and Alzheimer’s disease in 2011.

**Denmark**

**Source of data:** National Board of Health, The National Patient Register.

**Estonia**

**Source of data:**
- Ministry of Social Affairs, Department of Health Information and Analysis, routinely collected aggregate hospital statistics.

Reference period: Calendar year.

Coverage:
- Coverage by hospital type: All hospitals (HP.1), public and private, are covered.
- Missing records: Estonia collects aggregated data on hospital discharges. Therefore the data cannot be presented in such detailed level as requested. Data collection at individual level is planned when nationwide E-health record is implemented.
- ICD-10 is used for data collection.
- Inpatient cases: Data on discharges are collected in two ways: 1) Discharges according to ICD-10 main chapters by sex and age groups include deceased patients but not bed-days; 2) Hospital discharges by selected ICD-10 subgroups/single diagnoses and corresponding bed-days.
- The complete ISHMT shortlist is not available for Estonia.
- Estonian age groups match to the requested age groups till the age of 25 years old. Starting from 25 years old, the age groups are divided on a 10 year basis, and the last age group until 2006 is 75 years old and over, and from 2007 it is 85 years old and over. Therefore, the age-groups presented are 0-14 years old and 15 years old and over.
- Bed-day: a day during which a person admitted as an in-patient is confined to a bed and in which the patient stays overnight in a hospital. The number of bed-days does not include bed-days of the deceased until 2004.
- Healthy newborns are excluded.

Break in time series: Before 2005, data do not include deceased person’s bed-days. Since 2005, hospital bed-days include bed-days of deceased cases, therefore the comparability of ALOS with previous years is affected.

Finland

Source of data: National Institute for Health and Welfare (THL); Hospital Discharge Register.

Reference period: During the year.

Coverage:
- Inpatient cases: cases where admission day differs from that of discharge day.
- Data exclude transfers to another department within the same institution.

France

Source of data: Ministère du Travail, de l’Emploi et de la Santé. Drees (Direction de la recherche, des études, de l'évaluation et des statistiques) - BESP; National databases from the "programme de médicalisation des systèmes d'information (PMSI)" (since 1997).

Reference period: calendar year.

Coverage:
- French data cover residents of Metropolitan France and/or overseas Départements (Guadeloupe, Martinique, French Guyana and Réunion Island and from 2015 Mayotte), who were hospitalised in the public and private hospitals of the same area. They refer to hospitalisations (and not to patients) in the units delivering acute care (in medicine, surgery, gynecology and obstetrics: MCO) and, from 2016, post-acute or rehabilitative care and psychiatric care. Database contains all inpatient hospitalisations. - In 1997, stays are linked to the region of the patient's hospitalisation. Since 1998, they are linked to the region of the patient's place of residence.
- Coverage by hospital type: Excluded hospitals: long term care hospitals and nursing facilities during the whole period; army hospitals until 2008; and psychiatric hospitals and post-acute/rehabilitation hospitals until 2015. Data from military hospitals are added since 2009 and data from psychiatric hospitals and post-acute/rehabilitation hospitals since 2016.
- Missing records: Completeness is 100% since 1997.
- Multi-episode cases: Even if the patient has been in several medical units during their stay without leaving the hospital this constitutes a single stay.
- Inpatient cases: Data refer to the stays with full hospitalisation (i.e. more than 24 hours). Same-day discharges are excluded, except in case of death or transfer in another hospital.
- Main diagnosis: Until 2008, the main diagnosis is the one that uses most of the medical effort in the course of the stay (i.e. uses most resources). Since 2009, determined at the end of the stay, the main diagnosis is the health condition responsible for the hospitalisation.
- Other notes related to recording and diagnostic practices:
  - Pooling the hospital stays strictly follows the ISHMT Short List. When the ICM10 permits to
code either manifestation (*) or etiology (†) of the pathology, the manifestation code was used.

- Since 2002 only suicide attempts have been recorded out of all External Causes.
- Since 2006, additional ICD10 codes have been allocated to: J09 (Proved avian flu): Group 1001; O94 (Complications after-effects of pregnancy, delivery and/or puerperium): Group 1508; U04 (Severe Acute Respiratory Syndrome - SARS): Group 1804.
- Since 2010, the number 0 for "Other delivery" (ISHMT code 1506) is related to changes in coding guidelines introduced by the version 11 of the “classification des groupes homogènes de malades” (GHM). The figure previously counted in this category is now included in "Complications of pregnancy and labor DURING delivery". For the "sequelae of injuries, poisoning and external causes" (ISHMT code 1910), the methodological guide indicates that in case of sequelae, the code chosen for "main condition" must be the one that designates the nature of sequel themselves, to which can be added codes "Sequelae of...": This is probably what explains the significant decrease since 1997 and the number zero since 2010.
- From 2014, Haemorrhoids ICD10 code has been changed by WHO (category K64 instead of L84) with, consequently, change in allocation of ISHMT short list code: 1113 instead of 0911.

Break in time series:
- As of 2009, army hospitals have been included, and the definition of primary diagnosis has changed. The primary diagnosis is now “the health problem which motivated the admission of the patient, determined at the end of the stay” (see the methodological guide from ATIH at http://www.atih.sante.fr/openfile.php?id=2741).
- French overseas department “Mayotte” is included in French data from 2015.
- Data from psychiatric and rehabilitative or post-acute care hospitals have been included from 2016. This inclusion mostly affects the following ISHMT categories: 0500, 0501, 0502, 0503, 0504, 0506, 1800, 1803, 2100, 2104, 2105 and 0000.

Germany

Source of data: Federal Statistical Office. Hospital statistics 2016 (diagnostic data of the hospital patients and patients of prevention or rehabilitation facilities); Statistisches Bundesamt 2017, Fachserie 12, Reihe 6.2.1 and ibid, Fachserie 12, Reihe 6.2.2 and special calculations by the Federal Statistical Office.
Reference period: During the year.
Coverage:
- The number of bed-days refers to the sum of all inpatients at midnight. The day of admission counts as one bed-day so that day cases (patients admitted for a medical procedure or surgery in the morning and released before the evening) are normally also included. As one day case constitutes one bed-day it is possible to adjust the number of bed-days so that day cases are excluded.
- Coverage by hospital type: Data include bed-days during a given calendar year in all types of hospitals (HP1.1, 1.2 and 1.3) in all sectors (public, non-profit and private). Up to and including reporting year 2002, data only include bed-days in general hospitals and mental health hospitals. As of reporting year 2003, data additionally include bed-days in prevention and rehabilitation facilities; however bed-days of these institutions with 100 or less than 100 beds are not included.
- Missing records: Bed-days in prevention and rehabilitation facilities with 100 or less than 100 beds are not included (about 13% of all discharges in rehabilitation centres).
- Other notes related to coverage:
  - Patients with unknown diagnosis (9999) are included. Patients with unknown age and/or sex are included.
  - From reporting year 2004, live-born infants according to place of birth coded with ICD-10 Z38 (ISHMT code 2103) and patients coded with ICD-10 D90 “Immunocompromisation after radiation, chemotherapy and other immunosuppressive measures” (ISHMT codes 0300, 0302) are included.
  - From reporting year 2005, patients coded with ICD-10 U00-U99 "Codes for special purposes" (8888) are included.
  - As of reporting year 2000, discharges have been collected according to the International Classification of Diseases, 10th revision. In 2000, ICD-9-coded cases are included (about 2%).
- Definition of main diagnosis: The main diagnosis is defined as the condition diagnosed at the end of the hospitalization period, primarily responsible for the patient’s need for treatment or examination at the hospital.
- Other notes related to recording and diagnostic practices: The implementation of the German DRG-System led to wide changes in the coding practice of the physicians especially concerning the diagnoses “complications during
labour and delivery” (ISHMT code 1504), “single deliveries” (ISHMT code 1505) and “other delivery” (ISHMT code 1506).

**Break in time series:** Up to and including reporting year 2002, data only include bed-days in general hospitals and mental health hospitals. As of reporting year 2003, data additionally include bed-days in prevention and rehabilitation facilities; however bed-days of these institutions with 100 or less than 100 beds are not included. The years before 2003 are therefore not comparable to the following years.

**Additional information:**
- In German health statistics publications, the number of bed-days includes the number of inpatient cases as well as the number of day cases. Therefore the total number of bed-days in these publications is higher.
- Since the average length of stay (ALOS) is the quotient of bed-days and discharges, the ALOS in these publications is lower than when calculated on the basis of only inpatients and bed-days for inpatients.

**Greece**

**Source of data:** National Statistical Service for Greece, Division of Social Welfare and Health Statistics.

**Coverage:**
- Same-day separations are excluded.
- ICD-9 is used (1975 version). However the National Statistical Service has grouped the discharges with a slightly different classification, as noted in the following table:

<table>
<thead>
<tr>
<th>Morbidity</th>
<th>ICD-Code substituted (ICD-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infectious and parasitic diseases</td>
<td>20-27, 30-41, 45-57, 60-66, 70-88, 90-104, 110-118, 120-139</td>
</tr>
<tr>
<td>Malignant neoplasms</td>
<td>140-165, 170-175, 179-208, 210-239</td>
</tr>
<tr>
<td>Malignant neoplasm of colon, rectum, rectosigmoid junction and anus</td>
<td>153</td>
</tr>
<tr>
<td>Senile cataract</td>
<td>366</td>
</tr>
<tr>
<td>Otitis media</td>
<td>381-383</td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>411-414</td>
</tr>
<tr>
<td>Diseases of the respiratory system</td>
<td>463-466, 470-474, 478, 480-487, 491-494, 496, 500-508, 511, 519</td>
</tr>
<tr>
<td>Bronchitis, asthma and emphysema</td>
<td>491-493</td>
</tr>
<tr>
<td>Gastric, duodenal, peptic, ulcers</td>
<td>531-533</td>
</tr>
<tr>
<td>Inguinal and femoral hernia</td>
<td>550-553</td>
</tr>
<tr>
<td>Cholelithiasis</td>
<td>574, 575</td>
</tr>
<tr>
<td>Diseases of the musculoskeletal system and connective tissue</td>
<td>714, 716, 718, 720, 724-730, 735, 736, 739</td>
</tr>
<tr>
<td>Intervertebral disc disorders</td>
<td>720.2, 721-724</td>
</tr>
</tbody>
</table>

**Hungary**

**Source of data:**
- From 2004 onwards: National Healthcare Services Center (ÁEEK in Hungarian) [www.aeech.hu](http://www.aeech.hu).

**Coverage:**
- Data are based on ICD-10.
- The data are calculated from the itemised data of the inpatient care finance report submitted by the health insurance fund.
- **Multi-episode cases:** The case number for hospital discharge is provided, rather than the case number for department. If the hospital case involved care in several departments, then the hospital case is assigned to the major diagnosis of the department case whose DRG classification had the highest weight number.
- **Inpatient case:** Hospital case where the date of admission is older than the date of discharge. One-day ambulatory cases are not included.

**Iceland**
**Source of data:** Directorate of Health in Iceland. Hospital data registry.

**Coverage:**
- Data cover whole country.
- Data from 1999-2006 cover health care facilities with at least one bed available for curative care.

**Break in time series:** 2007. Data have been updated back to 2007 so that the data now more accurately match the definition of hospitals given in the joint questionnaire (facilities where there is not a 24 hour physician presence are excluded).

**Included:**
- All hospitals in the country.
- Inpatient cases only.
- Only hospitals with a 24 hour physician presence (from 2007 and onwards).
- All discharges with a length of stay (LOS) of less than 90 days.
- Based on principal/main diagnosis.

**Excluded:**
- Specialised institutions such as rehabilitation centers, nursing homes or residential care facilities.
- Transfers to other specialty areas ("þjónustuflokkar") within hospitals.

**Estimation method:**
- Data compiled using ICD-10 codes and Eurostat age groups.

**Break in time series:** In 2010 a new registration system was implemented in hospitals nationwide. Changes were also made to the national registration standards. Data on diagnoses and procedures are not complete in all cases for the year 2010. The 2010 data are therefore omitted.

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**Ireland**

**Source of data:** The data presented are derived from the HIPE (Hospital In-Patient Enquiry) data set, which records data on discharges from all publicly funded acute hospitals. HIPE is operated by the Healthcare Pricing Office (www.hpo.ie).

**Reference period:** Data are based on the year of discharge.

**Coverage:**

*Coverage by hospital type*
- HIPE data covers all in-patients and daycases receiving curative and rehabilitative care in publicly funded acute hospitals in the State. The data coverage in HIPE exceeds 96%, i.e. overall less than 4% of activity in publicly funded acute general hospitals is missing from HIPE.
- For historical reasons, a small number of non-acute hospitals are included in the NHDDB. This activity represents less than 0.5% of total activity in the NHDDB.
- The NHDDB does not include private hospitals. Activity data for private hospitals is not available, however based on a household survey carried out by the Central Statistics Office in 2010 it is estimated that approximately 15% of all hospital inpatient activity in Ireland is undertaken in private hospitals. It should be emphasised that this is an estimate only and so should be interpreted with caution.
- Data for Psychiatric in-patients and day-cases receiving curative and rehabilitative care in specialist psychiatric hospitals (HP.1.2) have not been included. It is maintained on a separate database which uses ICD 10 for coding diagnosis and also includes long-stay patients. This activity accounts for approximately 2% of all Irish hospital activity. Psychiatric patients in acute general hospitals are recorded in the NHDDB.

**Other notes related to coverage**
- Patients who are admitted or discharged as emergencies on the same day are considered inpatients and have a length of stay of 1 day.

**Notes related to recording and diagnostic practices**
- The principal diagnosis is defined as the diagnosis established after study to be chiefly responsible for occasioning the episode of admitted patient care. For more information see the HIPE data dictionary at http://www.hpo.ie/hipe/hipe_data_dictionary/HIPE_Data_Dictionary_2016_V8.1.pdf
- Data for 1995 to 2004 were classified using ICD-9-CM. All HIPE discharges from 2005 are now coded using ICD-10-AM (The Australian Modification of ICD-10 incorporating the Australian Classification of Health Interventions).
- Although the ISHMT is used for categorising diagnoses, there are still some minor changes in the classification of diagnoses. The HMT shortlist is based on ICD-9 and ICD-10 codes, but the classification used for diagnoses in HIPE was changed from ICD-9-CM to ICD-10-AM including the Australian Coding Standards. This means that for certain categories comparison with previous years is difficult.
The Irish Coding Standards direct that Healthy Newborn Babies are not coded in HIPE. Therefore there are no beddays in category 2103 [Liveborn infants according to place of birth]. It is estimated that this activity would result in an increase of approximately 10% in the total number of inpatients if it was included. For further information on the numbers of births annually see the National Perinatal Reporting System (NPRS) annual reports at http://www.hpo.ie/.

Note that in Ireland, codes from ISHMT category 1501 (Medical Abortions) include patients admitted to hospital with a complication following a legal abortion in another state.

Break in time series: There is a break in the time series between 2004 and 2005 due to the change in classification systems from ICD-9-CM to ICD-10-AM in 2005.

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**Israel**

**Source of data:** Data reported are based on combining the data sources in the Ministry of Health:

(a) The **National Hospital Discharge Database**, maintained by Health Information Division in the Ministry of Health. It includes most acute care hospitals as well as some special hospitals. The diagnoses and procedures are coded according to the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM). The diagnoses reported are the first listed diagnosis at discharge from the hospitals. Patients who were admitted and discharged on the same date were defined as day cases.

(b) The **Inpatient Mental Health Database**, maintained by the Department of Mental Health in the Ministry of Health. It includes all inpatient hospitalisations in mental health departments in all hospitals. It includes all inpatient and most day cases in hospitals, but not ambulatory cases or day cases out of hospitals. The diagnoses are coded by the International Classification of Diseases, Tenth Revision (ICD10). The diagnoses reported were the diagnoses at discharge, or at admission in case of missing diagnosis at discharge.

(c) **Summary Hospitalisation Database**, with information collected routinely by the Health Information Division in the Ministry of Health. It includes all admissions to all inpatient institutions, hospitals (HP.1) and nursing care (HP.2) by wards, year and month, but does not include data by diagnoses, procedures, age, gender or admissions and discharges dates.

**Coverage:**
- The data include all hospitalizations in all acute care hospitals, mental health hospitals and special hospitals.
- Israel reports the diagnoses as the international short list of comorbidity, while the E codes are reported as ICD, 4 digits. There is no double counting involved.
- The E codes are NOT included in the TOTAL.
- The missing data were extrapolated within a given year, hospital, department, hospitalisation type, age and gender. Information from hospitals missing from the National Hospital Discharge Database was based on the Summary Hospitalisation Database with unknown diagnosis, gender. These missing hospitals are geriatric hospitals, and all of the patients are in the 65+ age group.

**Notes:**
- The high average length of stay for "All causes" and "Mental disorders" in 2006 is due to the closure of a number of mental health beds.
- The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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**Italy**

**Source of data:** Ministry of Health. Planning Department of the Ministry. The Italian Ministry of Health collects the same set of information about hospital discharges from every single Italian Region.

**Coverage:**
- **Coverage by hospital type:** The national hospital discharge database (NHDDB) covers the following inpatient institutions, which are classifiable as HP.1: Hospital Agencies, General hospitals, University hospitals and Specialty hospitals (like neurological, cancer, orthopaedic, paediatric hospitals). Military hospitals are not included (it is not possible to estimate their total capacity). Psychiatric hospitals and Substance abuse hospitals do not exist in Italy (there are other residential institutions for those illnesses).
- **Missing records:** The NHDDB includes all inpatients and day cases in covered hospitals. Outpatient cases are not included in the NHDDDB. Data exclude some discharge records if some important information is lacking (e.g. the ward and type of hospital, the type of discharge - inpatient or day case) and if the length of stay is longer than 365
Multi-episode cases: The NHDDB includes multi-episode cases, combined into one discharge record in several day case discharges: treatments for day cases may last either only one day or more days in case of a cycle of treatments, such as radiotherapy or chemotherapy. The number of presence days for day case discharges is recorded in the NHDDB.

Day cases: The hospital discharge data files include day cases: these cases do not stay overnight in hospital. A special index flag identifies all the day cases.

Definition of main diagnosis: The main diagnosis is identified at the hospital discharge and it must be the main reason for the hospital treatment and care. If there were several main diagnoses, the one requiring more resources must be reported as the main diagnosis. Neoplasia must be indicated as main diagnosis, unless the hospital episode is finalized for radio or chemotherapy.

Other notes related to recording and diagnostic practices: The classification system used for the NHDDB is ICD-9-CM. Starting from the year 2010, other information are collected for each hospital discharge, such as level of education, election admission date, priority class and external cause in case of traumatism. For this last information the “E” codes of the ICD-9-CM classification were introduced. External cause codes are not included in the hospital discharge data files.

Break in time series:

Japan

Data not available.

Korea

Source of data:

Coverage:
From 2014: Administrative data cover consultation fees, including national health insurance, medical care, Patriots-Veterans benefits, industrial accident insurance benefit, and automobile insurance.
Until 2013:
- The Patient Survey was conducted every 3 years until 2005. It was changed to annual survey in 2008.
- The data includes hospital ALOS only (hospital defined as medical institutions which have more than 30 beds in Korea). Inpatients in medical institutions other than hospitals (such as doctor’s offices and clinics) are excluded.
- Day cases and outpatient cases are not included in the data.


Latvia

Source of data: National Health Service.
Reference period: During the year.
Coverage:
- The data cover all H.P.1 providers of health care, which have a contract with the National Health Service, and all activities of inpatient care financed by state.
- The data file does not contain information regarding all discharged inpatients because some hospitals have not concluded an agreement with the National Health Service.
- At the moment, the figures on new-borns are excluded.

Luxembourg

Source of data: Fichiers de la sécurité sociale. Data prepared by Inspection générale de la sécurité sociale.
Reference period: during the year.
Coverage:
Coverage by hospital type
- All budgeted hospitals have been taken into account to calculate rates (including mid-term and long-term psychiatric rehabilitation centres, functional rehabilitation centres and a specialised establishment for palliative care existing since 2011).

Missing records
- Liveborn infants according to place of birth (Z38) are not registered as patients by hospitals. Therefore, no diagnostic for discharge is provided.
- Cases with unknown diagnostic are included.

Multi-episode cases
- Multi-episode cases are considered as separate discharge records.

Day-cases
- Day cases were identified by the same admission and discharge dates.

Other notes related to coverage
- Data refer only to the resident population covered by the statutory health insurance scheme.
- Admissions from the subchapters V, W, X and Y from ICD-10 are excluded.

Definition of main diagnosis
- There are no conditions or regulations defining how the main diagnosis should be established for the record.

Other notes related to recording and diagnostic practices
- Classification ICD-10 used.
- Data for 2016 should be considered as preliminary. In 2018, all data were revised since 2006.

Mexico

Source of data:


Coverage:
- The information includes only inpatient cases, excluding urgent admissions, ambulatory services (same-day separations) and transfers to other care units.
- It includes information from public institutions: Ministry of Health (SS), Social Security Institute (IMSS), Labor Social Security Institute (ISSSTE), Ministry of Navy (SEMAR), IMSS Oportunidades, Ministry of War (SEDENA) (until 2004) and Mexican Petroleum (PEMEX). It does not include information of private hospitals, state (local) hospitals, university hospitals and Red Cross.
- In 2018, the 2014 and 2015 data from the IMSS (the largest health care provider) were corrected. The corrected data exclude discharges from ambulatory beds.

Netherlands

Source of data:
- The Hospital Discharge Register (HDR, the 'Landelijke Basisregistratie Ziekenhuiszorg' and its predecessor the ‘Landelijke Medische Registratie’ of Dutch Hospital Data) is the source of data on hospital discharges by age, sex, ISHMT diagnoses and NUTS2.

Reference period:
- All hospital discharges with a discharge date in the calendar year are included.

Metadata information:
- Up to 2012 diagnoses are registered according to the ICD-9-CM in the HDR, from 2013 onwards the ICD-10 is used.
- For the figures of 2006 and further the ISHMT version of 10 November 2008 is used. Up to 2005, the ISHMT version of 24 November 2006 was used.
- Only the principal diagnoses are included.
- From 2005 onwards the HDR in the Netherlands suffers from a degree of non-response. The non-response (as a percentage of all discharges) increased from 1% in 2004 to 25% in 2012. In 2013 the non-response was 23%, and thereafter decreased to 8% in 2016. The figures are corrected for the non-response by imputation, based on known characteristics of the missing records (specialism and case type). From 2013 onwards also some micro data (age, sex, and some additional administrative admission data) are available of the (previously) missing discharges, which
enables improved imputation of diagnoses. However, the fact that imputation is (still) needed, results in less accuracy of the figures from 2005 onwards.

**Deviation/compliance with the definition:**
- Discharges in Dutch hospitals of non-residents of the Netherlands are included in the figures.
- From 2013 onwards the following changes have been implemented, to comply with Eurostat definitions (these were not implemented in the figures up to 2012):
  - Inpatient stays of one day without overnight stay (date of discharge minus date of admission =0) are not counted as inpatient bed-day (as no overnight stay), nor as day case (as these are registered as inpatient case type, the majority of these cases are acute admissions, and the non-acute admissions may also be unplanned).
  - Discharges with the new case type ‘long observations without overnight stay’ (registered from 2014 onwards in the HDR) are excluded in the figures, as these are nor inpatients (no overnight stay) nor day cases (unplanned) according to the Eurostat definitions.
  - Day cases that last longer than one day are counted as inpatient cases.
  - Healthy newborns, defined as discharges with ICD10 main diagnosis Z38 or Z76.2, are not included.
  - Age is calculated as age at the 31st of December of the reporting year (up to 2012 age was calculated as age at the admission date).
- The HDR covers only short-stay hospitals. The hospitals included are all general and university hospitals, one specialized eye hospital and one cancer hospital. Up to 2012 also one orthopaedics/rehabilitation clinic is included. The register therefore does not cover all hospitals of the HP.1 category. The differences are:
  - Category HP.1.2 (mental health and substance abuse hospitals) is not included at all.
  - Category HP.1.3 (specialty hospitals other than hospitals for mental health and substance use):
    - Excluded are epilepsy and asthma/lung clinics, rehabilitation centres and hemodialysis centres. From 2013 onwards also one orthopaedics/rehabilitation hospital is excluded.
    - Excluded are also semi-private hospitals (independent treatment centres); these hospitals mainly have outpatients and day cases.
- Excluded is the military hospital and private clinics. The number of inpatients and day cases are estimated to be relatively small in these clinics.
- Some treatments in category HP.1. hospitals are excluded:
  - Part-time psychiatric treatments in general or university hospitals with a psychiatric ward are not recorded in the HDR.
  - Cases of rehabilitation day-treatment are not registered in the HDR.
  - Non-inpatient admissions for normal deliveries (mother planned to be in hospital for less than 24 hours) are not registered in the HDR.

**New Zealand**

**Source of data:** ALOS data for recent years in the time series are based on data extracted from the National Minimum Data Set (NMDS), maintained by the Ministry of Health (National Collections & Reporting – NCR).

**Coverage:**
- Data based on publicly funded hospital discharge events. Note that private hospital stays are included where they are publicly funded; they are otherwise excluded.
- Events with a length of stay of 0 are excluded.
- The ALOS data by diagnostic categories include Short Stay ED. (Short Stay ED events are defined as discharges with an emergency department health specialty code and a length of stay equal to 0-days or 1-day.)
- New Zealand started coding hospital data using ICD-10 during 1999. The data supplied to the OECD for 1999 was mapped back to ICD-9. From 2000, the ICD-10 diagnosis codes were used for collation purposes.
- There is no truncation of length of stay used for ALOS by diagnostic category.
- Data include some long stay geriatric patients, which leads to increased average lengths of stay for some conditions (e.g. Dementia, Alzheimer’s disease, etc.).
- Some of the variations in ALOS time series are linked with some particularly long stay events. Conditions with low numbers of cases are particularly susceptible to extreme long stay events.
- There is a time lag with reporting of data to the National Minimum Data Set (NMDS). The more slowly reported data are generally disability, rehabilitation and geriatric long stay. These events have much longer stays, and as they trickle in they have a major effect on the lengths of stay reported. This leads to very large jumps in ALOS for
categories such as cerebrovascular disease due to the addition of extreme long stay events into the data. For example, in 2008 NCR advised that the last 15,000 geriatric long stays added into the NMDS had contributed around 1,000,000 bed days.

Break in time series: 2014. For Discharges (0401) “Diabetes Mellitus”, there was a coding change in 2014. July 2014 saw the introduction of the latest ICD-10-AM version (8th edition) and some changes to the Australian Coding Standards. This led to a drop in diabetes hospitalisations (due to code sequencing rules changing). There were other categories affected by the same coding change, such as Anaemias, Alzheimer's disease, Atherosclerosis, Pregnancy and childbirth.

Norway


Coverage:
- From 2011: Covers all governmental financed bed-days in general hospitals (HP.1.1), mental health hospitals (HP.1.2) and other specialised hospitals (HP.1.3). Private financed activity in private hospitals are not included. Day cases are not included.
- Up to 2010: Only general hospitals are covered. Day cases are not included.
Break in time series: 2011.
- As of 2011, mental health hospitals are included.
- As of 2011, data for ICD-10 codes O80 (single spontaneous delivery) and O81-O84 (other delivery) are not available. The information is provided for ICD-10 codes Z37.0 to Z37.9 (outcome of delivery) which are included in ISHMT category 2105 (“other factors influencing health status and contact with health services”).

Poland

Source of data:
- National Institute of Public Health-National Institute of Hygiene (NIPH-NIH), General Hospital Morbidity Study (GHMS), for discharges from general (i.e. non-psychiatric) hospitals.
- Institute of Psychiatry and Neurology, Psychiatric Inpatient Morbidity Study (PIMS), for discharges from psychiatric hospitals and psychiatric departments of general hospitals. Data provided from 2005 onward.

Coverage:
- Coverage by hospital type: All HP.1 institutions (public and private) are included. Military and Ministry of Internal Affairs hospitals are not included.
- Missing records: Data for General (non-psychiatric) Hospital Morbidity Study were provided by 91% of all hospitals in 2005, 93% in 2006, 92% in 2007, 88% in 2008, 93% in 2009 and 92 in 2010. Data for Psychiatric Inpatient Morbidity Study cover all psychiatric hospitals.
- Day cases: Day-cases are defined by the same admission and discharge dates excluding deceased, transferred to other hospitals, discharged on own request.
- Definition of main diagnosis: In general (non-psychiatric) hospitals it is first department main diagnosis; in psychiatric hospitals it is main diagnosis decided at discharge (end of hospitalisation).

Break in time series: Data from psychiatric hospitals and psychiatric departments of general hospitals are included from 2005 onward.

Portugal

Source of data: Ministry of Health. Central Administration of the Health System (ACSS).

Coverage:
- Only institutions that belong to National Health Service are covered.
- Data include all public hospitals in the mainland.

Slovak Republic

Coverage:
- **Coverage by hospital type**: All health establishments (HP1), including public and private hospitals, military hospitals, prison hospital.
- **Missing records**: All discharges are included, including discharges of patients with permanent address outside the Slovak Republic and homeless patients and patients with unknown address.
- **Multi-episode cases**: Transfers to other care units within the same hospital are excluded, but transfers of patients who are transferred with new main diagnosis to other care units within the same hospital are included. (In 2002-03, transfers between departments of the same facility may be included).
- **Inpatient cases**:
  - up to 2011 inpatient cases include day cases.
  - from 2012 day cases are excluded from inpatient cases.
- **Day cases**: Day cases are identified by the same admission and discharge dates.
- **Definition of main diagnosis**: the main diagnosis is based on the main condition, disease or accident which was the cause of the hospitalisation.
- **Other notes related to recording and diagnostic practices**: In 2016, 316 records with length of stay exceeding 180 days (max allowed 700 days) i.e. patients with psychiatric diagnosis in long-term care.

**Break in time series**: 2012. Day cases are excluded from inpatient data as of 2012, explaining the increase in ALOS for several categories (e.g. diseases of the eye and adnexa, medical abortion) in 2012. Furthermore, U codes diagnoses are excluded since 2012.

**Slovenia**

**Source of data**: National Institute of Public Health, Slovenia; National Hospital Health Care Statistics Database.

**Reference period**: during the year.

**Coverage**: data include all private and public hospitals, all types (general and university - HP.1.1, psychiatric - HP.1.2, and specialty hospitals - HP.1.3).

- Data include:
  - Inpatient discharges
  - All patients (including uninsured, foreigners)
  - Long duration stays in hospitals
  - Palliative care in hospitals
  - Healthy newborn babies (since 2003)

- Data exclude:
  - Rehabilitative care in specialised centres (Institute for Rehabilitation, in spas - these rehabilitative stays are registered in a separated registration system)
  - Outpatient care in hospitals

**Missing records**: In 2007 there were 13 in-patient cases and 23 hospital days for in-patient cases where gender was unknown or indefinable. In 2009 there were 11 in-patient cases and 313 hospital days for in-patient cases where gender was unknown or indefinable. In 2010 there were 24 in-patient cases and 56 hospital days for in-patient cases where gender was unknown or indefinable.

- In 2013, there were 14 hospital bed-days for in-patient cases where gender was unknown or indefinable.
- In 2014, there were 9 hospital bed-days for in-patient cases where gender was unknown or indefinable.
- In 2015, there were 50 hospital bed-days for in-patient cases where gender was unknown or indefinable.

**Multi-episode cases**: The hospital discharge records are based on treatment episodes (each in one department). If the patient has been in several departments during his stay without leaving the hospital, all these episodes have been combined with special computer programme (in IPHRS) into one discharge record (by population identification number and admission date). The proportion of multi-episode in-patient cases in 2016 is 4.92%.

**Definition of main diagnosis**: the main diagnosis is defined as that which was responsible for the patient’s admission at the hospital, which best reflects the main reason for admission, or that which is the main reason for treatment. If there is a multiple-episode case the main diagnosis is taken from the first episode.

**Other notes related to recording and diagnostic practices**: Records of admissions due to injuries or poisonings contain also External Cause code.

**Breaks in time series**:
- Since 2009, more cataract surgeries were carried out in outpatient system.
- Data provided to the OECD from 1997 to 2003 exclude psychiatric hospitals and departments of psychiatry in other hospitals, as well as long term care and disabled youth care.
- In 2013, there were some changes in the methodology for collecting data.

Spain

Source of data: Instituto Nacional de Estadística - INE (National Statistics Institute), Encuesta de Morbilidad Hospitalaria (Hospital Morbidity Survey).
Reference period: For inpatient cases, data as of December 31.
Coverage:
- Coverage by hospital type, for inpatient cases: full coverage (100%) from all hospitals (public, private and military).
- Data for ICD-9-CM codes V30-V39 (group 2103) are not available as they are not considered main diagnoses by the National Health System in Spain.
- ISHMT version 24/11/06 has been used for 2004-2006; ISHMT version 19/01/2008 has been used for 2007 (changes in groups 0300, 0302, 0900, 0902, 0904, 0911, 1001, 1306, 1307, 1410, 1507, 1508, 1800, 1804 and 2101 between this version and the previous one). ISHMT version 10/11/2008 has been used since 2008.
- From 2004, data are available at ICD-9-CM 4 digit level. For previous years, diagnostic categories included in ISHMT groups at 4 digit level have been estimated.
- Inpatient cases: A hospital discharge includes one night stay or longer in a hospital.
- Definition of main diagnosis: Main diagnosis is defined as the condition that caused admission into hospital, according to the criteria held by the clinical department or doctor who treated the patient, even though significant complications and even independent conditions arose during his/her stay.
- Other notes related to recording and diagnostic practices: The classification system used in Spain is ICD-9-CM until 2015. From 2016, the classification system used in Spain is ICD-10ES-CM, seven digit level.
Break in time series:
- Break in 2016: the variations in data between 2015 and 2016 are mainly due to the change of classification (from ICD-9-CM to ICD-10ES-CM) as well as the reorganizing of hospital management process and modification of editing and imputation systems carried out as a result of this change of classification.
- Since 2016, there are some data in group 2103 (the code Z38 is available if considered by hospital. This code is considered as main diagnosis by the National Health System in Spain since the launch of the new classification system in 2016).
- From 2005, there is a break in group 1304 (inclusion of ICD-9-CM codes 727.1, 728.4) and in group 1309.
- From 2001, there is a break in the category 1803 (Unknown causes) due to codification changes (inclusion of ICD-9-CM codes 726, 727.0, 727.2-727.9) and the group 1310 (ICD-9 codes 726-727 removed).

Sweden

Source of data: National Board of Health and Welfare, National Patient Register (NPR).
Coverage:
- National Patient Register (NPR). The National Patient Register started in 1964. Since 1987, the register has covered public inpatient care. During the years 1987–1996, the Swedish version of WHO's International Classification of Diseases (9th revision) was used. ICD10 was introduced in 1997. The number of dropouts in the register reporting is estimated to be between one and two percent.

Switzerland

Reference period: Annual census.
Coverage:
- Coverage by hospital type: The data cover all inpatient institutions (public and private hospitals) which are classifiable as HP.1 providers. However, military and prison hospitals are not included.
- Missing records:
- All inpatient cases and day-cases are covered. The coverage is considered sufficient since 2003. In 2003, the coverage was 93%; in 2008, 99% of all expected inpatient cases are being medically documented in the national hospital discharge database.
- Since 2009 (included), due to a modification of the legislation, day-cases are not reported anymore.
- **Multi-episode cases**: The record structure for inpatient cases is based on cases by hospitals; there is no combination of cases involving two or more distinct hospitals and no combination of multi-episode inpatient cases.
- **Other notes on coverage**: Only discharges occurring between January 1st and December 31st of the statistical period are accounted for.
- **Definition of main diagnosis**: The main diagnosis is defined as the condition diagnosed at the end of the hospitalisation period, primarily responsible for the patient’s need for treatment or examination at the hospital.
- **Other notes related to recording and diagnostic practices**: The Medical Statistics of Hospitals was started in its present form in 1998. The reliability of the data in terms of coverage and quality is considered as sufficient since 2003. The coding quality is increasing, the best results being reached in acute care hospitals where patient classification systems are used for financing.

**Deviation from the definition**: The definition and delimitation of day cases is subject to local heterogeneity; figures should be treated with caution (some patients with multiple episodes of day-cases are recorded only once, leading to an underestimation of actual day-cases).

**Break in time series**: 
- There is a high number (20%) of invalid ICD-codes for day-cases in 2005.
- The gradual change of diagnosis classification since 2008 from ICD-10 WHO to ICD-10 GM (German modification) may lead to breaks for some categories.
- Since 2009 (included), day-cases are not reported anymore due to a modification of the legislation.
- The increase in ALOS for Septicaemia (ISHMT code 0104) in 2014 is due to changes in coding instructions (since 2014, the ICD-10 codes A40-A41 are found more often as supplementary diagnoses than main diagnoses).
- Some variations in 2015 may also be linked to changes in coding instructions (e.g. for Other diseases of the digestive system – ISHMT code 1120).

**Turkey**

**Source of data**: General Directorate for Health Services, Ministry of Health.

**Coverage**: 
- **Coverage by hospital type**: Data collected from all hospitals (all public, private and university hospitals). Hospitals affiliated with the Ministry of National Defence have been included since 2012.
- **Inpatient cases**: Data include discharges and deaths in hospitals. Discharge occurs anytime a patient leaves because of end of treatment, signs out against medical advice, transfers to another health care institution or because of death.

**United Kingdom**

**Source of data**: Data have been aggregated by the NHS Digital from the following sources:
- **Scotland**: Information Services Division (ISD), National Health Service Scotland (SMR01 records). [http://www.isdscotland.org/Health-Topics/Hospital-Care/Data_Sources_and_Clinical_Coding.doc](http://www.isdscotland.org/Health-Topics/Hospital-Care/Data_Sources_and_Clinical_Coding.doc).

**Reference period**: 
- **England, Wales and Scotland**: Data is based on Financial Discharge Years 1st April to 31st March.
- **Northern Ireland**: Data have been tabled by calendar year.
- Includes records for discharge dates occurring in the reference year, regardless of admission date.

**Coverage**: 
- **Coverage by hospital type**: 
  - **England**: Inpatient data cover activity in English NHS Hospitals and English NHS commissioned activity in the independent sector.
- **Scotland**: Data collected on discharges from non-obstetric and non-psychiatric hospitals (SMR01) in Scotland. Only patients treated as inpatients or day cases are included. The specialty of geriatric long stay is excluded.

- **Wales**: All NHS commissioned data carried out in private sector hospitals is included.

- **Northern Ireland**: Inpatient data cover activity in Northern Ireland HSC hospitals including independent sector activity carried out in HSC hospitals.

- **Missing records**: 
  - **England**: Data include the count of discharge episodes with a primary diagnosis as defined by i) Ordinary (Non-Daycase – Length of stay > 0) ii) sum of Length of Stay for all ordinary episodes iii) Daycase episodes (Length of stay = 0).
  - **Scotland**: Data include all patients treated as inpatients or day cases from non-obstetric and non-psychiatric hospitals (SMR01) in Scotland.
  - **Wales**: Data include all patients discharged from Welsh hospitals (including those NHS patients treated in private hospitals).
  - **Northern Ireland**: Data include all patients treated in HSC hospitals.

- **Multi-episode cases**: 
  - **England**: A discharge episode is the last episode during a hospital stay (a spell), where the patient is discharged from the hospital (this includes transfer to another hospital). Discharges in the year have been used, that is, spells that end during the data year irrespective of when they began. Discharge episodes may be double-counted in a table if they appear in more than one row of the micro-cube, e.g. against two different diagnoses. Restricted to ordinary admissions, day cases and mothers/babies using delivery facilities (classpat = 1, 2 or 5). Regular day and night attenders not included.
  - **Scotland**: Inpatient discharges are based on a Continuous Spell of Treatment (CIS) in hospital. Probability matching methods have been used to link together individual SMR01 hospitals episodes for each patient, thereby creating "linked" patient histories. Within these patient histories, SMR01 episodes are grouped according to whether they form part of a continuous spell of treatment (whether or not this involves transfer between hospitals or even Health Boards). On average there are 1.37 inpatient episodes per CIS.
  - **Wales**: Discharge episode is the last episode during the hospital spell. Where a patient has received more than one treatment within a range of codes it has only been counted once.
  - **Northern Ireland**: A discharge episode is the last episode during a hospital stay (a spell), where the patient is discharged from the hospital (this includes transfer to another hospital). Discharges in the year have been used, that is, spells that end during the data year irrespective of when they began.

- **Day-cases**: 
  - **England & Northern Ireland**: Days case are defined as admissions with a spell duration of zero (spell duration = 0). Ordinary admissions are where spell duration is greater than 0. Where spell durations are not known they are excluded.
  - **Scotland**: Day cases have zero length of stay. SMR01 includes an inpatient/day case identifier variable. This variable has been used to identify inpatient and day case stays.
  - **Wales**: A day case is defined by admission date = discharge date.

- **Other notes related to coverage**: 
  - **Scotland**: External Causes data were not available as these codes cannot be recorded as a main diagnosis on data returns. They can only be recorded in a secondary diagnosis position.
  - **Northern Ireland**: Episodes where Primary diagnosis is not coded have been excluded.

- **Definition of main diagnosis**: 
  - **England**: The primary diagnosis is the first of up to 20 (14 from 2002-03 to 2006-07 and 7 prior to 2002-03) diagnosis fields in the Hospital Episode Statistics (HES) data set and provides the main reason why the patient was admitted to hospital. A primary diagnosis is recorded for each episode in a spell. The primary diagnosis in the discharge episode of the spell has been used for these data. The external causes (V00-Y98) have been supplied, where a cause code is a supplementary code that indicates the nature of any external cause of injury, poisoning or other adverse effects. Only the first external cause code which is coded within the episode is counted in HES.
  - **Scotland**: Each SMR01 record allows up to six diagnosis (one principal diagnosis and up to five other diagnoses) to be recorded. Only the principal diagnostic position has been used.
  - **Wales**: Primary diagnosis in the discharge episode (as England above).
- Northern Ireland: The primary diagnosis is the first of up to seven diagnosis fields in the Hospital Inpatient System. Primary diagnosis provides the main reason why the patient was admitted to hospital. A primary diagnosis is recorded for each episode within an admission. Only the primary diagnosis in the discharge episode of the admission has been used for these data.

- Other notes related to recording and diagnostic practices:
  - England: National data are recorded by financial years; therefore the data have been presented in financial years. NHS England and the HSCIC have implemented a new system for recording and reporting hospital episode statistics from 2012-13 onwards. As part of this implementation historic data have been transferred to the new system from the previous system, and during this process several minor issues were identified around how the legacy system handled flagged, identified and counted discharge episodes. As a result, there was a small amount of double counting for discharge episodes under certain unique circumstances. These issues have been addressed with the move to the new system and in 2015 all HDD data for England have been restated from 2000-01 to 2012-13 based on the following definition: Count of discharge episodes with a primary diagnosis as defined by i) Ordinary (Non-Daycase – Length of stay > 0) ii) sum of Length of Stay for all ordinary episodes iii) Daycase episodes (Length of stay = 0).

United States


Coverage:
- National representative sample of the U.S. civilian non-institutionalised population.
- The National Hospital Discharge Survey (NHDS) defines a hospital discharge as the formal release of an inpatient by a hospital, terminating of the period of hospitalisation (including stays of 0 nights) by death or by disposition to the place of residence, nursing home, or another hospital; survey of discharges from non-federal hospitals in which the Average Length of Stay is less than 30 days.
- All U.S. discharges were coded to the International Classification of Diseases, Ninth Revision (ICD-9).
- Data are from the National Hospital Discharge Survey (NHDS), a survey of discharges from non-federal hospitals in which the ALOS is less than 30 days. Newborn infants are not included.
- A hospital discharge is the completion of any continuous period of stay in a hospital as an inpatient.
- In the NHDS, the average length of stay is computed by dividing the total number of days of care, counting the date of admission but not the date of the discharge. These estimates include deaths.
- The number of patients discharged divides the total number of patient days accumulated at the time of discharge for patients discharged during a calendar year.
- The National Hospital Discharge Survey (NHDS) is a continuing nationwide sample survey of short-stay hospitals in the United States. The scope of NHDS encompasses patients discharged from non-institutional hospitals located in the 50 States and the District of Columbia, excluding military and Department of Veteran’s Affairs hospitals.

Deviation from the definition:
- Data include same day separations.
- Due to NCHS confidentiality policy and lack of reliability, estimates that show small unweighted numbers (< 30 cases) are excluded. They are not shown and they are not included in total/subtotals. The only exclusion to this protocol is for “Pregnancy, childbirth and puererium” for which data are consistent with the estimates found in NCHS vital statistics publications. The rest of discharges and ALOS estimates are based on a tailor OECD data request protocol, which is incompatible with NCHS publication.

Estimation method:
- Percent estimates were weighted to represent the U.S. civilian non-institutionalised population for each respective year.

On the design of NHDS and the magnitude of sampling errors associated with NHDS estimates, see:

Break in time series:
Only hospitals with six or more beds for patient use are included in the survey. Before 1988, hospitals in which the average length of stay for all patients was less than 30 days.

In 1988 (NHDS was redesigned), the scope altered slightly to include all general and children’s general hospitals, regardless of length of stay (Health United States, 2002).

**NON-OECD ECONOMIES**

**Lithuania**

*Source of data:* Lithuanian Health Information Centre, since 2010: Health Information Centre of Institute of Hygiene, data from Compulsory Health Insurance Fund Information System (CHIF IS).

*Reference period:* During the year.

*Coverage:*
- CHIF IS covers all hospitals, including nursing hospitals (up to 120 days length of stay for a person). For official hospital statistics nursing patients in nursing and general hospitals were excluded. Discharges from rehabilitation hospitals are included. The Compulsory Health Insurance Fund hospital discharge database covers all health care institution having contracts with Patient Fund. Database does not include data of 5 budget financed drug and alcohol abuse hospitals, prison hospital; database partly includes data of hospital of the Ministry of Interior and private hospitals (for patients paid by Patient Fund). Discharges from sanatoriums were excluded (as sanatorium was not treated as a hospital).
- The Compulsory Health Insurance database covers more than 99% of hospital discharges. If a hospital has a contract with the Patient Fund, all inpatients should be included in the database (day cases, uninsured persons, foreigners, military staff, etc.). There is no discharge card filled in for healthy newborns (code Z38) but the estimate number of healthy newborns was calculated (as difference between all newborns born in hospitals and sick newborns with discharge card) and included in discharge statistics.
- Discharge record is based on the episode starting from admission to the hospital to discharge from the hospital (to home, to other hospital or death).
- *Day cases:* There is no clear national definition of day case. Therefore, day cases were calculated simply as alive persons admitted and discharged to home in the same day. In 2014 the number of day cases has decreased as more procedures (especially for neoplasms and diseases of skin and subcutaneous tissue) were performed outside hospitals (as outpatient cases).
- *Definition of main diagnosis:* The main diagnosis in the hospital discharge record is the main clinical diagnosis (condition) for which the biggest part of resources and time was used. Up to 2011 only one main diagnosis was coded and stored in the database. Since June, 2011 additionally all complications and co-morbidities is coded and stored in the database. Since June, 2011 DRG payment system was introduced for curative (acute) care, what could influence to the choice of main diagnosis.

[http://www.oecd.org/health/health-data.htm](http://www.oecd.org/health/health-data.htm)