

Eurostat – Health care activities

Surgical Procedures (shortlist)

Definitions

Updated: September 2021

Surgical procedures (shortlist)	<p>Surgical procedures are medical interventions involving an incision with instruments usually performed in an operating theatre and normally involving anaesthesia and/or respiratory assistance. Surgical procedures can be performed either as inpatient cases, day cases or, in certain instances, as outpatient cases. Procedures performed on an inpatient case and day case should be reported for all the procedures on the shortlist. For two procedures, the number of outpatient cases in hospitals and outside hospitals should also be reported where possible.</p> <p>Notes:</p> <ul style="list-style-type: none">- The method to count procedures should be based on a count of the <i>number of patients</i> who have received a given procedure or on a count of <i>only one code per procedure category for each patient</i>, in order to avoid double-counting procedures for which more than one code may be used in certain national classification systems. (For example, if a percutaneous coronary intervention with a coronary stenting is recorded as two separate codes, it should be reported as only one patient/procedure. Another example: if a cataract surgery is performed on the two eyes, only one patient/procedure should be counted. However, if a patient gets the same procedure at two different moments in a given year, then this procedure should be counted twice.)- The mapping with ICD-9-CM codes is available for information at the following link: http://stats.oecd.org/HEALTH_QUESTIONNAIRE/Surgical_procedures/JQNMHC_MAPPING_ICD-9-CM.pdf
Inpatient cases	<p>An inpatient discharge is the release of a patient who was formally admitted into a hospital for treatment and/or care and who stayed for a minimum of one night.</p> <p>Inclusion</p> <ul style="list-style-type: none">- Emergency cases and urgent admissions when they resulted in an overnight stay and formal admission- Patients admitted as day-care patients but who have been retained overnight due to complication <p>Exclusion</p> <ul style="list-style-type: none">- Day cases- Outpatient cases (including emergency department visits)
Day cases	<p>A day-care discharge is the release of a patient who was formally admitted in a hospital for receiving planned medical and paramedical services, and who was discharged on the same day.</p> <p>Inclusion</p> <ul style="list-style-type: none">- Non-admitted patients who were subsequently admitted for day-care <p>Exclusion</p>

	<ul style="list-style-type: none"> - Inpatient cases - Outpatient cases (including emergency department visits) - Patients admitted as day-care patients but who have been retained overnight due to complication
<p>Outpatient cases (collected only for cataract surgery and tonsillectomy)</p>	<p>Procedures on patients who are not formally admitted in hospital or in any other health care facility.</p> <p><u>Inclusion</u></p> <ul style="list-style-type: none"> - Procedures performed in outpatient departments in hospitals - Procedures performed in emergency departments - Procedures performed outside hospitals (ambulatory sector) <p><u>Exclusion</u></p> <ul style="list-style-type: none"> - Day cases - Inpatient cases

Country specific notes

[Belgium](#), [Bulgaria](#), [Czechia](#), [Denmark](#), [Germany](#), [Estonia](#), [Ireland](#), [Greece](#), [Spain](#), [France](#), [Croatia](#), [Italy](#), [Cyprus](#), [Latvia](#), [Lithuania](#), [Luxembourg](#), [Hungary](#), [Malta](#), [Netherlands](#), [Austria](#), [Poland](#), [Portugal](#), [Romania](#), [Slovenia](#), [Slovakia](#), [Finland](#), [Sweden](#), [Iceland](#), [Liechtenstein](#), [Norway](#), [Switzerland](#), [Montenegro](#), [North Macedonia](#), [Albania](#), [Serbia](#), [Turkey](#), [United Kingdom](#)

Belgium

Source of data: The **Federal Public Service of Health, Food Chain Safety and Environment**, DG1 Organisation and Planning, Data management. Also available at **INAMI** (Institut National d'Assurance Maladie-Invalidité).

Reference period: During the year.

Coverage:

- Only one procedure code for each procedure category counted during each stay.
- Data based on ICD-9-CM until 2014, and on ICD-10-PCS from 2016 onwards.

Break in time series: 2009.

- *Laparoscopic repair of inguinal hernia*: till 2007, data obtained on the basis of the procedure code 54.21 (laparoscopy) with 53.0 and 53.1. From 2009: based on the procedure codes 17.1 and 17.2 which didn't exist before this year. No codes 17.1 or 17.2 yet in our database for the year 2008. Notice that the year 2008 is a year of new registration system for Belgium. The increase in 2009 is explained by a better registration with the new codes 17.1 and 17.2 specific for the pathology.

Break in time series: 2016.

- Since 2015 Belgium works with the ICD-10-BE codification for procedures. As 2015 is a transition year there is no information about the diagnoses or procedures Data from 2016 are based on ICD-10-PCS codes.

Bulgaria

Inpatient cases:

Source of data: National Center for Public Health and Analysis at the **Ministry of Health**
From 2011: **National Centre for Public Health and Analyses**

Coverage: Data refers to all public and private hospitals

Estimation method: Data refers to discharged surgical patients during the year

Note:

Data for Transluminal coronary angioplasty, Open prostatectomy, Hysterectomy, Coronary artery bypass graft, Stem cell transplantation, Cholecystectomy and of which Laparoscopic cholecystectomy, Hip replacement, Total knee replacement, Partial excision of mammary gland, Total mastectomy, Repair of inguinal hernia, Transurethral prostatectomy and Open prostatectomy can not be broken down into inpatient cases and day cases.

Outpatient cases - Tonsillectomy

Source of data: National Health Insurance Fund

Coverage: All outpatient cases done by outpatient health establishments as providers of hospital care, for which the NHIF have paid.

2010-2015 Data refer to the national Clinical Care Pathway №120 'Surgical treatment of chronic diseases of the tonsils' only in case the underlying procedures of this CCP are 28.2, 28.3 and 28.4 according to the ICD-9-CM.

2016-2018: Data refer to the national Clinical Care Pathway № 138 "Operative treatment of diseases in the field of sciences, skins and breaks with average volume and composition".

Outpatient cases – Cataract surgery

Source of data: National Health Insurance Fund

Coverage: All outpatient cases done by outpatient health establishments as providers of hospital care, for which the NHIF have paid.

2010 – 2015 - Data refer to the national Clinical Care Pathway №131 'Extracapsular extraction in cataract' only in case the underlying procedures of this CCP are 13.1-13.8 according to the ICD-9-CM. 2016 - In 2016, with amendments of the national legislation, besides CCP, outpatient procedures and clinical procedures are introduced.

Data refer to the national Clinical Care Pathway 131 "Other eyeball operations with large volume and complexity" and Outpatient procedures 19 "Operative cataract removal" only in case the underlying procedures of this CCP/ OP are 13.1-13.8 according to the ICD-9-CM.

2017 -2018- Data refer to Outpatient procedures 19 "Operative cataract removal" only in case the underlying procedures of this CCP/ OP are 13.1-13.8 according to the ICD-9-CM.

Czechia

Source of data: **Institute of Health Information and Statistics of the Czech Republic.**

Cataract surgery

Source of data:

- **National Registry of Reimbursed Health Services**

Deviation from the definition: Inpatient cases refer to all discharged from bed care departments due to difficulties to separate day cases (the percentage of cases with the same date of admission and discharge was about 4 % on average with huge fluctuation between years).

Estimation method: Patients operated on both eyes in one day are counted once. Patients operated on both eyes but on different days are counted twice.

Tonsillectomy

Source of data: **National Registry of Reimbursed Health Services.**

Coverage: population-based data, number of procedures.

Transluminal coronary angioplasty

Source of data: **National Cardiovascular Interventions Register.**

Coverage: Number of carried out percutaneous coronary interventions. Only one code per procedure is counted (an angioplasty with the placement of a stent is counted as one procedure).

Coronary artery bypass graft

Source of data: **National Cardiosurgical Register.**

Coverage:

- Number of carried out Aortocoronary bypasses (ACB).

- Until 1997, combined procedures were included except ACB+valve. Since 1998, all procedures combined with ACB have been included. In the case of combined procedures (e.g. ACB+valve), only one procedure is counted.

Stem cell transplantation

Source of data:

- **Czech National Hematopoietic Stem Cell Transplantation Registry.**

- **European Group for Blood and Marrow Transplantation (EBMT):** Annual EBMT activity survey (<https://www.ebmt.org/registry/transplant-activity-survey>).

Coverage:

- Data from all 10 transplant centres in the Czech Republic.

- Data available annually since 1993.

- Include bone marrow (BM) transplants and transplants of hematopoietic stem cells collected from peripheral blood (PBSC). The numbers are counts of all transplants of BM or PBSC performed in the year (allogeneic + autologous transplants, first transplants, additional transplants and re-transplants together).

- From 1993 until 1996, additional transplants and re-transplants were not explicitly stated in surveys.

Appendectomy, Laparoscopic appendectomy

Source of data:

- Until 2009: **National Registry of Hospitalised Patients.**

- Since 2010: **National Registry of Reimbursed Health Services (NRRHS).**

Coverage: Until 2009, number of hospitalisations during which an appendectomy was performed as the main surgical procedure. Since 2010, number of all appendectomies is reported.

Break in time series: 2010. In 2019, the estimated numbers of appendectomies in 2010–2016 were updated based on NRRHS data.

Cholecystectomy, Laparoscopic cholecystectomy

Source of data: **National Registry of Reimbursed Health Services.**

Coverage: population-based data, number of procedures.

Repair of inguinal hernia, Laparoscopic repair of inguinal hernia

Source of data: **National Registry of Reimbursed Health Services.**

Coverage: population-based data, number of procedures.

Transurethral prostatectomy, Open prostatectomy

Source of data: **National Registry of Hospitalised Patients.**

Coverage: Number of hospitalisations during which a transurethral prostatectomy/open prostatectomy was performed as the main surgical procedure.

Hysterectomy, Laparoscopic hysterectomy

Source of data: **National Registry of Hospitalised Patients.**

Coverage: Estimate of number of hospitalised women with hysterectomy reported at least once among the observed procedures.

Caesarean section

Source of data:

- Until 1993, statistical statement “**Ambulatory and Bed Care of Woman**”.

- From the year 1994, **National Registry of Mothers at Childbirth** (from 1994 to 2001 called Information System on Mothers at Childbirth).

Break in time series: 1994, due to different mode of data collection.

- Only estimate for the year 1992.

Hip replacement, Knee replacement

Source of data: **National Registry of Hospitalised Patients.**

Coverage: Number of hospitalisations during which a total or partial hip/knee replacement or revision of the hip/knee replacement was performed as the main operation procedure.

Partial excision of mammary gland, Total mastectomy

- Numbers are not reported due to ambiguous coding system. It is not possible to distinguish partial mastectomy from total mastectomy.

Denmark

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

Coverage:

- Surgical procedures in Denmark are translated from the Nordic Classification Codes (NOMESCO codes).
- Only surgical procedures carried out in hospitals (private and public, inpatient or ambulatory) are included, which means that surgical procedures carried out by specialists in the primary sector are excluded.
- The coding system was changed to a new version in 1996, which explains the break for certain series in 1996.
- Only one code is reported per procedure category for each patient.
- The decrease in the number of surgical procedures in 2008 was caused by a national strike which lowered the number of procedures that could be performed.
- Data on hysterectomy only cover vaginal hysterectomy. (Only code KLCD10 is used).

Break in time series: From 2019 an inpatient is defined as a stay with a duration of minimum 12 hours. Furthermore, a daycase is defined as a stay that starts and ends the same day.

Germany

a) and b) Inpatient cases and day cases

2005-2019:

Source of data: **Federal Statistical Office**, DRG-statistics 2019 (Diagnosis Related Groups, diagnoses and procedures of full-time patients in hospitals), special evaluations by the Federal Statistical Office. See <http://www.destatis.de> or <http://www.gbe-bund.de>.

Reference period: During the year.

Coverage:

- DRG-statistics extend to all hospitals, which settle accounts according to the DRG-compensation system and which are subject to the scope of application of §1 KHEntgG. Facilities typically outside of the field of application of the new pay programme are primarily psychiatric and psychotherapeutic facilities, providing care to patients who undergo psychiatric and psychotherapeutic treatment.
- Hospitals are to code all significant operational interventions and medical procedures which are made from the time of the admission of a patient up to the time of the discharge and which are represented in the official code of operations and procedures (OPS). A significant procedure is a procedure that is either surgical in nature, involves an interventional or anaesthetic risk, or requires special facilities, special equipment or special training. For the illustration of complex procedures and partial measures a coding of operations with multiple codes is provided in different areas. Furthermore, the provision of intraoperative complications is to encrypt separately.
- For the purpose of international comparisons, the Federal Statistical Office has developed a new method for counting procedures in the DRG-Statistics. According to this it is possible to count only *one code per procedure category* for each patient. This applies to inpatients cases as well as to day cases.
- The official version of the operations and procedures key valid in the respective reporting year is relevant (OPS). The classification is published and provided by the German Institute of Medical Documentation and Information (DIMDI) pursuant to §§ 295 and 301 SGB V on behalf of the Federal Ministry of Health. In the data evaluation for reporting year 2018 the following OPS Version 2018 codes were considered:

ICD-9 CM (1996/2006/2013)	Common surgical procedures	OPS Version 2019
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13.1--13.8	Cataract surgery	5-142--5-147; 5-149
28.2--28.4	Tonsillectomy	5-281; 5-282
36.01, 36.02, 36.05 (1996), 00.66 (2006)	Transluminal coronary angioplasty	8-837.0, .1, .k, .m, .p, .q, .u, .v, .w
36.1	Coronary artery bypass graft	5-361; 5-362; 5-363.4
41.0	Stem cell transplantation	5-411; 8-805
47.0, 47.1	Appendectomy	5-470; 5-471; 5-479.1
47.01, 47.11	Laparoscopic appendectomy	5-470.1; 5-471.1
51.22, 51.23	Cholecystectomy	5-511
51.23	Laparoscopic cholecystectomy	5-511.1; 5-511.5
53.0, 53.1	Repair of inguinal hernia	5-530
17.1, 17.2 (2013)	Laparoscopic repair of inguinal hernia	5-530.31, .32, .71, .72, .90, .91, .9x
55.6	Transplantation of kidney	5-555
60.3--60.6	Open prostatectomy (excludes transurethral)	5-603; 5-604
60.2	Transurethral prostatectomy	5-601
68.3--68.7; 68.9	Hysterectomy	5-682; 5-683; 5-685
68.31, 68.41, 68.51, 68.61, 68.71 (2006)	Laparoscopic hysterectomy	5-682.02, .12, .21, .x2; 5- 683.03, .13, .23, .43, .x3
81.51--81.53	Hip replacement	5-820; 5-821.1--5-821.6, .f, .g, .j
74.0--74.2; 74.4; 74.99	Caesarean section	5-740; 5-741; 5-749.1
00.70--00.77, 81.53 (2006)	Secondary hip replacement	5-821.1--5-821.6, .f, .g, .j
81.54	Total knee replacement	5.822.0, .9, .f, .g, .h, .j, .k; 5- 823.1, .2, .4, .b, .f, .h, .k
85.20--85.23	Partial excision of mammary gland	5-870
85.33--85.36; 85.4	Total mastectomy	5-872; 5-874; 5-877

- Additional data on the ambulatory sector are not counted in official statistics.
- Data before 2005 is not available.

Break in time series: 2010, for cataract surgery and tonsillectomy. As of reporting year 2010, the inpatient cases for these two procedures include not only the data from the DRG- statistics but also inpatient treatment cases of affiliated doctors, which are received as a special evaluation from the National Association of Statutory Health Insurance Physicians.

Additional information:

- In the German DRG-statistics, all accomplished operations and procedures are counted (including several operations and procedures per patient). Therefore the total number of operations and procedures in German publications is higher.

1991-2004 (caesarean section):

Source of data: **Federal Statistical Office**, Hospital Statistics (basic data of hospitals), Statistisches Bundesamt, *Fachserie 12, Reihe 6.1.1*, table 2.15.1.

See <http://www.destatis.de> or <http://www.gbe-bund.de>.

Reference period: During the year.

Coverage: Number of deliveries by caesarean section in general hospitals. Data on caesarean section include only inpatient cases; day cases are excluded.

c) Outpatient cases

Source of data: **National Association of Statutory Health Insurance Physicians**, EBM statistics, special evaluations by the National Association of Statutory Health Insurance Physicians.

Reference period: During the year.

Coverage:

- The outpatient cases are about the number of outpatient cases accounted for by SHI-accredited physicians.
- The evaluation of the National Association of Statutory Health Insurance Physicians was aligned with the data which it has submitted to the International Association for Ambulatory Surgery (IAAS).
- Data before 2010 are not available.

Additional information:

For Germany no data is available for:

- privately insured outpatient cases,
- for patients treated in hospitals for ambulatory procedures according to §115b SGB V,
- for cosmetic surgery and
- for patients treated in specialised hospitals for work accidents which are insured in the Statutory Accident Insurance.

Estonia

Source of data:

- *All procedures* (except caesarean sections): Mostly **National Institute for Health Development (NIHD)**, Annual statistical report of health care providers. www.tai.ee.

For stem cell transplantation, coronary artery bypass graft, hip replacement, total knee replacement, the Health Insurance Fund (EHIF) data is used.

For tonsillectomy, laparoscopic appendectomy, laparoscopic repair of inguinal hernia, laparoscopic hysterectomy, estimations both NIHD and EHIF data is used.

- *Caesarean sections:* **Estonian Medical Birth Registry, National Institute for Health Development.**

Coverage:

- Both public and private sector are included. Foreigners are included. EHIF's data covers insured persons and emergency surgery.

There exist deviations from the definition:

1. The list of procedures used may differ from needed procedures.

- The Estonian version of NOMESCO Classification of Surgical Procedures v 1.6 (NCSP-EE) was in use for 2003-2009, the 2010 version since 2010, 2016 version since 2016, 2018 version since 2018.

Influence of the deviations is assessed based on the Estonian Health Insurance Fund surgical procedures statistics. Data with detected deviation more than 10% are marked with 'D'.

Cataract surgery: Distribution between day cases and outpatient cases depends on the financing agreements and should be analysed together.

Repair of inguinal hernia: Overestimation is about 3-4% (from bilateral operations) in 2015. Since 2017 not overestimated.

Hysterectomy: Overestimation because of larger selection of codes is about 1% in 2015 data. Not overestimated since 2017.

Caesarean section: data are from **Estonian Medical Birth Registry** and not registered by NCSP.

Partial excision of mammary gland: HAB40, 99. Only Wedge excision of mammary gland is included, this causes underestimation about 3-5% of inpatient cases and approximately 10% of day care cases in 2015 data. Since 2017 overestimation does not exist.

Break in time series for day cases: 2005.

- Before 2005, only hospital's day care (or day surgery) departments were included; day cases in hospital policlinics were excluded.
- Since 2005, "day cases" include all day cases.

- In 2003 and 2004, outpatient cases (i.e. outpatient cases and day care cases of ambulatory institutions – including hospital polyclinics) for cataract surgery are presented as day care cases together with hospitals day surgery departments' data.

Ireland

Source of data: The data presented for all procedures (excluding Kidney Transplants and Caesarean Sections) 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).

Coverage:

- HIPE data cover all in-patient and day cases receiving curative and rehabilitative care in publicly funded acute hospitals in the state.
- For historical reasons, a small number of non-acute hospitals are included in HIPE. This activity represents less than 0.5% of total activity in HIPE.
- The NHDDB does not include private hospitals. Detailed activity data for private hospitals is not available, however based on a the Health Ireland Survey 2018 it is estimated that approximately 25 % of all hospital inpatient activity in Ireland is undertaken in private hospitals. It should be emphasized 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. They are 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 HIPE.

Estimation method: A daycase is defined as a patient who is formally admitted with the intention of discharging the patient on the same day, and where the patient is in fact discharged as scheduled (i.e. excluding deaths and emergency transfers) on the same day. Patients who are admitted or discharged as emergencies on the same day are considered inpatients.

- In accordance with the guidelines, only one code per procedure category for each patient is reported.
- Up to four procedures may be recorded in HIPE for data to the end of 2001. From 2002-2004, records may contain up to 10 procedures. HIPE data for 2005 onwards may contain up to 20 procedures.
- The Hospital Data Project 2 provided a mapping of the procedure shortlist to ICD-10-AM ACHI, which we have used to report the data above.
- Data are not available for Laparoscopic repair of inguinal hernia and Laparoscopic hysterectomy prior to 2005, as the versions of the ICD-9-CM classification used during this time did not include specific codes for these procedures.
- Data are not available for Laparoscopic Appendectomy prior to 1999 as October 1994 version of ICD-9-CM did not include specific codes for this procedure.
- Note that in ICD-10-AM it is not possible to distinguish between bone marrow and stem cell transplants. Therefore, the data supplied for bone marrow transplants from 2005 also include stem cell transplants.
- Note that in public hospitals, all cataract and tonsillectomy procedures would involve the patient being formally admitted to the hospital as either an inpatient or a daycase. Therefore there are no outpatient cases for these procedures.

Break in time series: Data for 1995-2004 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). The change from ICD-9-CM to ICD-10-AM has

resulted in some minor changes in the classification of diagnoses and procedures. This means for certain categories comparisons of data between years can be difficult.

Further information: www.hpo.ie.

Caesarean Sections:

Source of data: Data on Caesarean Sections are derived from the HIPE from 2014. Previous to this information was reported from the **National Perinatal Reporting System**.

Coverage: All public acute hospitals in Ireland.

Pre-2014: The figures reported are based on the number of maternities with caesarean section delivery. In accordance with WHO reporting criteria births weighing less than 500 grams are excluded. Further information: www.hpo.ie.

Caesarean Sections:

Source of data: Data on Caesarean Sections are derived from the **National Perinatal Reporting System**, which records data on all births nationally.

Coverage: The figures reported are based on the number of maternities with caesarean section delivery. In accordance with WHO reporting criteria births weighing less than 500 grams are excluded. Further information: www.hpo.ie.

Greece

Source of data: **National Statistical Service of Greece. Ministry of Health, Welfare, and The Hellenic Transplant Service.**

- Transluminal coronary angioplasty: data for the years 2006-2009 are derived from **Hellenic Cardiological Society** (www.hcs.gr) through a National Web Base Record.

Coverage:

- Data include both inpatient and day surgeries.

Break in time series: 2013. The data process was sampled until 2012 due to the large amount of data and limited resources, leading to an overestimation. Moreover, from 2013 has changed from sampling to census.

Spain

Source of data:

- **Ministerio de Sanidad** (Ministry of Health). **Subdirección General de Información Sanitaria**

<http://www.msbs.gob.es/estadEstudios/estadisticas/estHospilInternado/inforAnual/homeESCRI.htm>

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- *Stem cell transplantation*: **Ministerio de Sanidad**-(Ministry of Health). **Organización Nacional de Trasplantes** (National Transplants Organisation), several issues. See at: <http://www.ont.msc.es/>.

- *Caesarean section*: **Ministerio de Sanidad** (Ministry of Health).

- Up to 2009: Data from **Estadística de Establecimientos Sanitarios con Régimen de Internado** (Statistics on Health Establishments Providing Inpatient Care).

- Since 2010: Data from **Sistema de Información de Atención Especializada**. Estadística de Centros Sanitarios de Atención Especializada - SIAE (Specialised Care Information System. Statistics on Health Centres for Specialised Care).

<http://www.msbs.gob.es/estadEstudios/estadisticas/estHospilInternado/inforAnual/homeESCRI.htm>

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Rest of procedures:

- Until 2015: Number of patients from National Hospital Discharge Minimum Data Set (NHDMDs) of acute care public hospitals (hospitals with public financing). Increasing coverage of private hospitals from 2005 onwards (with 209 private hospitals included, 93% of total acute care hospitals discharges)

in 2015 and 95% of total Major Ambulatory Surgery are also included in the National Registry, registry started in 2005).

- From 2004, data on invasive therapies and major surgical ambulatory procedures are included. From 2006, all acute care public hospitals are included – partial coverage of private acute hospitals

- From 2016: Data from **Ministerio de Sanidad**, Registro de Actividad de Atención Sanitaria Especializada RAE-CMBD (Ministry of Health, Registry of Specialised Care Activity RAE-CMBD). <https://www.mscbs.gob.es/en/estadEstudios/estadisticas/cmbdhome.htm>. Procedures are coded in ICD10PCS. In 2016 there is a lower coverage as not all hospitals were able to send 100% of discharges and day cases coded.

Deviation from the definition: There is a deviation from the definition for *Open prostatectomy*: apart from the “open” approach, percutaneous approaches have been included with the different procedures included in order to give continuity to the historic series

- OVT04ZZ Resection of Prostate, Percutaneous Endoscopic Approach
- OV503ZZ Destruction of Prostate, Percutaneous Approach
- OV504ZZ Destruction of Prostate, Percutaneous Endoscopic Approach

Break in time series:

- From 2005, private hospitals are included (increasing coverage in private hospitals until 2015 when 93% of the total major surgical activity is covered).

- *Laparoscopic repair of hernia inguinal*: Since 2010, the ICD-9-CM codes 17.1 and 17.2 are specific for laparoscopic repair of hernia inguinal procedures.

- In 2016 Spain started a new model of data and classification system (transition from ICD9CM into ICD10PCS).

Further information:

- In 2020, data have been revised from 2016 onwards as some centres have provided updates. The whole time series has been revised for *cataract surgery*, as until 2019 only patients were counted (if they got the procedure in two separate occasions they counted as one).

- In 2021, 2018 provisional data (sent in 2020) have been updated.

France

Source of data: National discharges databases from the "programme de médicalisation des systèmes d'information (PMSI)" managed by the national agency called « ATIH ». Calculations were performed by the French **Ministère des Solidarités et de la Santé**, Drees (Direction de la recherche, des études, de l'évaluation et des statistiques).

In PMSI, surgical procedures are coded according to the French procedures classification :

- From 2006 onwards: Classification commune des actes médicaux “CCAM”.- 2001-2005: CdAM96 and CCAM. - 1997-2001: CdAM96.

Reference period: calendar year.

Coverage:

- The French data cover residents in metropolitan France and DOM/overseas departments (Guadeloupe, Martinique, French Guyana and Réunion Island and from 2015 Mayotte), who were hospitalised in public and private hospitals of the same area. Residents of foreign countries are excluded except in 1997.

- The statistical unit is the stay. Stays include complete and day-care hospitalisation, excluding patients coming for iterative treatments sessions.

- The number of surgical procedures corresponds to the number of **acute care stays** involving such procedures in public and private health establishments in France (metropolitan and DROM, i.e. overseas departments). These procedures are realised in units delivering acute care in medicine, medical specialties, surgery, surgical specialties, gynaecology and obstetrics (MCO).

- When the same procedure is carried out several times during the same hospital stay, it is counted only once. (But when different procedures have been performed during the same hospital stay, this stay is counted for each distinct procedure category.)

- Surgical procedures are coded in accordance with the French procedures classifications:

Classification commune des actes médicaux (CCAM) since 2006.

- For each of the procedures, day cases were collected only when they represented 0.5% or more of the total. Below that threshold, they were considered as coding errors and deleted.

- Outpatient cases are not allowed in France for cataract surgery and tonsillectomy, and thus are equal to 0.

Deviation from the definition: *Knee replacement* includes uni, bi and tri compartmental knee prostheses.

Break in time series:

- As of 2009, army hospitals have been included.

- From 2015, Mayotte has been included.

Croatia

Source of data: **Croatian Institute of Public Health**, Medical Procedures Database, except for Caesarean sections for which we introduced new and more reliable source: Birth Notifications Database – data were amended for entire period starting from 1990.

Coverage: Data include all public and private health care institutions in Croatia, except prison hospital.

Deviation from the definition: Number of day cases for Diagnostic bronchoscopy with or without biopsy and Colonoscopy with or without biopsy includes also outpatient cases.

Italy

Source of data:

- **Ministry of Health** - General Directorate of digitalisation, health information system and statistics.

- **Office of Statistics** and **Office of National Healthcare Information System**.

- **Ministry of health – General Directorate of Health Planning**.

- National Hospital Discharge Data Base (NHDDB); Information system for outpatient care monitoring.

Reference period: during the year.

Coverage:

Procedures performed as inpatient and day cases:

- The national hospital discharge database (NHDDB) covers all public and private hospitals.

- The number of surgical procedures is calculated by considering both main procedures and secondary procedures.

Until 2016, the NHDDB recorded for each discharge up to five secondary procedures; since 2017 the NHDDB records for each discharge up to ten secondary procedures. Data refer to discharges carried out in public and private hospitals (HP.1.1 and HP.1.3 excluding Military hospitals).

- According to the definition, the number of procedures is based on a count of only one code per procedure category for each patient.

- The decreasing trend in the number of cataract surgeries (performed as inpatient or day cases) can be explained by the fact that this kind of surgical procedure can be performed as an ambulatory activity without a formal admission in hospital, neither as an inpatient case nor as a day case.

Procedures performed as outpatient cases:

- Data refer to procedures performed in outpatient facilities both public and private accredited by the National Health Service. Data about cataract surgical procedures, performed as outpatient cases, refer to all the ambulatory activity, both outside and inside hospitals: territorial facilities provide the ambulatory activity outside hospitals; outpatient departments in hospitals provide ambulatory activity inside hospitals. Procedures provided by private facilities (not accredited by the National Health Service) are not available.
- The following cataract procedure has been considered: 13.19.1 cataract extraction with or without intraocular lens; 13.70.1 Insertion of intraocular lens prosthesis at time of cataract extraction, one-stage; 13.72 Secondary insertion of intraocular lens prosthesis; 13.8 Removal of implanted lens.
- In the Italian health system, tonsillectomy is not performed on outpatient basis.

Break in time series:

- The classification system used for diagnoses and medical/surgical treatments is the ICD-9-CM. Along the time the Ministry of Health has adopted different versions of ICD-9-CM. Since 2001 until 2005, the 1997 version was used; since 2006 until 2008, the 2002 version was used; starting in 2009, the 2007 version was used.
- In particular, the following modifications have been introduced:
 - Laparoscopic hysterectomy: accounted with reference to codes in ICD-9-CM (2007) since 2009
- National health policies for the period 2010-2012 ("Patto per la salute 2010/2012"), established that outpatient care is a more appropriated setting for cataract procedures. The use of outpatient surgical procedures started in Italy even before official recommendations by National Guidelines; this is possible because Constitutional Law allows Regions to manage health services within their own area of jurisdiction. On the other hand, data collection of procedures at national level, was possible only after National Guidelines adoption. This causes a break in times series of data, between 2006 and 2011, because some part of the activities, provided in this period as outpatient, is not covered in the data. Also, due to the progressive induction in outpatient setting, in 2011 and 2012 there is a partial data coverage for some Regions.

Estimation method:

- National Guidelines about the usage of the ICD-9-CM, adopted in 2010, suggest to use combination of codes for some laparoscopic procedures having no specific codes in ICD-9-CM. In order to identify Laparoscopic repair of inguinal hernia, the combination of the following codes has been used: "53.0" and "53.1", for repair of inguinal hernia and "54.21" for the laparoscopic surgery.

Note: The sharp observed decrease in the number of surgical procedures for the year 2020 is only partly due to the incompleteness of data. It is mainly due to the effects of the pandemic. In 2020, most surgical procedures were performed only for urgent admissions, while planned and non-urgent surgical procedures were postponed.

Cyprus

Up to 2010:

Source of data: **Statistical Service of Cyprus**, Source: "In-patients' Discharges", Public sector, Administrative Sources

Coverage:

Data on surgical operations on in-patients are based on reported cases only and not on total numbers as obtained from public sector hospital sources.

Surgical procedure: Any therapeutic or major diagnostic procedure which involves the use of instruments or the manipulation of part of the body and generally takes place under operating theatre conditions.

Deviation from the definition: Due to incomplete coverage (public sector only).

Data for 2011 and 2012 is not available due to change in the coding procedure. Up to 2010, the coding of the procedures was performed by CYPSTAT using ICPM; from 2013 onwards the codification is being performed from the hospitals using ICD9-CM.

For 2013-2014:

Source of data: Public sector hospital electronic data on Procedures

Coverage: Public Sector only. The data doesn't have full coverage, not even for the public sector. The assigned codes correspond to the procedures recorded from the physicians on the special forms completed during the discharge. However, not all the procedures are recorded on the forms. Moreover, in case an outpatient undergoes a procedure i.e colonoscopy, no form is completed since no discharge is performed, so the procedure will not be included in the data. The same applies for other types of procedures as well.

Break in series: Up to 2010, the coding of the procedures was performed by CYPSTAT using ICPM; from 2013 onwards the codification is being performed from the hospitals using ICD9-CM, with partial coverage at the beginning. Hence, due to the change on the coding process a break in series occurs.

Deviation from the definition: Due to incomplete coverage.

For 2015 onwards (the following apply for all procedures except for caesarean sections):

Source of data: Public sector hospital electronic data on Procedures

Coverage: Public Sector only. The data doesn't have full coverage, not even for the public sector. The assigned codes correspond to the procedures recorded from the physicians on the special forms completed during the discharge. However, not all the procedures are recorded on the forms. Moreover, in case an outpatient undergoes a procedure i.e colonoscopy, no form is completed since no discharge is performed, so the procedure will not be included in the data. The same applies for other types of procedures as well.

Deviation from the definition: Due to incomplete coverage.

For caesarean sections (2015 onwards):

Source of data: Birth Register (Health Monitoring Unit, Ministry of Health)

Coverage: Both Public and Private Sectors, Government Controlled Area

Break in series: A break occurs in 2014, since for previous years the coverage was not full. Change in data source.

For caesarean sections (2014):

A total of 5438 caesarean sections were performed in both public and private hospitals, from which 5194 were performed on inpatients and 8 in outpatients. For 236 caesarean sections the length of stay was not available, hence they could not be.

For cataract surgeries (2019):

As regards cataract surgeries, from 2019 onwards, the number of operations performed on outpatients is available, hence the 2019 figures are not comparable with previous years.

Latvia

Source of data: **Centre for Disease Prevention and Control** (formerly the Centre of Health Economics).

Reference period: data as of 31 December.

Coverage: All hospitals, all procedures.

- Cataract surgery includes from 2017:

1) Day cases (data include the number of operations rather than patients);

2) Outpatient cases (data include the number of operations rather than patients).

Only one operation/procedure is counted even if in some national classifications it is recorded as two procedures.

Break in time series:

- Starting from 2009 a reform of the health care system takes place. The aim of the reform is to facilitate the development of the outpatient sector, widening the range of services provided and their quality. As a result the sector witnesses reorganisation or re-profiling, as well as structural reforms inside enterprises or institutions. E.g., part of hospital beds is changed to day stationary beds.

- Besides, from 2010 payment procedures for out-patient services provided in the day stationary were specified and services provided only in day stationary were determined. Cataract surgery and laparoscopic cholecystectomy is included in this list. Just more specific or complicated cases are treated in hospital as in-patients cases.

Lithuania

Source of data: **Lithuanian Health Information Centre**, since 2010: **Health Information Centre of Institute of Hygiene**. Report "Health Statistics of Lithuania", available from <http://www.hi.lt/health-statistic-of-lithuania.html>.

- Number of procedures: up to 2005, data from annual summary reports of health care institutions; since 2006, data from the Compulsory Health Insurance Fund Information System.

- Number of procedures for day cases: since 2001, data from the Compulsory Health Insurance Fund Information System; up to 2009, the national list of surgical operations was used. Since 2010, the Australian Classification of Health Interventions is used.

Coverage: All procedures (in public or private hospitals) paid by Compulsory Health Insurance Fund (more than 99%). Only one code per procedure category is counted for each patient.

- In 2014, the number of *cataract procedures* as day cases has decreased as more cataract procedures were performed outside hospitals (as outpatient cases).

Estimation method: Since 2001, the number of procedures for day cases (patients admitted and discharged to home on the same day) are calculated from Compulsory Health Insurance Fund Information System.

Break in time series: 2010.

- Break in 2010 due to the change of classification used.

- *Cataract surgery*: the number of outpatient cases is included as of 2010.

Luxembourg

Source of data: **Fichiers de la sécurité sociale**. Data prepared by **Inspection générale de la sécurité sociale**,

Coverage:

- Procedures based on the national classification system “Nomenclature des actes et services des médecins et médecins-dentistes”. An attempt was made to come as close as possible to procedures classified in ICD-9-CM.
- Data refer only to the resident population covered by the statutory health insurance scheme and to medical acts performed in Luxembourg and reimbursed by the health insurance.
- Data for 2019 are preliminary.

Break in time series:

2002: After revision of the procedures selection and methodological development. Before 2002, the selection includes a number of non-invasive procedures.

2020: Total mastectomies for male patients have been included. Data has been revised until 2009.

Note: It is not possible to discern whether an operation was performed laparoscopically or by conventional surgery. The data for appendectomy, cholecystectomy, hernia, hysterectomy and prostatectomy therefore include all interventions regardless the method of operation.

Caesarean section

Source of data: **Perinatal health monitoring system** in Luxembourg – Directorate of Health and Luxembourg Institute of Health.

Coverage: The number indicated is the total number of caesarean sections for all resident patients where the procedure was performed in Luxembourg and which does not indicate whether the child is born alive.

- The rate should be interpreted carefully seeing as numerator and denominator do not cover exactly the same population: denominator (from STATEC) include all live births from all residents even those that occurred abroad.

Break in time series: 2011. Before 2011, data refer to cases reimbursed to resident patient by the statutory national health insurance.

Hungary

Source of data:

- From 2004 onwards: **National Healthcare Services Center** (ÁEEK in Hungarian), based on itemized data of the inpatient care finance report submitted by the health insurance fund. www.aEEK.hu.

Coverage:

- Number of **hospital cases** at which an intervention belonging to the given medical intervention group had been reported.
- Only one code is reported per procedure category for each patient.
- In the number of surgeries, all types of surgeries - like major surgeries, additional surgeries and surgeries due to complications - are included.
- *Day case:* Hospital case where the date of admission and the date of discharge are identical, and where the medical intervention performed during the stay appears on the list of allowed day case interventions. Patients who passed away on the day of admission are always counted among inpatient cases.

Estimation method: The data are calculated from the itemised data of the inpatient care finance report submitted by the health insurance fund.

Malta

Source of data:

Surgical Operations Register, Mater Dei Hospital/St. Luke's Hospital - Operations carried out at Operating Theatres, Endoscopy and Catheterisation Lab. Theatre only

Gozo General Hospital Hospital Activity Database - Only procedures recorded on database are counted.

2010: Hospitals discharges data submitted by private hospitals in addition to the above data sources.

2011: Data on surgical procedures on hospital patients cannot be broken down by surgical procedures on inpatients and surgical procedures on day cases.

Reference period: during the year

Coverage:

All procedures carried out on admitted patients in all state and private hospitals.

From 2011 onwards: Data on surgical procedures on hospital patients cannot be broken down by surgical procedures on inpatients and surgical procedures on day cases.

From 2015: All procedures performed in public and private hospitals are included.

Deviation from the definition:

2010: The main state hospital can only supply data on procedures performed on admitted patients in an aggregate format and not as procedures performed on inpatients and procedures performed on day cases

From 2011 onwards: Data on surgical procedures on hospital patients cannot be broken down by surgical procedures on inpatients and surgical procedures on day cases.

Estimation method:

Data on surgical procedures subdivided by the numbers of procedures performed on inpatients and procedures performed on day cases is not available. Only data on TOTAL procedures performed (inpatients and day cases together) are available in Malta.

2009: Data on surgical procedures in the format requested by the Joint Questionnaire is still not available from the major State General Hospital. Data on All procedures performed (on inpatients and day cases together) is available. 2010: Data for all procedures performed on hospital patients (inpatients and daycases) is being forwarded.

From 2011 onwards: Data on surgical procedures on hospital patients cannot be broken down by surgical procedures on inpatients and surgical procedures on day cases.

From 2013 onwards: Data on surgical procedures on hospital patients is broken down by surgical procedures on inpatients and surgical procedures on day cases. Cataract surgeries have decreased since in 2012 a number of these surgeries were outsourced. The number of colonoscopies with or without biopsy has increased since the National Colorectal Cancer Screening Programme was launched at the end of 2012.

For 2013: Surgical procedures data from one newly licensed small private hospital is not included as no data was submitted

For 2014: Surgical procedures data from one newly licensed small private hospital is not included as no data was submitted

The number of Transluminal coronary angioplasties carried out as in-patients and day cases was inadvertently swapped in the data for 2013. This has been corrected.

For 2015: Procedures carried out in the small private hospital which were not previously included are included in 2015 data.

Procedures carried out in a new small private hospital are included in 2016 data.

Procedures carried out in one small private hospital are not included.

Procedures carried out in Clinics (ambulatory sector) are not included

Netherlands

Figures from 2016 onwards:

Source and type of data:

From 2016 onwards, the Diagnosis Treatment Combinations Somatic Specialist Care register (DTC-SSC) data used for the figures on surgical procedures are from another source than the DTC-SSC data used for 2012-2015. From 2016 onwards, the DTC-SSC data of the health insurance companies are used (collected by Vektis), because complete datasets are available earlier from this source and because this source now also contains the necessary health activity data for deriving the surgical procedures figures. The type of data is the same as described below for the 2012-2015 figures based on the DTC-SSC data of the Dutch Healthcare Authority. Here only the differences between the two data sources are mentioned.

Coverage:

The figures include the surgical treatments in Dutch hospitals to both residents and non-residents with a Dutch basic health care insurance (compulsory for residents).

The DTC-SSC data of the health insurance companies (collected by Vektis) have the same coverage as the DTC-SSC data of the Dutch Healthcare Authority except that the Vektis data do not include some small groups with special insurances (military, prisoners and asylum seekers), which comprise approximately 0,3% of the total of DTCs. In addition, DTC-SSC care that is not reimbursed by the Dutch basic health care insurance and care to foreigners that do not have a Dutch health care insurance is not covered in the Vektis data and may partly be included in the data of the Dutch Healthcare Authority. However, in general the number of surgical procedures that are not covered in the Vektis data compared to the data of the Dutch Healthcare Authority are estimated to be very low.

Deviation/compliance with the definition:

Procedures:

- *Total knee replacement*: In the DTC-SSC data of the Dutch Healthcare Authority that were used for the 2012-2015 figures, a total knee replacement is defined by the combination of the procedure code for 'prosthesis implantation knee joint' and the code for the prosthesis material for a total knee replacement. However, the latter code is not included in the Vektis DTC-SSC data that are used from 2016 onwards. Therefore, only the code 'prosthesis implantation knee joint' is counted as a total knee replacement in the Vektis data. The figures based on this one code are about 7% higher than the figures based on the combination of two codes in the dataset of the Dutch Healthcare Authority, which may indicate that the Vektis figures also include some partial knee replacements.

Estimation method:

The Vektis data used are approximately complete, so no correction for incompleteness of the register is applied. To derive case types for the surgical procedures the same procedure is used as described below for the DTC-SSC data of the Dutch Healthcare Authority.

Break in time series:

In 2016 there is a break in time series for *total knee replacement* because of a difference in procedure codes available in the Vektis data (see above).

Figures 2012-2015:

Source and type of data:

From 2012 onwards data regarding procedures are based on the Diagnosis Treatment Combinations Somatic Specialist Care register (DTC-SSC). Diagnosis Treatment Combinations SSC (DTC-SSC) are DRG-like units that form the payment system of somatic specialist care that is reimbursed by the compulsory basic health insurance. DTCs provide information on diagnosis, specialism, costs, and detailed data on the health care activities provided, including surgical procedures and codes indicating in-, day- and outpatient care. One DTC may consist of several case types and several surgical procedures.

For the years 2012-2015 DTC-SSC data collected by the Dutch Healthcare Authority were used. From 2016 onwards DTC-SSC data of the health insurance companies are used, collected by Vektis (see above).

Coverage:

Type of hospitals not covered:

- military hospitals and private clinics that deliver specialist care that is not covered by the basic health insurance: no data available. The number of inpatients and day cases estimated to be relatively small in these clinics. An indication is the expenditure on specialist-medical care (excluding specialist dental care): from the total of 22.5 billion Euro in 2012 around 0.3 billion euro is to be found in private clinics and the military hospital.

- independent centres for radiotherapy, haemodialysis and audiology, as they do not register inpatient and day-case settings (chronic haemodialysis is not registered as inpatient or day care, but as a separate activity), and they are not relevant for the surgical procedures concerned.

The figures include the surgical treatments in Dutch hospitals to both residents and non-residents of the Netherlands.

Deviation/compliance with the definition:

Age

Age is calculated as age at the 31st of December of the reporting year (2012).

Procedures

The Eurostat definitions of the requested procedures are in ICD-9CM procedure codes. However, surgical procedures in the DTC-SSC system are defined in health care activity codes according to a national (non-hierarchical) classification system (in Dutch). This classification was previously directly used for financial declaration and is now used to derive – in combination with the diagnosis - the correct DTCs for a certain treatment. For this purpose the health care activity codes are often revised.

The health care activities consist of all sorts of activities (for example a registration of day care, blood analysis, a surgical procedure) and for each the date of the activity is registered. For most surgical procedures requested there are several codes available. In cooperation with the Dutch Healthcare Authority the requested ICD-9CM codes for a certain surgical procedure have been translated to the most appropriate equivalents in the DTC-SSC activity codes. This was based on a thorough investigation of all possible DTC-SSC codes, supported by empiric data analyses. As each year codes can be added to or removed from the DTC-SSC system, this translation is checked (and if necessary, updated) each year.

The group of ICD-9CM codes of a certain procedure is translated to a group of DTC-SSC activity codes (operation group). A procedure is counted if one (or more) of the activity codes of the respective operation group is registered in a DTC on day 'x'. If more than one code of an operation group is registered on the same day (e.g. several parts of the same procedure, or multiple procedures, e.g. cataract surgery on both eyes in one day) only one procedure is counted. If multiple codes of an operation group are registered on two different days, then these are counted as two procedures. In this way all procedures of a patient are counted per year.

Date of procedure instead of date of discharge

In the Eurostat definitions, the procedure is defined on the day of discharge. However, discharges are not registered as such in the DTC-system, but the date of the procedure is. Therefore, the surgical procedures performed in 2012 are based on procedures registered in the DTC-SSC with a date in 2012. There will be very little difference between the procedure counts based on discharge dates and the counts based on procedure dates on a yearly basis.

Case type: inpatient-, day- and outpatient cases

Inpatient-, day- and outpatient cases are not registered as such in the DTC-SSC system. Also for a surgical procedure the case type is not specifically registered. An algorithm has been developed to derive case types from the several health care activities registered in a DTC and to link the right case type to a procedure.

Some surgical procedures are also performed in outpatient setting. The joint questionnaire covers outpatient cataract surgery and tonsillectomy, but for transluminal coronary angioplasty (PTCA) only inpatients and day cases are covered in the questionnaire. However, in the Netherlands approximately 5% of the PTCAs have an outpatient case type, and thus are not included in the figures.

Estimation method:

To produce the figures required, specific methods are used to process the DTC-SSC data. Estimation methods have been used to correct for incompleteness of the register and to derive case types from the DTC databases. Because of the estimation methods used, the resulting figures should be regarded as estimates. The figures are therefore rounded to tens. The result of this rounding is that case types may not add up exactly to the total numbers.

Correction for incompleteness of register

The DTC-SSC register from DIS has some degree of non-response. Incompleteness of the register is solved by weighing the number of DTC-SSCs from DIS to the number of DTCs delivered to the insurance companies. The number of surgical procedures within the DTC-SSCs are weighted with the same factor as the corresponding DTC-SSC, as up to 2015 we do not have specific data from insurance companies of the number of surgical procedures. The level of incompleteness of the DIS dataset varies per year, depending on system changes and the date of extraction of the dataset from DIS (later extractions are more complete). In 2012 the completeness was relatively low (ca. 87% on DTC-SSC level), because a major change in the DTC-SSC system was introduced. In 2013 the completeness was 90%, in 2014 95% and in 2015 92%.

Derivation of case types: inpatient cases, day cases, and outpatient cases.

As case types are not registered as such within the DTC-SSC-system, these are derived from specific health care activities registered in the same DTC-SSC where the surgical procedure is registered. Health care activity codes indicating inpatient, outpatient and day-care are used to derive case types. The codes used can differ per reporting year, depending on changes in the DIS registration rules. An algorithm has been developed to construct the best fit for the case type at the day of the surgical procedure. This is done by looking at the different health care activities (indicating case types) and their dates registered in the DTC where the surgical procedure is registered. Registration of the date of health care activities that indicate case type is not always correct and sometimes even missing. Therefore, to link the best fitting case type to each procedure, a set of rules has been developed. The rules applied are, in order:

1. The case type is first based on the health care activities (indicating inpatient-, day- or outpatient care) registered on the day of the procedure. If multiple case types are found on the day of the procedure, inpatient is preferred above all and day case is preferred above the outpatient case type. The list of health care activities used to indicate case type has been slightly revised for the figures of 2014 and later years.
2. If on the day of the procedure a single inpatient (bed-)day is registered (so no inpatient health care activities on the day before or after the procedure) and on the same day there is also a health care activity registered indicating day care, then a day case is assigned.
3. The case type is inpatient when an inpatient health care activity is registered on the day after the procedure, regardless of the case type(s) registered on the day of the procedure (it is assumed that in these cases the surgical procedure has led to an inpatient stay).
4. For diagnostic procedures (diagnostic bronchoscopy and colonoscopy): if after steps 1-3 no case type is found yet, then the case type outpatient is assigned.
5. For other procedures: if no case type is found yet, then a case type is assigned based on the health care activity whose date is closest to the date of the procedure. If multiple case types are found on the closest day, inpatient is preferred above all and day case is preferred above the outpatient case type.
6. If no case type is found yet, then for the figures of 2012 and 2013 the most prevalent case type of the procedure concerned was assigned. From 2014 onwards a more precise method was used to determine the case type for the missing values: the case type was imputed from similar records (which do have a case type) that have the same procedure code, specialism, and product code of the DTC, using a hot deck imputation algorithm.
7. Editing data: when an impossible case type is assigned to a certain procedure (e.g. day case for a pulmectomy or outpatient for a cholecystectomy), these are corrected to the most prevalent case type of the procedure concerned.

Break in time series:

Figures up to and including 2010 were derived from the HDR and included mainly information received from general and university hospitals. Data from semi-private clinics (independent treatment clinics), most specialised hospitals and rehabilitation centres were not included. The present 2012 figures derived from DTC-SSC, also include the latter establishments. So for procedures that are provided in these establishments (e.g. cataract surgery) a higher number of procedures is counted in the DTC-SSC. Furthermore, the HDR included only information about inpatient and day-care procedures. The DTC-SSC also contains information about outpatients, which Eurostat requests for cataract surgery and tonsillectomy. Lastly, the DTC-SSC includes both main and secondary procedures, while the HDR figures were only based on main procedures. This implies that for procedures that are often non-main procedures a higher number of procedures is counted in the DTC-SSC.

The new figures from 2012 onwards thus entail a break in time series compared to the previous data, both in terms of methodologies and source. More information about effects on specific procedures can be found in previously provided documents (Action on Health Care Non Expenditure Statistics, 2015, Annex D Metadata the Netherlands, ESTAT Grant Agreement 07154.2015.002-2015.734).

There was another break in time series in 2014, because of some changes in the method to assign case type to a procedure (see (1) and (6) above). In general this causes only few differences in case type distribution, with few small shifts to a 'lighter' case type. However, when the percentage of missing case types changes significantly from year to year the distribution of the case types may also change, resulting from the used imputation method. This is for instance the case with cataract surgery that had 4% missing case types in 2014 and 24% in 2015, which caused a large increase in (imputed) outpatient case types, and less day cases. Formerly these records would have been assigned to day case (as this is the most prevalent setting), but with the imputation procedure the most likely case type is assigned for these records.

Furthermore, the surgical procedure figures for 2014 are also slightly different from the figures delivered earlier because a more recent version of the register has been used.

Figures up to and including 2010:

Source of data: The **Hospital Discharge Register** (HDR, the 'Landelijke Medische Registratie' of Dutch Hospital Data) was used as the basic source of data on procedures performed in hospitals. All reported procedures were based on the HDR, with the following exceptions:

- the number of *transluminal coronary angioplasty* procedures and *stem cell transplantations* are based on figures of the **Dutch Healthcare Authority** ('Nederlandse ZorgAutoriteit').

Coverage:

- In the Netherlands, medical procedures were registered in the Hospital Discharge Register (HDR) using a Dutch Extension of the ICPM (ICPM-DE, Prismant, version 1.7). The requested ICD-9CM codes have therefore been translated in the codes of the Dutch ICPM.

- During an admission of a patient more than one surgical procedure may have been performed. Of these, the most important procedure performed during the admission is registered in the HDR (i.e. the principal procedure); the registration of other surgical procedures during the same admission is less complete. The figures up to 2010 therefore include the number of principal procedures only. All principal procedures were counted; in case a patient had undergone the same (principal) procedure more than once during a year (in separate admissions), the procedure was counted more than once too.

- The HDR includes inpatient and day-care procedures only.

- The figures include the surgical treatments in Dutch hospitals to non-residents of the Netherlands.

- From 2005 onwards, the HDR in the Netherlands suffered from a substantial degree of non-response, especially for the reporting of surgical procedures. Therefore, we raised the figures by imputation of data for the non-responding hospitals. This results in less accuracy of the figures. The inaccuracy is higher for surgical procedures than for hospital diagnoses, because from 2005 onwards, some hospitals register diagnoses, but do not report procedures. In 2004, for only 1% of the

discharges the surgical procedures had to be imputed, but in 2005 13%, in 2006 26%, and from 2007 – 2009 around 30%. In 2010, we had to impute a surgical procedure for 35% of the discharges. The figures from 2005 onwards are much less accurate because of the high levels of non-response in these years. This is also the reason why Statistics Netherlands decided to terminate the statistics on procedures based on the HDR from 2011 onwards, as the non-response in that year had further increased to 40%.

- 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.

Estimation method: The data of the Dutch Healthcare Authority and the annual hospital survey do not distinguish between procedures performed in day care and inpatient procedures. Consequently the following adaptations were made:

- for *stem cell transplantations*, it is assumed that these are all inpatient procedures.
- The *transluminal coronary angioplasty* procedures performed in day care are for the largest part actually transfers of patients from one hospital to another hospital (the latter being certified to perform this procedure; the first hospital not). So most of these 'day-cases' are transferred inpatients. As we could not give reliable estimations of the proportion of real day cases (we estimate this proportion to be less than 10%), we counted the transferred patients as day cases.

Break in time series: 2005.

The figures up to 2004 originate from previous OECD data deliveries. From 2005 onwards, the figures are based on the present Eurostat/OECD Joint Questionnaire definitions of the surgical procedures. Because of differences with previous OECD definitions, there is a break in most series in 2005. Especially for *hysterectomy* the difference in definition (all hysterectomies from 2005 onwards; and up to 2004 vaginal hysterectomy only) causes a large break in 2005. For *coronary artery bypass graft*, *cholecystectomy*, *laparoscopic cholecystectomy*, *open prostatectomy*, *caesarean section* and *total mastectomy*, there is no break in series.

Austria

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

Reference period: 31st December.

Coverage:

- Every single procedure is counted, even if the same procedure is performed repeatedly during the same hospital stay. For example, if a PTCA is performed two times during a hospital stay, it is counted

two times. But if a single PTCA is performed AND a coronary stenting is recorded, this is counted only once in the PTCA data.

- According to the Austrian DRG-system, procedures to be performed in a day-clinic setting are cataract surgery, repair of inguinal hernia, laparoscopic repair of inguinal hernia, partial excision of mammary gland. All other procedures of the surgical procedures shortlist have to be performed during inpatient stays.

- Privately paid examinations carried out in private hospitals and in the ambulatory sector are not included.

Break in time series:

- 2009: Data were initially not coded by ICD-9-CM, but by a particular Austrian catalogue of procedures, compiled by the Austrian Ministry of Health. In 2009, a new catalogue of procedures came into force. Data have been converted by an expert from the Ministry of Health.

- 2017: In 2017 a new scoring model for outpatient services in hospitals has been implemented gradually. After a transition period for 2017/2018 the effect will become fully visible with mandatory application in 2019. Data already show a first shift to outpatient care in 2017. The new scoring model applies to a specific segment of medical services (including tonsillectomy). However, most of these services have been provided in a day clinic setting so far.

Poland

Source of data: **National Institute of Public Health-National Institute of Hygiene (NIPH-NIH)**; General Hospital Morbidity Study (GHMS).

Coverage:

- Data for General (non-psychiatric) Hospital Morbidity Study were provided by 85% of all hospitals in 2003, 87% in 2004, 91% in 2005, 93% in 2006, 92% in 2007, 88% in 2008, 93% in 2009 and 92% in 2010. Data presented in the tables are actual and are not estimated to eliminate underreporting. Psychiatric, Military and Ministry of Internal Affairs hospitals are not included. The number of procedures, especially minor procedures, is considered to be underreported.

- The data do follow the definition: for a coronary angioplasty including a coronary stenting, *only one procedure is reported*. Similarly, for cataract surgeries the removal and insertion of a lens are counted as one procedure only.

Portugal

Caesarean sections

Source of data: **Statistics Portugal** - Health statistics (published annually).

Coverage:

- National coverage.

- Data available for caesarean sections made in hospitals (public and private sector).

Other surgical procedures

Source of data: **Ministry of Health**, Central Administration of the Health System (ACSS), National Hospital Morbidity database.

Coverage:

- Data based on all public hospitals in mainland.

- *Inpatient cases*: Includes stays with less than 24 hours with overnight, and stays with more than 24 hours.

- *Day cases*: Includes same day discharges.

Romania

Source of data: **Ministry of Health**

National Centre of Statistics and Informatics in Public Health for the period 2000 - 2008

National School of Public Health and Health Management (SNSPMPDSB) - Bucharest, since 2009

Coverage:

The data concerning procedures used in hospitals cover only the hospitals from the Ministry of Public Health network (public sector) and only main surgical procedures, for the period 2000 – 2008.

Since 2009, the data concerning procedures used in hospitals cover all the hospitals (public and private sector) and all procedures performed on hospitals.

The procedures for patients discharged from public hospitals and the private hospitals that have concluded a contract with CNAS was done using the CIM-9CM/CIM-10AM mapping provided by the Ministry of Health -Ministry of Health - National Centre of Statistics and Informatics in Public Health.

These inpatient cases are recordings validated by the SNSPMPDSB throughout each year (January - December).

The day cases are recordings **not** validated by the SNSPMPDSB throughout each year (January - December), so the invalidate cases are not excluded from the analysis (in Romania we do not have yet a validation process for day cases.)".

Slovenia

Inpatient cases, day cases

Source of data: **National Institute of Public Health, Slovenia;** e-DRG system database.

Reference period: during the year.

Coverage:

- e-DRG system database: e-DRG statistics extends to all hospitals, which reports data through e-DRG application from April 2004 (all public acute hospitals and some acute private hospitals).

- Because of the different methodology between EUROSTAT and OECD in previous years we followed the requested methodology of OECD/Eurostat/WHO-Europe Joint Questionnaire on Non-Monetary Health Care Statistics and corrected also the previous data for 2005 - 2012.

- All e-DRG discharges from April 2004 - Dec 2012 were coded using classification ICD-10-AM / ACHI 2nd Edition for procedures and discharges from January 2013 are now coded using classification ICD-10-AM/ACHI (6th Edition). Data for 2005-2019 may contain up to 20 procedures per case. The method to count procedures is based on a count of the number of patient discharges.

- ACHI codes selection is made on the base of cross-mapping between ICD-9 and ACHI codes, developed within the project Hospital Data Project 2 (procedure shortlist). The ACHI codes using for 2005-2019 data are as follows:

Cataract surgery: 2005-2012: 4269800, 4269801, 4269802, 4269803, 4269804, 4269805, 4270100, 4270101, 4270200, 4270201, 4270202, 4270203, 4270204, 4270205, 4270206, 4270207, 4270208, 4270209, 4270210, 4270211, 4270300, 4270400, 4270700, 4271000, 4273101. 2013-2019: Blocks 193, 194, 195, 196, 197, 198, 199, 200

Tonsillectomy: 2005-2012: 4178900, 4178901. 2013-2019: 4178900, 4178901

Transluminal coronary angioplasty: 2005-2012: 3530400, 3530401, 3530500, 3530501, 3531000, 3531001, 3531002, 3531003, 3531004, 3531005. 2013-2019: Blocks 670, 671

Coronary artery bypass graft: 2005-2012: 3849700, 3849701, 3849702, 3849703, 3849704, 3849705, 3849706, 3849707, 3850000, 3850001, 3850002, 3850003, 3850004, 3850300, 3850301, 3850302, 3850303, 3850304, 9020100, 9020101, 9020102, 9020103. 2013-2019: Blocks 672, 673, 674, 675, 676, 677, 678, 679

Appendectomy: 2005-2012: 3057100, 3057200, 3957200. 2013-2019: Block 926

Of which: Laparoscopic appendectomy: 2005-2012: 3057200. 2013-2019: 3057200

Cholecystectomy: 2005-2012: 3044300, 3044500, 3044600, 3044800, 3044900, 3045401, 3045500. 2013-2018: Block 965

Of which: Laparoscopic cholecystectomy: 2005-2012: 3044500, 3044800, 3044900. 2013-2019: 3044500, 3044800, 3044900

Repair of inguinal hernia: 2005-2012: 3060902, 3061402, 3060903, 3061403. 2013-2019: Block 990

Of which: Laparoscopic repair of inguinal hernia: 3060902, 3060903. 2013-2019: 3060902, 3060903

Transurethral prostatectomy: 2005-2012: 3720300, 3720301, 3720302, 3720303, 3720304, 3720305, 3720306,

3720700, 3720701. 2013-2019: Blocks 1165, 1166

Open prostatectomy: 2005-2012: 3720003, 3720004, 3720005, 3720900, 3721000, 3721100. 2013-2019: Block 1167

Hysterectomy: 3565300, 3565301, 3565302, 3565303, 3565700, 3566100, 3566400, 3566401, 3566700, 3566701, 3567000, 3567300, 3567301, 3575000, 3575300, 3575301, 3575600, 3575601, 3575602. 2013-2019: Blocks 1268, 1269

Of which: Laparoscopic hysterectomy: 2005-2012: 3575000, 3575300, 3575301. 2013-2019: 3575000, 3575302, 3575600, 3575603

Hip replacement: 2005-2012: 4752200, 4931200, 4931500, 4931800, 4931900, 4932400, 4932700, 4933000, 4933300, 4933900, 4934200, 4934500, 4934600. 2013-2019: Blocks 1489, 1492

Total knee replacement: 2005-2012: 4951800, 4951900, 4952100, 4952101, 4952102, 4952103, 4952400, 4952401, 4953400. 2013-2019: 4951800, 4951900, Block 1519

Partial excision of mammary gland: 2005-2012: 3034200, 3034600. 2013-2018: Block 1744

Total mastectomy: 2005-2012: 3035600, 3035601, 3035602, 3035603, 3033800, 3033801, 3033802, 3033803. 2013-2019: Blocks 1747, 1748.

Stem cell transplantation:

Source of data: **Slovenia Transplant, Slovenia**

Reference period: Calendar year.

Coverage:

Caesarean section

Source of data: **National Institute of Public Health, Slovenia, Perinatologic information system (PIS).**

Reference period: Calendar year.

Definition: Number of all births performed with Caesarean section.

Coverage: All Hospitals reporting data to PIS.

Cataract surgery - Outpatient cases

Source of data: **The Health Insurance Institute of Slovenia – HIIS** (Surveys of health care providers and contracts with health care providers).

Reference period: Calendar year.

Coverage: Health care providers of outpatient care (covered by compulsory health insurance) - Clinics in Public Hospitals, Organizations licensed to practice and Health care professionals licensed to practice.

Tonsillectomy - Outpatient cases

No day cases or outpatient cases of surgical procedures of Tonsillectomy are performed in Slovenia. ALOS of inpatients is 3 days for children and adults.

Slovakia

Source of data:

- *Cataract Surgery, Tonsillectomy, Coronary artery bypass graft, Appendectomy, Cholecystectomy, Repair of inguinal hernia, Open prostatectomy, Hysterectomy, Partial excision of mammary gland, Total mastectomy*: **National Health Information Center (NHIC)**.

The data for Cataract surgery, Tonsillectomy (day cases), Hysterectomy (inpatient cases) were revised in 2019 for the years 2009-2016.- *Stem cell transplantation*: **The National Registry of Bone Marrow Donors, Faculty Hospital of Bratislava**.

- *Hip replacement, Total knee replacement*: **NHIC, The Slovak Arthroplasty Register (SAR)**, <http://sar.mfn.sk/pracoviska>.

- *Caesarean section*: **NHIC**, Mothers (childbearing women) and newborn database in the relevant year.

Coverage:

- *Stem cell transplantation*: The data represent the total number of Hematopoietic Stem Cell Transplants, including Bone Marrow Transplants as well as Peripheral Blood Stem Cell Transplants and Cord Blood.- *Appendectomy, Inguinal and femoral hernia, and Mastectomy*: Total number of surgical operations which were performed at bed departments of surgical departments/hospital wards.

- *Caesarean section*: Total number of deliveries finished by caesarean section, regardless of delivery of a live or a still-born child. Procedures performed at gynaecology and obstetrics bed departments in hospitals.

Inpatient cases: Surgical procedures in bed wards annual report.

- The data represent the total number of patients undergoing a given type of operation during one hospitalisation at the appropriate bed ward.

- To identify the operation in the report the own procedures code list created for statistical purposes is used. ICD-9-CM is not used in Slovakia.

- Some requested operations are not monitored in the report. Tonsillectomy and Transluminal coronary angioplasties are not monitored at the level of defined particular performance in the subject of the report.

Day cases: Day care annual report.

- The data represent the total number of patients undergoing surgical intervention according to the procedures code list of day care healthcare.

- The code list is given by the professional guidance of the Ministry of Health.

- In the Slovak Republic day care healthcare procedures are surgical medical interventions, procedures which are performed in selected specialty departments, and that can be performed without subsequent institutional, inpatient health care, i.e. in institutional health care facilities and day care healthcare facilities.

Note:

- For the year 2009 - 2018 following data: Repair of inguinal hernia (total cases, day cases) were revised in 2020. Number of inpatient cases relating to Repair of inguinal hernia and Laparoscopic repair of inguinal hernia were updated for the year 2018.

- For the year 2018 following data: Appendectomy (total cases, day cases) as well as Laparoscopic appendectomy (total ceases, day cases) were revised in 2020.

Finland

Source of data: **National Institute for Health and Welfare (THL)**, Care Register for Institutional Health Care and **Social Insurance Institute (KELA)**: Reimbursements on the use of private health care services (since 2006).

- 1990-1996: Nordic short list of surgical operations (1989) and Finnish classification of surgical operations (1983).
- From 1997 onwards: NOMESCO classification of surgical operations (1996).
- *Caesarean section*: **THL** data from the Medical Birth Register since 1990.
- *Coronary angioplasty*: **Finnish Heart Association**, Heart Operation Register, 1998.

Coverage:

- Data include both in-patient and day surgeries.
- Data include all procedures, but only one code per procedure category is counted for each patient.
- Reimbursements on the use of private health care services: Cases treated in private health care, mainly outpatient care outside hospital (*cataract surgery* and *tonsillectomy*).

Sweden

Source of data: **National Board of Health and Welfare**, National Patient Register (NPR). See www.socialstyrelsen.se/publikationer2004/2004-4-1.

Coverage:

- The National Patient Register started in 1964. Classification used: The Swedish version "Klassifikation av kirurgiska åtgärder 1997 (codes: AAA00-ZZU00)" of the Nomesco classification "Classification of Surgical Procedures". NPR is updated every year with new and revised data.
- In 2017, the data for the years 2005-2015 have been updated to better conform to the SHA definitions of health service providers (HP.1-HP.3) and health care functions (HC.1-HC.3).

Iceland

Source of data: - **Directorate of Health and Icelandic Health Insurance.**

Inpatient cases in hospitals, except cataract surgery: Hospital Discharge Register.

Day cases in hospitals, except cataract surgery: Hospital Discharge Register.

Day cases in private practice, except cataract surgery: Icelandic Health Insurance (IHI).

Cataract surgery: Special data request carried out by the Directorate of Health.

Coverage:

As of 2011: Data cover procedures performed on inpatients and outpatients at all state-funded facilities which correspond to SHA category HP.1.1, as well as procedures carried out at private clinics (SHA HP.3.1) with contracts with Icelandic Health Insurance.

Before 2011: Data cover procedures performed on inpatients at all state-funded facilities corresponding to SHA category HP.1.1.

Classification system:

NOMESCO Classification of Surgical Procedures (NCSP) used as of 1997.

Break in time series:

a) 2011: Previously only figures for inpatient procedures were submitted. Figures submitted in 2019 contain updates all the way back to 2011 and these consist of figures both for inpatients and outpatient/day cases.

b)2009. Up to 2008 data were limited to main procedures. From 2009 onwards, the following principles are used to count procedures:

(1) All procedures per stay are counted, not only main procedures.

(2) If there is more than one procedure code for the same stay (patient) from the same group of procedures, only one is counted. If those codes come from separate procedure groups then both are counted (one for each group).

(3) If a patient has more than one stay within the year and has the same codes on both occasions, both are counted.

Note:

- The count is based on the number of procedures, i.e. if a patient has two procedures from a specific procedure category in one year then both procedures are counted.

- Data on **cataract** operations come from a special data request. Figures for years 2015 and 2016 refer to 12 month periods 1.2.2015 - 31.1.2016 and 1.2.2016 - 31.1.2017 respectively.

Liechtenstein

Source of data: data reports from public and private hospital.

Cataract surgery: As there is only one privately owned hospital which does cataract surgery, for reasons of anonymity these data cannot be published.

Coverage: 100%

Deviation from the definition:-

Estimation method:-

Break in time series: in January 2017, a private hospital opened.

Break in time series: in July 2018, a private hospital closed.

Norway

Source of data:

- 2000-2012: **Norwegian Patient Register (NPR)**, published in the publication *Health Statistics in the Nordic Countries* (NOMESCO).

- From 2013: NPR uses a bridge coding, made by the Norwegian Directorate of Health, between the Nordic Classification of Surgical Procedures (NCSP) and ICD-9-CM.

Coverage:

- From 2008 onwards, "Inguinal and Femoral Hernia" refer to "Repair of Inguinal Hernia" (53.0, 53.1); Knee replacement refers to Total knee replacement (81.54).

- Data for percutaneous coronary interventions include both inpatient cases and day cases. In 2009, day cases represented 17% of PCIs.

- From 2015 onwards there has been a number of changes to the definitions of surgical procedures:

- Tonsillectomy: Inclusion of EMB 12 and EMB 15;

- Repair of inguinal hernia: removal of JAC10, JAC11, JAC30, JAC40;

- Of which: Laparoscopic repair of inguinal hernia: removal of JAC11;

- Hysterectomy;

- Of which: Laparoscopic hysterectomy: Removal of LCD40; inclusion of LCD04, LCD31, LCD97;

- Total Knee replacement: inclusion of NGB70.

- From 2016 the following changes in definitions of surgical procedures are done:

- Transluminal coronary angioplasty: Inclusion of FNPO2B, FNQ05B;

- Kidney transplantation: KAS01 is included in addition to KAS00;

- Laparoscopic hysterectomy: LCC01, LCC11, LCC97 is included, in addition to LCD04, LCD11, LCD31, LCD97;

- Open prostatectomy: Inclusion of NCSP-code KEC01 until 2015; removal of KEC01 from 2016 onwards.

Break in time series: 2013, 2016.

Switzerland

Source of data:

- All cases until 2008, inpatient cases since 2009: **FSO Federal Statistical Office**, Neuchâtel; Medical Statistics of Hospital, 2002 and following years.

- Day cases since 2014: **FSO Federal Statistical Office**, Neuchâtel; Statistics of Ambulatory Patients in Hospitals, 2014 and following years.

Reference period: Annual census.

Coverage:

- Full coverage of hospitals; sufficient (nearly full) coverage of inpatient and day cases since 2002.

- Due to a modification of the legislation, day cases have not been collected since 2009 and until 2013.

- All procedures per case are taken into account. The count is the number of cases with the given code corresponding to the category; cases with codes from several categories are counted several times.

- In Switzerland, there is no distinction between day cases and outpatient cases. These cases only relate to procedures taking place within hospitals.

Deviation from the definition: The definition and delimitation of day cases until 2008 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:

- The gradual expansion of the classification of procedures CHOP (Swiss Classification of Operations, based on ICD-9 CM) since 2008 leads to minor breaks in some categories.

- Since 2009 and until 2013, there are no data on day cases. This is due to a change in the legal delimitation between outpatients and inpatients. Since 2009, all hospital admissions (apart from death cases and some transfers) with a stay of less than 24 hours are considered by law to be outpatient cases in Switzerland. The former notion of “semi-hospitalisation” or “day-case” (essentially hospital stays of less than 24 hours) has been abolished. Consequently, no data on “day-cases” are collected anymore in Medical Statistics of Hospitals.

- Since 2014, the new Statistics of Ambulatory Patients in Hospitals have been introduced to cover all non-inpatient cases in hospitals from administrative sources. The series have been updated retrospectively after analysing the corresponding codes for the extraction of the data and the time-consistency of the series. The potential differentiation between day cases and outpatient cases must still be further analysed.

Montenegro

Data not available.

North Macedonia

Source of data: Health Insurance fund – DRG.

Reference period: 31st December.

Note: the data are from publicly owned hospitals, outpatient departments in hospitals, emergency departments, outside hospitals. The private hospitals, private outpatient departments in hospitals, private emergency departments, and private outside hospitals are not included.

Albania

Data not available.

Serbia

Source of data: Until 2014: Institute of Public Health of Serbia and Ministry of Health. From 2014 onwards: National Health Insurance Fund, Data as of December 31. <http://www.rfzo.rs/>

Coverage: Data for Kosovo-Metohija province are not included in the coverage of data for the Republic of Serbia.

Deviation from the definition:

Estimation method:

Break in time series: New source of data from 2014 onwards.

Turkey

Source of data:

- *Stem cell transplantation:* **General Directorate for Health Services, Ministry of Health.**
- *Caesarean section:* **General Directorate of Public Health, Ministry of Health.**
- *Other procedures:* **Republic of Turkey Social Security Institution.**

Coverage:

- Data include all public, private and university hospitals.

Note:

- *Caesarean section:* According to the "Postnatal management guide" provided by Ministry of Health, women should be monitored at least 48 hours after birth in hospital. Therefore, the high number of day cases actually reflects either the mother discharge on a specific request or the transfer to another hospital.

United Kingdom

Source of data:

Data has been aggregated by the **NHS Digital** from the following sources:

- *England:* Hospital Episode Statistics (HES), **NHS Digital**. <http://content.digital.nhs.uk/>.
- *Wales:* Patient Episode Database for Wales (PEDW), **NHS Wales Informatics Service (NWIS)**. <http://www.statswales.wales.gov.uk/index.htm>.
- *Scotland:* Information Services Division, **National Health Service Scotland** (Scottish Morbidity Record Schemes – SMR01 records).
- *Northern Ireland:* Hospital Inpatient System (HIS), The **Department of Health**. <https://www.health-ni.gov.uk/topics/doh-statistics-and-research>.

Reference period:

- *England and Scotland:* Data is based on Financial Discharge Years 1st April to 31st March (e.g., 2008 data are from 1/04/08 to 31/03/09).
- *Wales:* Data is based on the financial discharge year (1st April to 31st March). This has changed to be in line with England & Scotland.
- *Northern Ireland:* Procedures have been tabled by calendar year. In line with the translation from ICD-9 to OPCS 4.6 codes, methodology has been updated in terms of how the procedures are identified. This updated methodology has been backdated through to 2007.

Coverage:

- Data cover the UK National Health Service (NHS) for 2000 to 2016. However, a pro-rata estimation method has been applied for 2000-06 due to Northern Ireland not being able to provide these year's data at the current time.
- *England, Wales & Scotland*: In 2014, data have been re-stated for all years back to 2000-01, with Northern Ireland's data estimated on these re-stated figures for all years prior to 2007. There are no changes to the previously stated coding used for each of the procedures.
- *Scotland*: In 2016, Scotland provided small updates to their 2012 and 2013 data for a number of indicators in the Procedures section.
- Other coverage points to note, by category that isn't full UK coverage for each of 'total', 'inpatient cases' and 'day cases':
 - Cataract surgery* – only England, Scotland and Wales supplied outpatient data, for 2003 onwards. Northern Ireland doesn't carry these out as outpatients.
 - Tonsillectomy* – only England, Scotland and Wales supplied outpatient data, for 2003 onwards. Northern Ireland doesn't carry these out as outpatients.
 - Caesarean section* – doesn't include Scotland day cases.
- All procedures per case are taken into account. The count is the number of cases with the given code corresponding to the category; cases with codes from several categories are counted several times.
- The estimated procedures for 2000-06 contain decimal places due to the methods applied to estimate.
- Day cases are defined as episodes with a stay duration = 0 (same-day separation) and are electively admitted. Outpatient hospitals are excluded from the data.
- *England*: Activity in English NHS Hospitals and English NHS commissioned activity in the independent sector. If the length of stay in hospital is unknown, then these episodes have been excluded from the inpatient figures. Data based on finished consultant episodes (FCEs) during the reference period. Data have not been adjusted for shortfalls.
- *Wales*: Data cover National Health Service hospital activity and activity in private hospitals. Data have not been adjusted for shortfalls. Welsh data is based on the count of all patients during the reference period.
- *Scotland*: Obstetric & Psychiatric specialities are not included. Caesarean sections are not included in SMR01 returns. These are recorded in SMR02 Maternity data. Data on caesarean sections are based on Financial Discharge Years 1st April to 31st March (e.g., 2008 data are from 1/04/08 to 31/03/09).
- *Northern Ireland*: Procedures shown are those carried out in Health and Social Care Hospitals in Northern Ireland as inpatients or day cases. Information shown does not include Mental Health Specialities or procedures carried out as outpatients.

Break in time series:

- *England*: Operative procedure codes were revised for 2006-07, 2007-08 and 2009-10. The 2009-10 data uses OPCS 4.5 codes, 2007-08 data uses OPCS 4.4 codes, 2006-07 data uses OPCS 4.3 codes and data prior to 2006-07 uses OPCS 4.2 codes. All codes that were in OPCS 4.2 remain in later OPCS 4 versions, however the introduction of OPCS 4.3 and OPCS 4.4 codes enable the recording of interventions and procedures which were not possible in OPCS 4.2. In particular, OPCS 4.3 and OPCS 4.4 codes include high cost drugs and diagnostic imaging, testing and rehabilitation. Some activity may have been coded under different codes in OPCS 4.2. OPCS 4.3 also introduced new codes for bone marrow grafting in 2006-07 (hence there is a strong increase in the number of stem cell transplantations in 2007). These changes need to be borne in mind when analysing time series and may explain some apparent variations over time. Please note that care needs to be taken when analysing 2006/07 as some providers of data were unable to start using the OPCS 4.3 until October of 2006 (this may notably explain the decrease in laparoscopic cholecystectomy in 2006). From 2016 data onwards there are 3 additional OPCS codes (W40.4, W41.1 & W42.5) that have been included for Knee replacement procedures. Previous data has not been updated and does not include data for

these additional procedure codes. More information about OPCS 4 changes is on the Connecting for Health website (www.connectingforhealth.nhs.uk).

- *Scotland*: The drop in the number of surgical procedures from 2008/09 onwards is due to the fact that from the 1st April 2008, it was no longer mandatory to record interventions/procedures (such as imaging, injections, infusions, x-rays, etc.) unless the patient is specifically admitted for this purpose. For further details please refer to the following document:

<http://www.isdscotland.org/isd/files/CGMarch08No22.doc>.

- *Wales*: Cataract outpatients data are only available from 2004/05.