OECD Health Statistics 2025

Definitions, Sources and Methods

Diagnostic exams

An exam is defined as a medical imaging session to study one (or more than one) body part that yields one or more views for diagnostic purposes.

Data are collected for *Computed Tomography* (CT) exams, *Magnetic Resonance Imaging* (MRI) exams, and *Positron Emission Tomography* (PET) exams.

a) Computed Tomography (CT): CT or CAT scanner is an x-ray machine which combines many x-ray images with the aid of a computer to generate cross-sectional views and, if needed, three-dimensional images of the internal organs and structures of the body.

Exclusion

- Single Photon Emission Computed Tomography (SPECT).

b) Magnetic Resonance Imaging (MRI): MRI is an imaging technique designed to visualise internal structures of the body using magnetic and electromagnetic fields which induce a resonance effect of hydrogen atoms. The electromagnetic emission created by these atoms is registered and processed by a dedicated computer to produce the images of the body structures.
c) Positron Emission Tomography (PET): PET is a highly specialised imaging technique using short-lived radioactive substances. This technique produces three dimensional images which are used mainly for the assessment of cancer spread in a patient's body.

Inclusion

- PET-CT systems using image fusion (superposition of CT and PET images)

Data are collected for the *total* number of exams and for the breakdown between *hospitals* and *ambulatory care providers*.

a) Hospitals (HP.1): Establishments primarily engaged in providing medical, diagnostic, and treatment services to inpatients and the specialised accommodation services required by inpatients. Hospitals may also provide outpatient services as a secondary activity.
b) Ambulatory care providers (HP.3): Establishments primarily engaged in providing healthcare services to patients who do not require inpatient services. These include establishments specialised in day cases and health practitioners in ambulatory healthcare, primarily providing services to patients visiting their office.

Sources and Methods

Australia

Source of data:
- 2017 onwards: AIHW analysis of unpublished Medicare data.

- 2007-2016: **Medicare Australia**. Unpublished data from Location Specific Practice Number register and unpublished Medicare data.
Reference period: Data available by financial year of processing for payment (not financial year the service was povided) and reported under the second half of the financial year, e.g. 2014-15 data are reported as 2015 data.
Coverage:
- Medicare data provide the following split: "Item provided in Hospital" and "Item not provided in Hospital".
- Prior to 2013-14, only MRI scans requested by specialists qualified for Medicare benefits. The change in late 2012, allowing general practitioners to request some MRI services, will account for the unusual increase in the number of MRI exams in 2014.
- CT items are in group I02 of the Australian Medicare, MRI items are in group I05, and PET items are in group I04 subgroup 2, two additional items for PET outside of subgroup I0402 are 61506 and 61616.
- Data relate to services rendered on a 'fee-for-service' basis for which Medicare benefits were paid. Data excludes services that do not attract a Medicare benefit, such as services to: public patients in hospitals, patients attending public Accident and Emergency Departments and public Outpatient Clinics, and services funded under the Department of Veterans' Affairs Treatment Account.
Note: The increase in 2021 (2020-21) and slight decline in 2022 (2021-22) is due to the rebound and return to "normal" that occurred after the pause on services in the early stages of COVID-19 in Australia. Between February and the end of June 2020, a range of restrictions were introduced to prevent and reduce the spread of coronavirus (COVID-19) that impacted the provision of healthcare services during the period. The increase in PET scans between 2022 (2021-22) and 2023 (2022-23) is attributed to the introduction of new MBS items for PET scans between November 2021 and November 2022.

Austria

Source of data: **Austrian Ministry of Social Affairs, Health, Care and Consumer Protection,** Diagnosis and Performance Reporting.
Reference period: 1st January to 31st December.
Coverage:

- Up to 2014, exams provided by hospitals (HP.1) were included. Excluded were exams provided by ambulatory care providers (HP.3).
- From 2015 onwards, services provided in hospitals (HP.1, inpatient and outpatient) as well as in the ambulatory sector (HP.3) are recorded.
- Excluded are privately paid examinations carried out in private hospitals and in the ambulatory sector.

Deviation from the definition:
Estimation method:
Break in time series:

- 2015: Up to and including 2014, the number of exams was derived from the large-scale equipment statistics, where only services provided in hospitals are recorded. From 2015 onwards, the LKF system is used as the data source, which led to a break in time series, especially for PET examinations (in the large-scale equipment statistics, PET and CT exams performed by a PET device were counted, whereas in the LKF statistics only PET exams are recorded). From 2015 onwards, services provided in hospitals as well as in the ambulatory sector are documented. During the transition period of the data changeover, irregularities in the reports occurred in the first years (namely an under-coverage).

Belgium

Source of data: **INAMI** (Institut National d'Assurance Maladie-Invalidité).
Reference period: calendar year.
Coverage:
- Total number of reimbursed cases for CT-Scans (nomenclature codes: 458673, 458684, 458710, 458732, 458743, 458813, 458824, 458835, 458846, 458850, 458861, 458872, 458883, 458894, 458905).

- Total number of reimbursed cases for MRI-examinations (nomenclature codes: 459395, 459406, 459410, 459421, 459432, 459443, 459454, 459465, 459476, 459480, 459491, 459502, 459513, 459524, 459524, 459535, 459546).
- Total number of PET-scans: estimation for the period 1999-2015, based on the consumption of the nomenclature code 442971 – 442982 and an estimation based on 442525- 442540 (SPECT). From 2016 onwards, data correspond to the specific PET-scan codes consumption of the nomenclature: 442676, 442680, 442691, 442702, 442713, 442724, 442735, 442746, 442750, 442761, 442971, 442982.

Hospitals (HP1):

Ambulatory care (HP3):

Deviation from the definition:

Estimation method:

Break in time series: 2016, for PET exams. Before 2016, the PET activity was overestimated, due to partial taking into account of gamma camera activity. Since 2016, data correspond to the exclusive activity of PET.

Canada

Source of data:

- **Canadian Institute for Health Information**, *National Survey of Selected Medical Imaging Equipment (MIT)* (2004 to 2012). Survey has been discontinued in 2012. See https://www.cihi.ca/en/types-of-care/specialized-services/medical-imaging. Estimates for 2012 and 2013.
- **Canadian Agency for Drugs and Technology in Health (CADTH)**, *Canadian Medical Imaging Inventory, 2015, 2017 and 2019*. See https://www.cadth.ca/medical-imaging.
- For 2022, data was taken from Canada's Drug Agency's (formerly known as CADTH) Medical Imaging in Canada 2022-2023 **National Summary report.**

Coverage:

- In the *National Survey of Selected Medical Imaging Equipment (MIT)* conducted by CIHI, exams were reported for the fiscal year beginning April 1st (before the survey year) and ending March 31st of the survey year. For example, in the 2012 survey, exams were reported for the period April 1st, 2011 to March 31st, 2012. In OECD Health Statistics, the exams for this period, the last period for which exams were reported in the CIHI's survey, are indicated as for 2011. CT and MRI exams shown for 2012 and 2013 are estimates from trends as the survey has been discontinued. No survey was conducted in 2007-08.
- Exam definition in the survey: A defined technical investigation using an imaging modality to study one body structure, system or anatomical area that yields one or more views for diagnostic and/or therapeutic purposes.
- CT and MRI exam numbers were estimated for the years 2012 and 2013 by using growth rates. The growth rates were calculated based on exams from CIHI's Canadian MIS Database (CMDB) that reported on Computed Tomography and Magnetic Resonance Imaging Services for fiscal years 2011/2012 (April 1, 2011 – March 31, 2012), 2012/2013 (April 1, 2012 – March 31, 2013), and 2013/2014 (April 1, 2013 – March 31, 2014).
- PET exams growth rates were based on the last 2 years' MIT survey data. The numbers included both PET and PET/CT exams.
- Hospital and ambulatory care CT, MRI, and PET exam numbers for 2012 and 2013 were estimated using the proportions of exams performed in hospital and ambulatory care for the year 2011 in the case of PET and the average proportion for the years 2008-2011 in the case of CT and MRI.
- In 2015, CADTH has taken on the collection of data on medical imaging technologies in Canada. The exam data indicated for 2015, 2017 and 2019 pertain to the last fiscal year preceding the surveys, respectively. No survey was conducted in 2016 and 2018. The total exams in 2015 were calculated from exams reported by survey respondents, with imputation of missing data by CADTH. Total exams in 2017 were supplied to CADTH by provincial validators and include exams in publicly funded sites only. No distinction between exams in hospitals and ambulatory care providers is available from the CADTH's reports. See cadth.ca/medical-imaging (https://www.cadth.ca/medical-imaging).

Chile

Source of data: **Ministry of Health (MINSAL)**, Department of Health Statistics and Information (DEIS). Administrative registry from public health sector through the Monthly Statistical Summary (REM Resumenes Estadísticos Mensuales). Administrative registries from private sector are collected monthly through the **REMSAS system (REMSAS: Resúmen estadístico mensual-semestral de actividades de salud)**. Both REM and REMSAS are consolidated at a central level at DEIS in the MINSAL.
- 2008-2009:
http://deis.minsal.cl/deis/New_Menu/menu2_uno.asp (REM, public sector);
http://www.deis.cl/estadisticas-sectorprivado/ (private sector).
- 2010:
http://intradeis.minsal.cl/Reportesrem/2010/E_IMAGENOLOGIA_TOTALES/E_IMAGENOLOGIA_TOTALES.aspx (REM, public sector);
http://intradeis.minsal.cl/ReportesRemsas/2010/imagenologia/imagenologia.aspx (private sector).
- 2011:
http://intradeis.minsal.cl/reportesrem/2011/EXAMENES_IMAGENOLOGIA/EXAMENES_IMAGENOLOGIA.aspx (REM, public sector);
http:/intradeis.minsal.cl/ReportesRemsas/2011/imagenologia/imagenologia.aspx
(http://intradeis.minsal.cl/ReportesRemsas/2011/imagenologia/imagenologia.aspx) (private sector).
- 2012:
http://intradeis.minsal.cl/reportes2012/REM17/REM17SECCIONA.aspx
http://intradeis.minsal.cl/ReportesRemsas/2012/imagenologia/imagenologia.aspx
- Data since 2013 updated with similar data source.
Coverage:
- Data coverage is nationwide.
- Data are automatically collected monthly from the health establishments' information systems and validated and published by the Department of Health Statistics and Information (DEIS).
- Data correspond to both hospitals and ambulatory care establishments.
- Data include both public and private sectors.

Note:
Information for the year 2023 is updated and preliminary information for the year 2024 is incorporated.

Colombia

Data not available.

Costa Rica

Source of data:
- Área de Estadística en Salud, **Caja Costarricense de Seguro Social** -CCSS (Health Statistics Unit, National Social Insurance Fund).
- Gerencia General, Red de Servicios de Salud, Instituto Nacional de Seguros INS (General Management Office, Health Division, National Institute for Insurances)

Coverage:
- Public hospitals and clinics that belong either to CCSS or INS.

- *From 2021 onwards*: It includes data coming from all public hospitals and some private hospitals.
- *Till 2020*: It includes data coming only from public facilities belonging to the Social Insurance.
Break in time series: 2021 (inclusion of some private hospitals).
Note: For information (and comparability over time), the data for CT exams performed in the public sector only are provided here:

	CT exams		
	Total	Hospital	Ambulatory care providers
2019	194429	31796	162633

2020	180901	32431	148470
2021	242532	40830	201702
2022	278329	40009	238320

Czechia

Source of data: **Institute of Health Information and Statistics of the Czech Republic**. Survey on medical apparatuses in health establishments.
Reference period:
Coverage:
- The total number of diagnostic exams includes exams performed by hospitals and ambulatory care providers. However, because of the small number of medical equipment available in the ambulatory sector, there may be large variations over time in the number of exams performed with this equipment. Therefore, it has been decided not to show data by hospitals and ambulatory care providers in years 2004 and 2005.

Hospitals (HP1):
Ambulatory care (HP3):

Denmark

Source of data: The **Danish Health Authority**; Based on data from The National Patient Register (February 17th, 2025).
Reference period:
Coverage:
- Procedures in Denmark are translated from the Nordic Classification Codes (NOMESCO codes).
- Until 2013, data for CT and MRI exams has only been provided for public hospitals. From 2014, data from private hospitals and clinics has also been included.
- Some scans are performed in both public and private hospitals for outpatient cases, but they cannot be separated.

Hospitals (HP.1): Data on exams from The National Patient Register can't be differentiated between hospital (HP.1) and ambulatory care (HP.3) and therefore all exams are reported under hospital care.

Ambulatory care (HP.3): see above.

Deviation from the definition: Only diagnostic exams carried out in hospitals (private and public) and private clinics that report to The National Patient Register are included, which means that exams carried out by specialists in the primary sector are not included.
Estimation method:
- Number of diagnostic exams counted from the starting time of the exam. Only one exam is reported per exam code for each patient per hospital unit per day.
- The following codes have been included:
  - MRI: UXM*
  - CT: UXC*

PET:
WC1PDFBMO, WC1PDFBUP, WC1PDFBXX, WC1PDO2XX, WC1PDUIUF, WC1PDUIUP, WC1PDUIXX, WC1PSFBMO, WC1PSFBUP, WC1PSFBXX, WC1PSFIXX, WC1PSG4XX, WC1PSPBXX, WC1PSUIUF, WC1PSUIUP, WC1PSUIXX, WCBCPXYXX, WCBMPXYXX, WCBPDCGXX, WCBPDFAKV, WCBPDFAXX, WCBPDO2A2, WCBPDO2MO, WCBPDO2UF, WCBPDO2UP, WCBPDO2XX, WCBPSFAXX, WCBPSFDXX, WCBPSFPXX, WCBPSFTXX, WDGPSFAXX, WDIPPFAXX, WDIPSFAXX, WDLPSFAXX, WDNPDFBXX, WDNPSFBXX, WDTCPXYXX, WDTPPFAXX, WDTPSC1XX, WDTPSC2XX, WDTPSCUXX, WDTPSFAXX, WDTPSFCXX, WDTPSFFXX, WDTPSFGXX, WDTPSFHXX, WDTPSFKXX, WDTPSFUXX, WDTPSFVXX, WDTPSG1XX, WDTPSG2XX, WDTPSG3XX, WDTPSG4XX, WDTPSG5XX, WDTPSGBXX, WDTPSXYXX, WDTPSY4PB, WGKPDFAXX, WGKPDN1XX, WGKPSFLXX, WHBPDN1A4, WHBPDN1D2, WHBPDN1UF, WHBPDN1UP, WHBPDN1XX, WHBPDO1XX, WHBPDO2A4, WHBPDO2UP, WHBPDO2XX, WHBPDRB04, WHBPDRBUP, WHBPDRBXX, WHBPSFAXX, WHBPSPBXX, WKBPSFAXX, WKBPSFCXX, WMACPXYXX, WMAMPXYXX, WMBCPXYBH, WMBPSXYBH, WRACPXYXX, WDLBFXXXX, WHBATXYXX

- (*=all underlying codes are included)

Break in time series: 2014 (see coverage).
- From 2019 there was a transition to a new database system.
- From 2020: There has been an update on how the number of scans are counted and which codes have been included.

Estonia

Source of data: **National Institute for Health Development**, Annual statistical report of health care providers. See at: https://statistika.tai.ee/pxweb/en/Andmebaas/Andmebaas__03Tervishoiuteenused__04Diagnostika/?tablelist=true.
Reference period: Calendar year.
Coverage:
- Both public and private sector are included.
- Data are collected about hospitals and ambulatory care providers.
Deviation from the definition:
Estimation method:
Break in time series:

Finland

Source of data: **THL Finnish Institute for Health and Welfare**; Hospital Discharge Register, Register on Primary Health Care Visits (since 2018) and **Social Insurance Institute** (KELA): Reimbursements on the use of private health care services (2010-2022).
Reference period: During the year.
Coverage:
- Hospital Discharge Register *Inpatient and day cases in hospitals, codes for exams according to NOMESCO Classification for Surgical Procedures.* 2019-2021 data are underestimations until improved data from the Helsinki University Hospital is received.
- Reimbursements on the use of private health care services: *Cases treated in private health care, mainly outpatient care outside hospital, codes for exams according to NOMESCO Classification for Surgical Procedures.*

Hospitals (HP1):
Ambulatory care (HP3):

Deviation from the definition:
Estimation method:
Break in time series: 2019-2021 data are underestimations until improved data from the Helsinki University Hospital is received. Since 2023 data are based only on Hospital Discharge Register and Register on Primary Health Care Visits since the national health insurance system does not cover diagnostic exams any longer.

France

Source of data:

Hospitals (HP1):
- **Ministère des Solidarités et de la Santé - Direction de la Recherche, des Études, de l'Évaluation et des Statistiques** (DREES), Sous-Direction de l'Observation de la Santé et de l'Assurance maladie, Bureau des Établissements de santé. Data are from the "**Statistique Annuelle des Établissements de santé (SAE)**".

Ambulatory care (HP3):
- **CNAMTS**, résultats annuels d'activité CCAM (Classification commune des actes médicaux) de scanographie et d'IRM en secteur libéral, en quantités et montants remboursables (HSD), pour les actes et les forfaits techniques (CCAM results for CT, MRI, and PET activity in ambulatory sector, unpublished).

Reference period: total number during the year.
Coverage:
- France (Metropolitan and D.R.O.M, i.e., overseas territory).
    Hospitals (HP1):
        - Institutions included irrespective of their legal status, categories, financing (e.g., private financing contributing to public hospital services) or size.
    Ambulatory care (HP3):
Deviation from the definition:
Estimation method:
Break in time series: 2013.
- SAE survey has been recasted in 2014 for the data concerning 2013 onwards (review and update of the questionnaire, change of the unit surveyed [from legal entity to geographical establishment], improvement of the consistency between the survey and an administrative source of data on the activity of hospitals). Though the principles of the survey remain the same, some concepts and some questions have changed: this can lead to break in series for the year 2013.
- For Ambulatory care (HP3), a new examination of the data showed that examinations practiced in private hospitals were wrongly compiled in ambulatory care, hence a double count in the total. This error has been corrected from 2013.

Germany

Source of data:
- Hospitals (HP1):
Federal Statistical Office, DRG-Statistics 2023 (Diagnosis Related Groups, diagnoses and procedures of full-time patients in hospitals); Statistisches Bundesamt 2024, *Statistischer Bericht, Fallpauschalenbezogene Krankenhausstatistik (DRG-Statistik), Operationen und Prozeduren der vollstationären Patientinnen und Patienten in Krankenhäusern (4-Steller) 2023*, table 23141-01 and 23141-07.
See http://www.destatis.de or http://www.gbe-bund.de.
- Ambulatory care (HP3):
CT and MRI:
Federal Office for Radiation Protection (BfS), Department SG "Radiation Protection and Health", Section AG-SG 2.1 "Diagnostic Radiology"; special evaluations by the Federal Office for Radiation Protection.
See http://www.bfs.de.
PET:
Kotzerke J, Oehme L, Grosse J et al. *Positron emission tomography 2013 in Germany – results of the query and current status.* Nuklearmedizin 2015, 54:53–59 and internal calculations by the **Federal Office for Radiation Protection (BfS)**, Department SG "Radiation Protection and Health", Section AG-SG 2.1 "Diagnostic Radiology" and the **Federal Statistical Office**.
Reference period: During the year.
Coverage:
- Hospitals (HP1):
- Included is the number of completed examinations with Computed Tomography scanners (CT) coded with OPS Version 2022 3-20…3-26, Magnetic Resonance Imaging units (MRI) coded with OPS Version 2022 3-80…3-84 and Positron Emission Tomography scanners (PET) coded with OPS Version 2022 3-74…3-75 in hospitals (HP.1).
- DRG-statistics extend to all hospitals that settle accounts according to the DRG-compensation system and that are subject to the scope of application of § 1KHEntgG. Facilities typically outside of the field of application of the new pay programme are primarily psychiatric and psychotherapeutic facilities.
- All significant operational interventions and medical procedures that are made from the time of the admission of a patient up to the time of the discharge and that are presentable in the official code of operations and procedures (OPS) are to be coded by the hospitals. The definition of a significant procedure is a procedure either of surgical nature, involving an interventional or anaesthetic risk, or requiring special facilities, special equipment or a special training.

- 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 Federal Institute for Drugs and Medical Devices (BfArM) pursuant to §§ 295 and 301 SGB V on behalf of the Federal Ministry of Health.
- Data before 2005 are not available.
- Ambulatory care (HP3):
CT and MRI:
- Data are estimates on Computed Tomography exams (CT) and Magnetic Resonance Imaging exams (MRI) performed in the ambulatory sector. 2015-23 data are rounded.
- The evaluations of the BfS are based on the billing data of radiological treatment delivered by the National Association of Statutory Health Insurance Physicians and the Association of Private Health Insurance.
PET:
- Data are estimates on Positron Emission Tomography exams (PET) performed in the ambulatory sector.
- The evaluations of the Federal Statistical Office and the BfS based on the results of a survey of the Positron emission tomography council of the German Society of Nuclear Medicine.
Deviation from the definition:
Estimation method:
Break in time series:
- **CT and MRI:** 2017. Data are based on expanded sample as of 2017. It can be assumed that data prior to 2017 are overestimated.

Greece

Source of data: Estimates based on **National Organisation for Healthcare Provision (EOPYY), Public Hospitals, and Ambulatory Care providers**.
Reference period: calendar year.
Coverage:
- The figures represent number of exams both in hospitals and in outpatient units (diagnostic centers).
Deviation from the definition:
Estimation method:
Break in time series:

Hungary

Source of data:
- From 2000 to 2017: **Hungarian National Health Insurance Fund** (OEP in Hungarian), Statistical Yearbook by the Hungarian National Health Insurance Fund. Further information at http://www.oep.hu.
-From 2018: **National Institute of Health Insurance Fund Management** (NEAK, in Hungarian), www.neak.gov.hu.
Reference period:
Coverage:
- From 2000 to 2017: CT and MRI exams only includes the number of examinations performed at the expense of health insurance The National Health Insurance Fund (OEP) finances the patient examinations in the outpatient care as per item, whereas the examinations in the inpatient care are included in the Diagnosis-related group (DRG) fee.
Hospitals (HP1):
Ambulatory care (HP3):
Deviation from the definition:
- In Hungary, diagnostic exams are recorded by reimbursement category. The National Health Insurance Fund (OEP) finances examinations in the outpatient reimbursement category item by item directly to the patient care institutions, regardless of whether the hospital or outpatient care institution. Inpatient examinations are funded by the health insurance on a flat-rate basis for the inpatient DRG weight.
Estimation method:
Break in time series:
- 2004: The accounting rules of CT and MRI examinations went through basic changes from 1 April 2004; the multipliers based on the age of machines and the duration of examination have been abolished. The

maximum performance of service providers has been determined according to the number of examinations possible to carry out (TVK in Hungarian).
- 2005: From 1 October 2005 the financing rules of outpatient specialty care are applied to the accounting of CT, MRI examinations.
- Data for MRI exams are not shown up to 2005 because they strongly deviate from the data since 2006.
Note: The value is for diagnostic CT scans, it does not contain the number of examinations required for radiotherapy scan planning.

Iceland

Source of data: Until 2020: **Statistics Iceland**.
- Data since 2006 collected by **Statistics Iceland** from the institutions which have MRI and/or CT machines for all years except 2008.
- 2008 data were collected by the **Icelandic Radiation Safety Authority** (IRSA collects the data on diagnostic exams from the institutions every five years).
Reference period: Calendar year.
Coverage:
- The use of one MRI and one CT machine is dedicated to research, so part of the total number of tests are for scientific purposes (2%-3% of MRI exams and less than 1% of the CT exams in 2006-2007; 3%-5% of MRI exams and 2% or less of CT exams in 2009-2011. In 2012, these figures are 0.5% for MRI and 1.5% for CT). Hospitals (HP1):
Ambulatory care (HP3):

Ireland

Data not available.

Israel

Source of data: Data are based on administrative data from the **Medical Technology Administration** in the **Ministry of Health**.
Coverage:
- Data are collected periodically from all the MRI, CT and PET units in hospitals and in the community.
- Data include exams in all units. The exams in hospitals include exams for hospitalised patients (including exams in the emergency rooms) as well as out-patient exams done in the hospital; the exams in ambulatory care include only exams in the community.
- The breakdown of MRI exams performed in hospitals and outside hospitals is not available in 2007-11.
Break in time series: 2018. The increase in the number of MRI exams in 2018 is mainly due to an increasing number of hospitals reporting these data.
Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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: Year.
Coverage:
- Data include diagnostics exams performed during the hospital stay for inpatients and for day cases (NHDDB) and diagnostics exams performed as outpatient cases outside and inside hospitals (Information system for outpatient care monitoring).

- The first source of data (NHDDB) covers all hospitals (public and private) that is HP.1.1 and HP.1.3 (excluding Military hospitals).
- According to the definition, all the diagnostic exams carried out for each inpatient and day case are counted, by considering both the main diagnostic exam and the secondary diagnostic exams. Until 2016 the NHDDB recorded for each discharge up to five fields for procedures and exams; since 2017 the NHDDB records for each discharge up to ten secondary fields for procedures and exams.
- The Information system for outpatient care monitoring refers to facilities both public and private accredited by the National Health Service. Diagnostic exams provided by private outpatient facilities not accredited by the National Health Service are not available.
- Currently in the Information system for outpatient care monitoring the breakdown between diagnostic exams performed by hospitals and by ambulatory care providers is not available.

The decrease in the number of diagnostic exams for the year 2020 reflects the impact of the **COVID-19 pandemic**. The lockdown measures adopted at the central level to limit infections, have limited access to health facilities.

Deviation from the definition: None.
Estimation method: None.
Break in time series: None.

Japan

Source of Data: **Ministry of Health, Labour and Welfare**, NDB Open Data Japan, National Database of Health Insurance Claims and Specific Health Checkups of Japan.
Coverage: The figures are covered by the whole public health insurance system.
- The only breakdown available is for inpatient vs outpatient care (not on HP basis but on HC basis). Exams outside hospitals cannot be distinguished from exams in hospitals. Hence the data are not reported for the breakdown.

Korea

Source of data: **Health Insurance Review & Assessment Service**, National health insurance claim data.
Coverage:
- *Up to 2013*: Data refer to cases diagnosed by public health insurance and are the result of an analysis of health insurance data. Exams covered by other than public health insurance scheme (ex. private insurance, out-of-pocket) are not included.
- *From 2014 onwards*: Data refer to cases diagnosed by public health insurance and automobile insurance. Data are the result of an analysis of health insurance data. Exams covered by other than public health insurance scheme (ex. private insurance, out-of-pocket) are not included.

Methodology:
- Hospitals (HP.1) include the number of outpatient exams and inpatient exams in Hospitals.
- Ambulatory care providers (HP.3) include the number of outpatient exams and inpatient exams in Doctor's office and Clinics.

Break in time series: 2015, for PET exams. The strong decrease in 2015 is due to a change of payment standard for medical expenses including PET exams, which applied as of December 2014.

Note:
2023: Korea operates under a Resource-Based Relative Value Scale (RBRVS), providing reimbursement on a fee-for-service basis. As a result, greater provision of medical services leads to increased compensation. Medical institutions therefore tend to expand their revenue by conducting more diagnostic tests. Consequently, the number of tests in Korea has been continuously increasing and is expected to rise further. The Korean government recognizes the need to address and improve this inefficiency. This explains the increase in number of total CT exams.

In Korea, medical professionals are allowed to open clinics and, upon accumulating sufficient capital and establishing inpatient beds, may convert them into hospitals. Several specialty clinics appear to have undergone such a transition, resulting in a decrease in the number of clinics and an increase in the number

of hospitals. (Once converted, these facilities are classified as hospitals according to Korea's statistical standards.) This explains the increase in number of total MRI and PET exams.

Latvia

Source of data: **Centre for Disease Prevention and Control**, Statistical Report.
Reference period: 1st January to 31st December.
Coverage:
- Country total.

Lithuania

Source of data: **Health Information Centre of Institute of Hygiene**; Data of annual report of health care establishments. Available on Official Statistics Portal of Statistics Lithuania http://osp.stat.gov.lt/en.
Reference period:
Coverage:
- All health care institutions should report, but quality and coverage of private health care institutions, especially having no contract with Compulsory Health Insurance Fund, reporting is not complete.
- The number of PET exams is very low in 2012 as in Lithuania the first PET scanner started to be used at the end of 2012. The lower number of PET exams in 2022 was due to renovations in Nuclear Medicine Department carried out in one of two hospitals having PET. For this reason, work had to be stopped for some time.
After COVID pandemic in 2022 the number of exams has increased.

Luxembourg

Source of data: **Fichiers de la sécurité sociale**. Data prepared by **Inspection générale de la sécurité sociale**.
Reference period:
Coverage:
- Data refer to all diagnostic exams performed in hospitals in Luxembourg (including outpatient cases in hospitals).
- There is no equipment available in private medical practices, and there are no private diagnostic centres in Luxembourg.
- The data refer to the resident and non-resident population covered by the statutory health insurance scheme and to reimbursed medical acts performed in Luxembourg.
- Data for 2023 should be considered as preliminary.

Hospitals (HP1):
Ambulatory care (HP3):
Deviation from the definition:
Estimation method:
Break in time series:

Mexico

Data not available due to low coverage.

Netherlands

Source of data: **Statistics Netherlands**, data from survey Beeldvormende Diagnostiek, part of the annual reports of social accounting care (DigiMV).
Reference period:
Coverage: refers to publicly financed healthcare.
- 2022: Sharp increases could occur due to differences in responses to our Annual reports social account (DigiMV) compared to previous years. For example, one institution may not report any exams in previous

years and then suddenly report a high number of exams in the current year. After verifying if this is correct, the institution will be included in our data.

Hospitals (HP1):

Ambulatory care (HP3):

Deviation from the definition:

Estimation method:

Break in time series:

CT-exams:

- 2023. Due to a change in the survey on Annual report social account (DigiMV) the variables on 'CT examination of the upper extremities, with or without intravenous contrast' and 'CT examination of the lower extremities, with or without intravenous contrast' are missing. Therefore, these exams are not included in the total CT-exams.

PET-exams:

- 2022. Due to a change in the survey on Annual report social account (DigiMV) the variables on 'PET-CT myocardial perfusion at rest with volume, ejection fraction (EF) and flow measurements' and 'PET-CT myocardial perfusion stress with volume, ejection fraction (EF) and flow measurements' are missing. Therefore, these exams are not included in the total PET-exams. Next year they will be included again.
- 2023: The variables on 'PET-CT myocardial perfusion at rest with volume, ejection fraction (EF) and flow measurements' and 'PET-CT myocardial perfusion stress with volume, ejection fraction (EF) and flow measurements' are included again.

New Zealand

Hospitals

Source of data: **National Minimum Data Set** (NMDS), Ministry of Health.

Coverage:

- Data provided for the CT and MRI diagnostic tests relate to publicly-funded procedures for patients admitted to hospitals including day cases. All procedures during the hospital stay that fall within the ICD procedure code selection criteria are counted, e.g. CT scan + MRI in one hospital stay = 1 against both totals; 2 CT scans in one hospital stay = 2 against CT total.
- The definition used includes all CT scans and MRIs reported regardless of what parts of the body are targeted.
- From 2000 onwards the data have been extracted using ICD-10-AM-I codes. The codes used to identify these procedures prior to 2000 are ICD-9-CMA-II codes. Data prior to July 1995 were coded using ICD-9-CM originally and mapped forward to ICD-9-CMA-II. However, there are no specific ICD-9-CM codes that identify MRIs so these procedures could not be coded.
- A change in the Australian Coding Standards was implemented in July 2014 and these procedures are no longer routinely coded.

Deviation from the definition: The CT and MRI procedures reported via the NMDS *do not count private sector procedures or those carried out in an ambulatory setting*. The extent of the 'under-report' can be illustrated for CT exams using a figure reported in a 2007 National Radiation Laboratory survey of computed tomography in diagnostic radiology (excluding CTs in use in nuclear medicine and radiotherapy). This reported that there were an estimated 98300 CT scans excluding extremity procedures in NZ facilities; this figure is 29% higher than the Ministry reported figure (76365) for that year using NMDS data. (Source: NRL Survey Computed Tomography in Diagnostic Radiology: A Survey of Use and Patient Doses for New Zealand, 2007. G Stirling, A Cotterill. National Radiation Laboratory, 2009).

Norway

Source of data:

- The Norwegian Health Economics Administration (HELFO) under The Norwegian Directorate of Health. https://www.helfo.no/english/information-in-english.

Reference period:

Coverage:

- As regulations give limitations for how many exams that can be refunded per patient per day, the total number of exams to some extent can be underestimated.

Hospitals (HP1):
Ambulatory care (HP3):
- Only data from ambulatory care providers (HP.3) are available.
- Exams in outpatient establishments in both public and private sector are included.

Deviation from the definition:
- Totals include only HP.3, as data from HP.1 is not available.

Estimation method:
- Aggregation of number of refund claims to The Norwegian Health Economics Administration (HELFO).
- The classification system NCRP (Norwegian Classification of Radiological Procedures) is used.
- CT exams: include CT, CTA, CTV.
- MRI exams: include MR, MRA, MRV.
- PET exams: include PET, PET/CT, PET/MR.

Break in time series:

Poland

Source of data:
2014-2018: the **Ministry of Health**.
Since 2019:
Ministry of Health:
- MZ-11 - report on activity and workers in outpatient health care.
- MZ-29 - report on activity of general hospital.

Ministry of Interior and Administration:
- MSWiA- 32 Report on the outpatient activities of independent public health care units.
- MSWiA - 43 Report on activities of a general hospital and specialistic hospital.

Reference period: Data as at 31st December.

Coverage:
2014-2018:
- Data on Diagnostic exams from the **Ministry of Health** were prepared on a basis of information received from the National Health Fund (NHF). These data came from healthcare providers that had contract with NHF (public payer).

Hospitals (HP1):
Ambulatory care (HP3):

Deviation from the definition:
2014-2018:
The questionnaire provides a number of outpatient tests that the National Health Fund financed as part of additional financing for outpatient specialist care. This way of financing the hospital does not require reporting by health care providers who have concluded a contract with the National Health Fund, the details of performed diagnostic tests, as long as it does not affect the correctness of the financial settlement, therefore given information concerning the number of tests performed during hospitalization may not reflect the actual number of diagnostic tests performed.

Estimation method:

Break in time series:
- 2019: change in data source as described above. From 2019, the breakdown between “hospitals” and “ambulatory care providers” follows the definition, with a split between exams performed in hospital and exams performed outside hospital. (In 2021, the breakdown has been removed for 2014-2018, as it did not follow the definition).

Portugal

Source of data: Statistics Portugal, Hospital Survey
Reference period: Annual.
Coverage:
- National coverage.

Hospitals (HP1):

- The number of diagnostic exams is available only for hospitals (public and private sector) from 1999 onwards. Data regarding PET exams was collected for the first time in 2011.

Ambulatory care (HP3): data not available

Slovak Republic

Source of data: **National Health Information Center (NHIC)**. Annual Statistical Report K (MZSR) 4-01.
Reference period:
Coverage:
- Data for 2009-2019 were recalculated as well as adjusted closer to OECD definition, i.e. to separate diagnostic exams performed in hospital (HP.1) (including exams for inpatient and outpatient cases) from diagnostic exams performed outside hospital in ambulatory health care facilities (HP.3).
However, we would like to note that our data source Report K (MZSR) 4-01 divides data into data on the number of CT examinations of hospitalized patients and data on the number of CT examinations of outpatient patients.
- The data cover both public and private sector.

Hospitals (HP1):
Ambulatory care (HP3):

Slovenia

Source of data:
CT and MRI exams in hospital: **National Institute of Public Health, Slovenia**. Hospital data: e-DRG data set.
CT, MRI, and PET exams in ambulatory care: **Health Insurance Institute** (surveys of health care providers and contracts with health care providers).
Reference period:
Coverage:

Hospitals (HP1):
CT and MRI exams:
- E-DRG statistics extend to all hospitals that report data through e-DRG application from April 2004 (all public acute hospitals and some acute private hospitals).
- All e-DRG discharges from April 2004 are now coded using ICD-10-AM.
- The ICD-10-AM/ACHI (2nd Edition) codes used for 2004-2012 data and the ICD-10-AM/ACHI (6th Edition) codes used for 2013-2021 data are as follows:
CT: Blocks 1952-1966.
MR: Blocks 1991 and 2015.
PET exams:
- No specific code in classification (ICD-10-AM/ACHI 2nd Ed.) for this exam.
- ICD-10-AM/ACHI (6th Edition) codes used for 2013-2021 data are: 9090500, 9090501, 9090502, 9090503.

Ambulatory care (HP3):
CT, MRI, and PET exams:
- 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.

Spain

Source of data:
- Up to 2009: **Ministerio de Sanidad** (Ministry of Health), **Estadística de Establecimientos Sanitarios con Régimen de Internado** (Statistics on Health Establishments providing Inpatient Care). http://www.sanidad.gob.es/estadEstudios/estadisticas/estHospiInternado/inforAnual/homeESCRI.htm.
- Since 2010: **Ministry of Health,** from **Specialised Care Information System** (Sistema de Información de Atención Especializada - SIAE).
Reference period:

Coverage:
- Data are available for diagnostic exams performed by ambulatory care providers since 2010.
- The increase in MRI exams between 2022 and 2023 is fundamentally due to an improvement in the information system of the Autonomous Community of the Basque Country, which has incorporated outpatient centers into SIAE, as well as an increase in the provision of MRI units in hospitals.

Deviation from the definition:
Estimation method:
Break in time series: There is a decrease in "PET exams" performed outside hospitals (ambulatory care providers, HP.3) in 2011. In 2010, 13 PETs units were reported as ambulatory ones (HP.3), but in later years two of them have been reported as included in a hospital.

Sweden

Data not available.

Switzerland

Source of data:
- **Federal Statistical Office (FSO)**, Neuchâtel. Hospital Statistics, yearly census.
Reference period: Annual census.
Coverage:
- New data introduced in census in 2013; first year data may be of sub-optimal quality.
- The number of PET exams in 2015 may be under-reported.
- Hospitals (HP1): Full coverage of hospitals (HP.1), inpatient and outpatient services (for data 2013, coverage of 95% of hospitals).
- Ambulatory care (HP3): No data yet from ambulatory care providers.

Türkiye

Source of data: **General Directorate for Health Services, Ministry of Health**.
Reference period: Annual.
Coverage:
- Data include Ministry of Health-affiliated health care facilities, universities, and private hospitals. MoND-affiliated health care facilities are included since 2012.
- The number of diagnostic tests refers to both outpatient and inpatient totals.
- Diagnostic tests given by outsourcing are included.

Hospitals (HP1):
Ambulatory care (HP3):

Note: the data on MRI and CT exams are under further investigation; hence they are not shown in database.

United Kingdom

Source of data:
- *England:* **NHS England**.
- *Wales*: **NHS Wales**.
- *Scotland*: **Public Health Scotland**, Costs Book data collection.
Coverage:
- Data are for financial years, i.e. 2008 data is 2008/09.
- 2012-onwards is based on England, Wales & Scotland data but provided as a UK estimate.
- The England and Wales sets of data are based on numbers of sets of scans and not individual body part scans. No data based on the new methodology was available prior to 2012 so a break in series has been indicated.
- Due to the impact of the COVID-19 pandemic, NHS boards were unable to submit data for financial years 2020/21 and 2021/22. Figures for 2022/23 are not complete as one area in Scotland was unable to submit data. This area accounted for approximately 7% of all CT and MRI scans in Scotland in 2019/20.

Estimation method:
- Up to 2010: Data provided to the OECD for England only. The raw numbers of exams for 1995-2010 have been increased pro-rata by the OECD Secretariat to provide appropriate numbers for the UK, enabling the correct computation of rates using the UK population data stored within the database.
- From 2012 onwards: Data provided are based on England, Wales & Scotland only but are given as UK level estimates based on a pro rata basis.
Break in time series: 2012. Data up to 2010 refer to "individual body part scans" while data from 2012 onwards refer to "numbers of sets of scans".

United States

Source of data: **IMV Medical Information Division**: *Benchmark Reports*, **Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and Positron Emission Tomography (PET)** for selected years. http://www.imvinfo.com.
Coverage:
- Nationwide. IMV's reports utilize a survey methodology to query hospital and non-hospital sites in the United States performing CT, MRI, or PET procedures. The survey results are projected to the universe of identified sites performing CT, MRI, or PET procedures. Candidate sites are identified using proprietary IMV lists, supplemented by the American Hospital Association's AHA Guide (The AHA Guide to the Health Care Field), and site lists identified through secondary research.
- A source of error in the sample is the possible omission of sites from the universe of all sites, which have thus far still escaped identification, particularly non-hospital sites.
- US territories are not included.
Deviation from the definition: Data for CT, MR, and PET exams in ambulatory care represent exams performed in non-hospital locations. Most of the CT, MRI, and PET exams performed "in hospitals" are on an outpatient basis.
- CT procedures are estimated for hospital and non-hospital sites using fixed CT scanners.
- MRI procedures are estimated for hospital and non-hospital sites using fixed MRI units or using mobile MRI services.
- PET scans are estimated for hospital and non-hospital sites with fixed PET or PET/CT units or using mobile PET or PET/CT services. PET exam estimates exclude research studies. The breakdown between hospitals and ambulatory care providers is not available from 2019.
Estimation method:
- Further information on the estimation method for the selected IMV Benchmark Reports can be found at http://www.imvinfo.com.

NON-OECD ECONOMIES

Bulgaria

Source of data: **National Centre for** Public **Health** and Analyses **at the Ministry of Health.**
Reference period:
Coverage: From 2011 Exhaustive annual survey. Total number of exams in in-patient and outpatient health establishments.
Note: The number of PET exams is growing in 2018 due to the increase of number of PET scanners in hospital care and the year-round operation of the scanner in ambulatory care.

Croatia

Source of data: Croatian Institute of Public Health, Medical Procedures Database.
Reference period: Calendar year.
Coverage: Data include all public and private health care institutions in Croatia, except prison hospital.

Cyprus

Source of data:
Up to 2020, General and Rural Hospitals of the public sector.
From 2021 onwards, the source of data is the HIO. However available are the exams performed to out-patients and accident and emergency departments. No data available for the exams performed to in-patients.
Reference period:
Coverage:
Partial coverage:
Up to 2020, Public sector only. Included are the exams performed on outpatients, since they are provided by hospitals, even if the outpatients do not use inpatient services.
From 2021, included are the exams performed to out-patients and accident and emergency departments at the medical institutions enrolled to the GHS. No data available for the exams performed to in-patients and for the exams performed in medical institutions not enrolled to the GHS.
Deviation from the definition: Deviation due to incomplete coverage, public sector only.
From 2021, included are the exams performed to out-patients and accident and emergency departments at the medical institutions enrolled to the GHS. No data available for the exams performed to in-patients and for the exams performed in medical institutions not enrolled to the GHS.
Estimation method: Up to 2020, the number of exams performed in Nicosia General Hospital during overtime are not included in the figures, due to the fact that their disaggregation by type was infeasible.
Break in time series: Break in series occurs in 2021: different source of data and changes in the health care system (introduction of the GHS).

Romania

Source of data:
2000-2004: **Ministry of Health -CT exams from hospitals and from ambulatory care.**
2005-2009: **National School of Public Health and Health Management** – CT and MRI exams from hospitals.
2008-2009: Ministry of Health – PET exams from hospitals and from ambulatory care units.
Since 2010:
- National House of Health Insurance: CT and MRI exams from sanitary units which provide outpatient services, Number of PET exams represents the number of PET-CTs exams performed as part of the annual national oncology program.
- Ministry of Health - National Institute for Public Health: CT and MRI exams provided in inpatient care. - Ministry of Health, National Institute for Public Health: PET exams for inpatient and outpatient care. In 2015 data on PET exams refers only to outpatient care.
Reference period:
Coverage:
2000-2004: data refers to procedures in sanitary units from the Ministry of Health network (public sector).
Since 2005: data refers to procedures in sanitary units from the public and private sector.