

OECD Health Statistics 2023

Definitions, Sources and Methods

Hospital employment

Total hospital employment

Number of persons employed (head counts), and number of full-time equivalent (FTE) persons employed in general and specialty hospitals. Self-employed are included.

Inclusion

- Service contracts with non-employed health professionals on treatment of hospital patients (head counts).

Physicians employed in hospitals

Number of physicians directly employed by a hospital.

Professional nurses and midwives employed in hospitals

Number of professional nurses and midwives (see definition of professional nurses and midwives) directly employed by a hospital.

Associate professional nurses employed in hospitals

Number of associate professional nurses (see definition of associate professional nurses) directly employed by a hospital.

Healthcare assistants employed in hospitals (ISCO-08 code: 5321)

Number of healthcare assistants (see definition of health care assistants) directly employed by a hospital.

Other health service providers employed in hospitals

Inclusion

- Dentists
- Pharmacists
- Physiotherapists
- Psychologists
- Dieticians
- Audiologists and speech therapists
- Laboratory assistants
- Other health professionals and associate professionals

Other staff employed in hospitals

Other employees not elsewhere classified.

Sources and Methods

Australia

Head counts data (up to 1991):

Source of data:

- **Australian Bureau of Statistics.** Characteristics of persons employed in health occupations, Australia. ABS Cat. No. 4346.0. Canberra: ABS.

FTE data:

Source of data:

2018 onwards:

- **Australian Institute of Health and Welfare.** Hospital resources data tables (available at <https://www.aihw.gov.au/reports-data/myhospitals>).

2017:

- **Australian Institute of Health and Welfare.** Hospital resources: Australian hospital statistics. Canberra: AIHW (also at www.aihw.gov.au).

2013-2016:

- **Australian Institute of Health and Welfare.** Hospital resources: Australian hospital statistics. Canberra: AIHW (also at www.aihw.gov.au).

- **Australian Bureau of Statistics.** Private hospitals, Australia. ABS Cat. No. 4390.0. Canberra; ABS.

Prior to 2013:

- **Australian Institute of Health and Welfare.** Australian hospital statistics. Canberra: AIHW (also at www.aihw.gov.au).

- **Australian Bureau of Statistics.** Private hospitals, Australia. ABS Cat. No. 4390.0. Canberra; ABS.

Method:

- 2017 onwards – FTEs are only available for public hospitals.

- 2016 and earlier - FTEs are the sum of data from *Hospital resources: Australian hospital statistics* (for public hospitals) and *Private hospitals, Australia* (for private hospitals).

Coverage:

- Staff includes salaried medical officers, nurses, other personnel care staff, diagnostic and allied health professionals, administrative and clerical staff, domestic and other staff. For public hospitals there is some variation in data collection amongst the states and territories.

- Data represent full-time equivalents employed in ANZSIC 8611 Hospitals (except psychiatric hospitals) and 8612 Psychiatric hospitals.

- Years reported are financial years 1 July to 31 June (e.g. 2006-07 is reported as 2006).

- The AIHW's National Public Hospitals Establishments Database is based on the Public hospital establishments National Minimum Data Set (scope is establishment-level data for public acute and psychiatric hospitals, and alcohol and drug treatment centres) and the Local hospital network Data Set Specification (scope is local hospital networks and all public hospital services that are managed by a state or territory health authority and are included in the General list of In-scope Public Hospital Services developed under the 2011 National Health Reform Agreement).

- 2017 onwards – FTEs are only available for public hospitals.

- 2016 and earlier: Staff FTEs are for staff in public and private, acute and psychiatric hospitals.

- The ABS' Private Hospitals Establishments Collection contains details about the facilities, activities, staffing and finances of all private hospitals, including both private acute and/or psychiatric hospitals and free-standing day hospital facilities.

Notes:

- Data for public health resources are sourced from the AIHW's National Public Hospitals Establishments Database; data for private health resources are sourced from the ABS' Private Health Establishments Collections. The two collections differ in methodology, therefore caution should be used when drawing comparisons.

Break in time series: 2014, 2015, 2017.

- Since 2017, data are only available for public hospitals so cannot be compared with earlier years.
- In the data supplied for 2014 to 2016:
 - staff employed in providing public hospital services at the local hospital network or state health authority level were included;
 - for 2014, data for Queensland were not available and were therefore excluded.

Due to these two changes, the staff numbers reported from 2014 onwards are not comparable with previous years; and the staff numbers for 2015-2016 are not comparable with the data provided for 2014.

Deviation from the definition: From 2017 onwards, data are only available for staff in public hospitals.

Physicians

Break in time series: 2005.

- Since 2005: Data are FTEs for salaried medical officers in public and private, acute and psychiatric hospitals.
- Up to 2004: Physician FTEs include salaried medical officers in public hospitals and salaried medical officers and diagnostic and other allied health professionals in private hospitals.

Professional nurses and midwives, Associate professional nurses

Deviation from the definition: In FTE data, the breakdown between professional nurses and associate professional nurses is not available; therefore all nurses are reported as 'Professional nurses and midwives' which deviates from the definition by including associate (enrolled) nurses.

Health care assistants

Data not available.

Other health service providers

Break in time series: 2005.

- Since 2005: Data are FTEs for diagnostic and other allied health professionals in public and private, acute and psychiatric hospitals.
- Up to 2004: FTEs for diagnostic and other allied health professionals in public hospitals (for private hospitals the FTEs for diagnostic and other allied health professionals are counted with physicians).

Other staff

Coverage:

- Data cover FTEs for administrative, clerical, domestic and other staff in public and private, acute and psychiatric hospitals. This category also includes 'Other personal care staff' except for jurisdictions that did not supply these counts separately (hence 'Other personal care staff' may have been counted in other categories).

Break in time series: 2010.

- From 2010, Other staff employed in hospitals includes 'clinical support staff' in private acute and psychiatric hospitals.

Austria

Source of data: **Austrian Federal Ministry of Social Affairs, Health, Care and Consumer Protection**, Hospital Statistics.

Reference period: 31st December (head count); period 1st January to 31st December (FTE).

Coverage:

- Head counts: Included are physicians, nurses, midwives, assistants, and selected other health service providers employed in hospitals (HP.1). Excluded is non-medical academic and non-medical staff employed in hospitals.

- FTE: Included are all employees in hospitals (HP.1).

Estimation method: Up to 2007, FTE are the sum of approx. 90% FTE (in publicly financed hospitals) and 10% head counts (in private for-profit hospitals). From 2008 onwards, all hospitals (publicly financed and private for-profit hospitals) have to report FTE.

Deviation from the definition:

- Head counts: Total hospital employment exclude non-medical academic and non-medical staff employed in hospitals.

Physicians

Coverage: Head counts/FTE of physicians employed in hospitals (HP.1), dentists included.

- Coverage of head counts is complete.

Estimation method: Up to 2007, FTE are the sum of approx. 90% FTE (in publicly financed hospitals) and 10% head counts (in private for-profit hospitals). From 2008 onwards, all hospitals (publicly financed and private for-profit hospitals) have to report FTE.

Deviation from definition: Dentists and oral and maxillofacial surgeons are included.

Professional nurses and midwives

Coverage: Head counts/FTE of professional nurses and midwives employed in hospitals (HP.1).

- Coverage of head counts is complete.

Estimation method: Up to 2007, FTE are the sum of approx. 85% FTE (in publicly financed hospitals) and 15% head counts (in private for-profit hospitals). From 2008 onwards, all hospitals (publicly financed and private for-profit hospitals) have to report FTE.

Associate professional nurses

Note: In Austria, there is no occupational group ISCO-08 code 3221 fulfilling the educational requirements for nurses (in terms of Directive 2005/36/EC).

Health care assistants

Coverage: Head counts/FTE of health care assistants (ISCO 5321) employed in hospitals (HP.1).

- Coverage of head counts is complete.

Other health service providers

Coverage:

- Head counts: Included are physiotherapists, occupational therapists, dietitians, audiologists, speech therapists, laboratory assistants, and radiological assistants employed in hospitals (HP.1). All other health professionals are excluded.

- FTE: Complete coverage; included are the professions listed in “Head counts”, plus all other health professionals (e.g. pharmacists) employed in hospitals (HP.1).

Deviation from definition: Dentists and oral and maxillofacial surgeons are excluded (and assigned as physicians).

Other staff

Coverage:

- Head count: Data not available.

- FTE: Complete coverage; included is administration, office and operational personnel employed in hospitals (HP.1).

Belgium

Source of data: **SPF Santé publique - Service comptabilité des hôpitaux.**

Reference period: 31st December.

Physicians

Coverage: Concerns only physicians employed by the hospitals (labour contract). Therefore, coverage does not include those working on a self-employed basis within the infrastructure of the hospital.

Canada

Total hospital employment (Head Counts)

Source of data:

- Up to 1994: **Statistics Canada.** Hospital Statistics Preliminary Annual Reports. Catalogue 83-217 Annual, until 1994/95.

- From 2005 onwards: **Statistics Canada.** Survey of Employment, Payrolls and Hours (SEPH).

- Statistics Canada. Table 14-10-0202-01 Employment by industry, annual

<https://doi.org/10.25318/1410020201-eng>.

Coverage:

- From 2005 onwards: All employees in category 622 (Hospitals) of the North American Industry Classification System (NAICS).

Note: Employees by category are from different data sources and may not add up to total hospital employment obtained from Survey of Employment, Payrolls and Hours (SEPH).

Physicians (Head Counts)

Source of data: **Statistics Canada.** Census of Population 2006, National Household Survey (NHS) 2011 and Census of Population 2016. Estimates for 2017, 2018, 2019 and 2020 assuming the same share of Total hospital employment as in 2016.

Coverage: Category 3111 (Specialist physicians) and category 3112 (General practitioners and family physicians) of the National Occupational Classification (NOC) 2011 and category 622 (Hospitals) of the North American Industry Classification System (NAICS) 2007.

Professional nurses and midwives, Associate professional nurses (Head Counts)

Source of data: **Canadian Institute for Health Information,** Health Workforce Database.

Coverage:

- **Professional nurses and midwives:** Registered nurses (including nurse practitioners and RN midwives working full-time in direct care) and registered psychiatric nurses (RPNs) working in hospitals. Midwives other than RN midwives are excluded as information was not available.

- **Associate professional nurses:** Licensed practical nurses in hospitals.

Break in time series: 2003. RPNs were included starting in 2003.

Notes:

- 2018 counts of professionally active nurse practitioners & registered nurses employed in Manitoba hospitals and of registered psychiatric nurses employed in British Columbia were used as estimates of the 2019 counts, as the 2019 data was not available.

- The 2018 count of professionally active licensed practical nurses employed in New Brunswick hospitals was used as an estimate of the 2019 and 2020 counts, as the 2019 and 2020 data was not available.

Health care assistants (Head Counts)

Source of data: **Statistics Canada.** Census of Population 2006, National Household Survey (NHS) 2011 and Census of Population 2016. Estimates for 2017, 2018, 2019 and 2020 assuming the same share of Total hospital employment as in 2016.

Coverage: Category 3413 (Nurses' aides, orderlies and patient service associates) of the National Occupational Classification (NOC) 2011 and category 622 (Hospitals) of the North American Industry Classification System (NAICS) 2007.

Other health service providers (Head Counts)

Source of data: **Statistics Canada.** Census of Population 2006, National Household Survey (NHS) 2011 and Census of Population 2016 with the exception of the 2011 and 2016 data for pharmacists, physiotherapists and occupational therapists that originate from the Health Workforce Database at the **Canadian Institute for Health Information.** Estimates for 2017, 2018, 2019 and 2020 assuming the same share of Total hospital employment as in 2016.

Coverage: Selected categories of the National Occupational Classification (NOC) 2011 and category 622 (Hospitals) of the North American Industry Classification System (NAICS) 2007. Data include:

- 3113 Dentists;
- 312 Optometrists, chiropractors and other health diagnosing and treating professionals;
- 313 Pharmacists, dietitians and nutritionists;
- 314 Therapy and assessment professionals (3141 Audiologists and speech-language pathologists, 3142 Physiotherapists, 3143 Occupational therapists and 3144 Other professional occupations in therapy and assessment);
- 32 Technical occupations in health: 321 Medical technologists and technicians (except dental health), 322 Technical occupations in dental health care, 323 Other technical occupations in health care except subcategories 3213 (Animal health technologists and veterinary technicians) and 3233 (Licensed practical nurses);
- 4151 Psychologists

Break in time series: Starting in 2011, data for pharmacists, physiotherapists and occupational therapists are from the Health Workforce Database at the **Canadian Institute for Health Information.**

Other staff employed in hospitals (Head Counts):

- Calculated as a residual. Represents the difference between Total Hospital Employment and number of physicians, nurses and midwives, health care assistants and other health service providers employed in hospitals.
- Cross-tabulation of NOC and NAICS data from the 2011 National Household Survey available free for download at <http://www5.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=99-012-X2011060&lang=eng>.

Total hospital employment (Full-Time Equivalents)

Source of data: **Canadian Institute for Health Information**, Canadian MIS Database, 1995/96-2020/21.

Coverage:

- Includes all provinces and territories in all years, but starting in 2004/05 an estimate was made for Quebec. The estimation method changed in 2006/07.
- 1995/96-2003/04: Total employment in reporting hospitals in terms of full-time equivalents (one full-time equivalent = 1950 hours of work per year). No adjustment has been made for non-reporting hospitals. Hospital response rates for 1995/96 = 84%, 1996/97 = 83%, 1997/98 = 83%, 1998/99=84%, 1999/2000=91%, 2000/01=93%, 2001/02=95%, 2002/03=96%, 2003/04 = 98%. The response rate is based on the number of beds in hospitals that reported paid hours as a proportion of beds in all operating hospitals.
- Estimates for 2004/05 and 2005/06: For the first time, data submitted by Quebec for 2004/05 also included employment in nursing homes affiliated with hospitals. Employment in Quebec hospitals in 2004/05 and 2005/06, excluding affiliated nursing homes, was estimated based on 2003/04 data.
- Estimates for 2006/07-2019/20: Starting in 2006/07, it was assumed that the number of full-time equivalent persons per bed in Quebec was the same as in Ontario, for each type of bed separately (e.g., curative care beds, psychiatric care beds, etc.)
- The breakdown of FTE data by specific categories is not available.

Break in time series: 2009. Combination of new data source and estimation method was applied from 2009 onwards. Data from table “Trends in Hospital Spending, 2009–2010 to 2020–2021 — Data Tables — Series E: Hospital Calculated Full-Time Equivalents by Service Area” taken from Canadian MIS database and estimating Quebec FTE’s.

Chile

Source of data: **Ministry of Health**. The original source is the **National Health Human Resources Information System of the Public Sector** (hospitals).

Coverage: Nationwide: all Public Hospitals.

- Data include only the public sector hospitals. It is not yet possible to report data on hospital employment in the private sector. The public sector attends almost 80% of the Chilean population.
- Primary Health Care which belongs to the public health sector is excluded.
- From 2013, there is a systematic checking of the exact grade and profession of the Public Hospital Personnel, by crossing the Ministry of Health Databases with the National Register of Individual Health Providers from the Health Superintendence.

Estimation method: FTE is calculated on a weekly base of 44 hours (Chilean norm).

Deviation from definition: Despite the OECD definition, the service contracts with non-employed health professionals treating hospital patients are not included in these data. Data are available on these contracts, but should be improved in order to reach a higher level of validity and reliability. This concerns mainly physicians.

Associate professional nurses

- This category does not exist. The Superior Level Technicians in nursing are considered, for the length of their formal training and their functions, as caring personnel.

Colombia

Data not available.

Costa Rica

Data not available.

Czech Republic

Source of data: **Institute of Health Information and Statistics of the Czech Republic**. National Health Information System (Annual report on health personnel).

Reference period: 31st December.

Coverage:

- Providers: Hospitals and specialised therapeutic institutes (excluding balneologic institutes, convalescence homes for children, institutes for long-term patients and hospices).
- Measurement units: head counts (employees on payroll and employers), FTE (employees on payroll, employers and contractual workers).
- Double counting of health workers working in more than one hospital (applies only to head counts variable).
- In 2014, complete data are not available. Estimate is calculated from available data for 2014 and data from 2013.

Break in time series:

- 2016 (administrative change in the records of hospitals, some separate facilities have been integrated to hospital as a department. This explains the increase in hospital employment in 2016).
- 2017: Due to change in legislation, new category of practical nurse (formerly called medical assistant) is considered and reported as associate professional nurse.

Professional nurses and midwives

Coverage: Nurses (general and paediatric) and midwives.

Deviation from definition: These data include also associate professional nurses (till 2016).

Associate professional nurses

- Till 2016, data not available (the number of associate professional nurses is included in the number of professional nurses).
- Since 2017: Practical nurses.

Health care assistants

Coverage: Medical assistants (till 2016), auxiliary nurses and hospital porters.

Other health service providers

Coverage: Dentists, pharmacists, paramedical workers with professional qualifications (excluding nurses and midwives), paramedical workers with professional and specialised qualifications, health care workers pursuing paramedical profession under professional supervision or direct guidance (excluding medical assistants, auxiliary nurses and hospital porters) and other professional workers in health care.

Other staff employed in hospitals

Coverage: Teachers and schoolmasters, technical and economic personnel, manual workers and operational personnel.

Denmark

Source of data:

- 1980-2000: **The Danish Health Data Authority**, Labour Register for Health Personnel.
- 2001-2021: **The Danish Health Data Authority**, Data from The joint municipal payroll data office (KRL).

Reference period:

- 1980-2000: 31st December.
- 2001-2021: yearly average.

Coverage: 2001-2021: Only public section of hospital staff is included.

Note: 2001-2021 figures are based on the employee's job description, while 1980-2000 figures are based on employee's education.

Break in time series: In 2016, there is a break in the definition of health care staff, as students are no longer part of the work force.

Other staff employed in hospitals

Coverage: Administrative staff, academic staff (not health related, kitchen staff, cleaning staff, facility service staff, technical staff and others).

Estonia

Source of data: Annual report, **National Institute for Health Development**, Department of Health Statistics.

Reference period:

- 2006-2012: 31st of December.

- Since 2013: November.

Coverage:

- For 2006-2012, the head count distribution is made according to the main occupational activity.

- The data collection methodology was changed in 2013. Aggregated data collection was replaced with data collection on a personal basis. From 2013, the predominant (main) area of practice is based on the occupation with the highest workload.

- In 2013, previous long-term care hospitals (HP.1) have been classified amongst long-term nursing care facilities HP.2, according to the SHA 2011. Therefore, the total number of hospitals decreased in 2013 as well as the numbers of hospital employment.

- Since 2013, the data include only persons providing health-care services and not the staff providing other support services in hospital.

Break in time series: The data collection methodology was changed in 2013.

Professional nurses and midwives

Break in time series: 2012. From 2012, the number of practising nurses does not include radiology nurses.

Radiology nurses (by job specification - same as radiology technicians) are classified in the category of other health service providers.

Associate professional nurses

- The category "associate professional nurses" does not exist in Estonia.

Other health service providers

Break in time series: 2012.

- From 2012, the number of practising nurses does not include radiology nurses. Radiology nurses (by job specification - same as radiology technicians) are classified in the category of other health service providers.

- From 2012, assistant physicians (students), assistant nurses (students), assistant midwives (students) and assistant radiology technicians (students) who have no medical speciality are included. Before 2012 these data were not collected.

Other staff

Break in time series: 2012, 2013.

- In 2012, the social workers employed in hospitals are included. Before 2012, these data were not collected.

- Since 2013, data about non-medical personnel are not anymore collected. The collected data include only persons providing health-care services and not the staff providing other support services in hospital.

Finland

Source of data: THL Health Personnel Statistics; **Finnish Institute for Health and Welfare**. The data are based on the Employment Register kept by Statistics Finland.

Reference period: At the end of the calendar year.

Coverage: All individuals working in hospitals. Unfortunately, no data regarding FTE is available.

Deviation from definition: The occupational class of 'Hospital and institutional helpers' has been included in the Health Care Assistant group as Hospital and institutional helpers assist patients in daily tasks (hygiene, dressing, dining) and carry out similar work as Patient care assistants. However, inclusion of the whole group might skew the data for Health Care Assistants slightly as Hospital and institutional helpers can also work in kitchen, in cleaning or carry out miscellaneous tasks in the hospital instead of assisting patients directly.

Estimation method: For the years 2004-2014, the numbers are provisional and values are not accurate due to possible inconsistencies in how occupations are classified in our data.

Break in time series: There is a break in time series for the groups of ‘Health care assistants employed in hospital’, ‘Other health service providers’ and ‘Other staff employed in hospitals’ in 2010. The break in time series is a result of the Classification of Occupations used in the Employment Register being updated in 2010. For instance, before 2010, child care workers were their separate group and were included in ‘Other staff’, but in 2010, nearly all child care workers working in institutions belong to the occupational class of ‘Other practical nurses’, which in contrast are included in the ‘Health care assistants’ group.

France

Source of data: **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 Etablissements de santé. Data are from the “**Statistique Annuelle des Établissements de santé (SAE)**”.

Data from 2013 has been revised in January 2023, to ensure comparability over time from 2013 onwards.

Reference period: 31st December.

Coverage:

- Data refer to metropolitan France and D.R.O.M. (overseas departments).
- Total hospital employment includes salaried personnel (medical and non-medical), interns/residents, “faisants fonction d’internes (FFI)” and “diplômés inter-universitaires de spécialité (DIS)” as well as self-employed medical personnel. Information on self-employed non-medical personnel is not available.

Estimation method:

- Until 2008, fixed-term contracts were not counted in the head count nor in the FTE. Only the paid monthly average FTE is known. The FTE of fixed-term contracts are estimated by the paid monthly average FTE. Head counts cannot be estimated.
- FTE of self-employed medical personnel is not available, but we know the head count of the self-employed. The FTE are estimated from head counts by applying conventional calculating rules according to the working time of the self-employed.

Break in time series:

- From 2000 onwards, the “faisants fonction d’internes (FFI)” and “diplômés inter-universitaires de spécialité (DIS)” are not available by specialty. Therefore, the FFI-DIS data have been estimated based on their ratios in the total number of FFI-DIS over 1994-1999.
- From 2009 onwards, head counts of fixed-term contracts are also included for the non medical staff. Previously only head count of rolling contracts and holders and trainees of the public service were counted.
- From 2011 onwards, the number of persons employed in nursing structures or in nurses and midwives schools legally depending on hospitals are not counted.
- From 2013 onwards, the SAE survey has been recasted (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. In this recast, the change of the unit surveyed results in a better quality of data collected in general (less double counting than before), so that the quality of data for the number of persons employed can be marginally improved.
- As the epidemic was very active at the time of SAE 2020 data collection (February to April 2021), many health facilities notify us of the difficulties to answer some questions, especially questions about hospital employment. As many hospitals demand for delay, to moderate workload to the hospitals, secure reliable data collection and stick to the release schedule, we decided to make filling out the survey non-compulsory for the data on hospital employment. The results from this part of the survey were not validated according to the usual process and France is thus unable to provide with reliable data for the year 2020.

Physicians

Coverage:

- Data include self-employed physicians.
- FTE of self-employed medical personnel is not available, but the head count of these self-employed is known. The FTE are estimated from head counts by applying conventional calculating rules according to the working time of the self-employed.

Break in time series: 2000, 2013 (see above).

Professional nurses and midwives, Health care assistants, Other staff

Estimation method: Until 2008, fixed-term contracts were not counted in the head count or in the FTE. Only the paid monthly average FTE is known. The FTE of fixed-term contracts are estimated by the paid monthly average FTE.

Head counts cannot be estimated.

Break in time series: 2009, 2011, 2013 (see above).

Associate professional nurses

- The category "associate professional nurses" does not exist in France.

Other health service providers

Coverage:

- Data include the service contracts with non-employed medical staff.

Estimation method:

- From 2000 onwards, FFI-DIS pharmacists and odontologists have been estimated based on their ratios in total FFI-DIS over 1994-1999.

- Until 2008, fixed-term contracts were not counted in the head count nor in the FTE. Only the paid monthly average FTE is known. The FTE of fixed-term contracts are estimated by the paid monthly average FTE. Head counts cannot be estimated.

- FTE of self-employed medical personnel is not available, but the head count of the self-employed is known. The FTE are estimated from head counts by applying conventional calculating rules according to the working time of the self-employed.

Break in time series: 2000, 2009, 2011, 2013 (see above).

Germany

Source of data: **Federal Statistical Office**, Health Labour Accounts January 2023; special calculation by the Federal Statistical Office; <http://www.destatis.de> or <http://www.gbe-bund.de>.

Reference period: 31st December.

Coverage:

- Hospital employment comprises employment in all types of hospitals (HP1.1, 1.2 and 1.3) in all sectors (public, not-for-profit and private).

- Included are persons employed in general hospitals, mental health hospitals and prevention and rehabilitation facilities.

- Data on total hospital employment exclude non-employed physicians and non-employed professional nurses and midwives with service-contracts on treatment of hospital patients.

- From 2000 onwards data from Health Labour Accounts have been completely revised. Therefore comparable data before 2000 is not available. Data are rounded to the nearest thousand.

Estimation method: The number of FTE is calculated by adding the full and appropriate proportion of part-time occupied employees. FTE are measured by the number of hours of a standard labour contract.

Physicians

Coverage:

- Data contain the number of physicians directly employed by a hospital.

- Excluded are physicians with specialty "dental, oral and maxillofacial surgery".

Professional nurses and midwives

Coverage:

- Data contain the number of professional nurses and midwives directly employed by hospitals.

- Included are professional nurses and midwives with a 3-year education (nurses, paediatric nurses and nurses for the elderly).

- Excluded are nurses with a 1-year education and students who have not yet graduated.

Health care assistants

Coverage: Data contain the number of nurses with a 1-year education (auxiliary nurses and auxiliary nurses for the elderly) directly employed by hospitals.

Other health service providers

Coverage: Data contain the number of other health professionals (e.g. dentists, physiotherapist, laboratory assistants, emergency medical assistants) working in hospitals and students who have not yet graduated.

Other staff

Coverage: Data contain the number of other staff employed by hospitals (e.g. cleaning and kitchen staff, craftsmen, secretaries).

Greece

Source of data: **Hellenic Statistical Authority (EL.STAT.)**.

Reference Period: 31st December.

Coverage: public and private hospitals.

Other health service providers

Coverage: The number of other health professionals employed by hospital includes: pharmacists, physics and radiophysics, psychologists, laboratory assistants, physiotherapists, occupational therapists, and dieticians.

Other staff

Coverage: Administrative staff is included.

Hungary

Source of data: **Hungarian Central Statistical Office** (KSH in Hungarian) www.ksh.hu, "Report on personnel of health service" per ICHA-HP categories: 1.1(General hospitals); 1.2 (Mental health and substance abuse hospitals); 1.3 (Specialty hospitals).

Reference period: 31st December.

Coverage: Physicians, professional nurses and midwives, associate professional nurses, health care assistants, other health service providers (e.g. pharmacists, physiotherapists), and other staff (e.g. non-medical, operational, administrative staff).

Deviation from the definition: Dentists are included together with physicians, health care assistants are included together with medical assistants.

Estimation method: Method used to calculate the number of full-time equivalents: (1) FTE employment measured by the number of hours actually or usually worked divided by the average number of hours worked in full-time jobs.

Iceland

Source of data: **The Ministry of Finance and Economic Affairs.**

Reference period: December each year.

Coverage:

- Data exclude service contracts with non-employed health professionals who treat hospital patients (head counts).
- Data refer to persons employed in hospitals referring to health care facilities with 24-hour access to a hospital physician.

Associate professional nurses

Coverage: Associate professional nurses/practical nurses employed in hospitals.

Health care assistants

- Data not available. Health care assistants are included in "Other staff employed in hospitals".

Other staff

Coverage: All others are included except physicians, professional nurses, midwives, associate nurses, and other health service providers employed in hospitals.

Ireland

Source of data: **HR Management Information, Health Service Executive** (<https://www.hse.ie/eng/>).

Reference period: Figures refer to as at end of December.

Coverage:

- In 2018, the time series has been revised to reflect the following definition: “Number of persons employed (head counts), and number of full-time equivalent (FTE) persons employed in Acute Hospital Services”. Therefore, data relates to

- Public health service employment and does not include overtime, agency workers or private hospitals.
- All employees under the aegis of Acute Services (excluding Ambulance Services) are included.
- Where appropriate, figures are presented as headcount (actual numbers of staff) or whole time equivalent (WTE/ FTE), which adjusts the figures to take into account part-time working.
- Some figures have been restated to reflect up-to-date organisation and grade structures.
- In addition, previous returns reflect a correction in terms of the mapping of post registration nursing students who were incorrectly mapped as they are qualified nursing professionals.
- Associate professional nurses do not feature in the Irish Health Service (Source: HSE, Nursing Services Directorate).

Staff are categorised as follows:

Physicians:

Consultant Anaesthesia
Consultant Dentistry
Consultant Emergency Medicine
Consultant Intensive Care Medicine
Consultant Medicine
Consultant Obstetrics & Gynaecology
Consultant, Other
Consultant Paediatrics
Consultant Pathology
Consultant Psychiatry
Consultant Radiology
Consultant Surgery
Interns
Other Medical
Registrar
Senior House Officer
Senior Registrar
Specialist Registrar

Professional nurses:

Advanced Nurse/ Midwife Practitioner
Clinical Nurse/ Midwife Manager
Clinical Nurse/ Midwife Specialist
Director Nursing/Midwifery, Assistant
Director of Nursing/Midwifery
Graduate Nursing/ Midwifery
Nursing Bank
Nursing Education/Clinical
Other Nursing/ Midwifery
Post-registration Nurse Students
Public Health Nursing
Staff Midwives
Staff Nurse [Intellectual Disability]
Staff Nurse [Psychiatric]
Staff Nurses [General/ Children's]

Health care assistants:

HCA, Nurse's Aide, etc.
Home Helps

Other health Service providers:

Ambulance Control
Ambulance Officers
Audiology
Biochemists
Clinical Engineering
Clinical Measurement
Counsellor Therapists
Dental Hygienists
Dentists
Dietitians
Dosimetrists
Health & Social Care Assistants
HSCP Trainees/Students
Medical Laboratory
Occupational Therapists
Orthoptists
Other Care Grades
Other Health & Social Care
Other Labs & Associated
Perfusionists
Pharmacy
Phlebotomists
Physicists
Physiotherapists
Play Therapists/ Specialists
Podiatrists & Chiropodists
Pre-Hospital Care (Ambulance)
Pre-registration Nurse Students
Pre-registration Nursing/ Midwifery
Psychologists
Radiation Therapists
Radiographers
Social Care
Social Workers
Speech & Language Therapists

Other hospital staff:

Catering
Executive Management
General Administrative (III & IV)
Household Services
Maintenance
Middle Management (V-VII)
Other Administrative
Other Support
Portering
Senior Management (VIII & GM)
Technical Services

Break in time series:

- From 2015 onwards, the HSE revised the classification method of staff categories to reflect their current organization and staff mappings and ensure consistency over time. This classification also addresses new staffing

groups joining the organization; such as student nurses employed as Health Care Assistants in 2020 onwards, additional cleaning and care staff, vaccinators and additional medical interns to tackle COVID-19 necessary services.

Israel

Source of data: The data are based on the Labour Force Survey which is conducted routinely by the **Central Bureau of Statistics** and includes persons who had worked for at least one hour during the week before the survey, for pay, profit or other consideration.

Estimation method:

- The data are subject to variations due to sample errors and wide confidence intervals.
- Full-time equivalents (FTE) was measured by the number of hours actually worked by health personnel divided by the average hours worked in full-time jobs in Israel.

Break in time series: 2012, 2013.

- From January 2012, the **Central Bureau of Statistics** has made a transition from a quarterly system of measuring labour force characteristics to a new and improved system that better suits the latest international recommendations on employment and unemployment – Monthly Labour Force Survey. Therefore the 2012 data refer to the entire labour force (including the military service) and not to the civilian labour force, as it was before.

- In addition to the transition to a monthly survey, in 2012 a new Standard Industrial Classification of Economic Activities based on ISIC was implemented as well as a new Standard Classification of Occupations based on ISCO-08. The numbers for 2012 are still reported according to the previous classifications, but the numbers for 2013 are based on the new classifications.

Further information:

http://www.cbs.gov.il/publications/labour_survey04/labour_force_survey/answer_question_e_2012.pdf and http://www.cbs.gov.il/publications12/economic_activities11/pdf/e_print.pdf.

Health care assistants

Break in time series: 2013. Sanitarians working in hospitals were included in "health care assistants" in the previous classification while according to the new classification they are included in "other health service providers" (explaining the strong decrease in the number of "health care assistants" in 2013).

Other health service providers

Coverage: "Other health service providers employed in hospital" includes dentists, pharmacists, other academic health professionals (as dieticians, physiotherapists, audiologists and speech therapists and other therapists), laboratory assistants, CAM therapists and other health professionals and associate professionals.

Break in time series: 2013. Sanitarians working in hospitals were included in "health care assistants" in the previous classification while according to the new classification they are included in "other health service providers" (explaining the strong increase in the number of "other health service providers" in 2013).

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**. www.salute.gov.it/statistiche.

Reference period: 31st December.

Coverage:

- Data available for head counts only.
- Data refer to public and private hospitals, including private hospitals not accredited by the National Health Service

Deviation from the definition: None

Estimation method: None

Break in time series: None

Associate professional nurses

- In the Italian regulatory system, the category “Associate professional nurses” does not exist.

Health care assistants

- Data not available. (This category of workers is included in “Other staff employed in hospital”).

Japan

Source of data:

- From 2017: **Ministry of Health, Labour and Welfare**, Survey of Medical Institution (published every 3 years).

- Until 2016: **Ministry of Health, Labour and Welfare**, Hospital Report (published annually).

Coverage:

- Persons employed (including self-employed) in hospitals that are medical institutions with 20 beds or more.

- Data for all health professionals are based on a head count until 1986. Data for part-time physicians and part-time dentists have been converted to full time equivalent starting in 1987, and data for other health professionals have been converted to full time equivalent starting in 2002.

Break in time series: 2017. The data source is Hospital Report until 2016 and Survey of Medical Institution from 2017. Some hospitals have unknown number of persons employed in the hospital after 2017.

Physicians

Coverage: Physicians employed (including self-employed) in hospitals that are medical institutions with 20 beds or more.

Professional nurses and midwives

Coverage: Public health nurses, midwives and nurses employed in hospitals that are medical institutions with 20 beds or more.

Associate professional nurses

Coverage: Assistant nurses employed in hospitals that are medical institutions with 20 beds or more.

Health care assistants

Coverage: Nursing aid personnel employed in hospitals that are medical institutions with 20 beds or more.

Other health service providers

Coverage: Persons in the following categories who are employed in hospitals that are medical institutions with 20 beds or more: Dentist, Pharmacist, Physical therapist, Occupational therapist, Orthoptist, Speech therapist, Prosthetist, Dental hygienist, Dental technologist, Clinical radiologist, Clinical x-ray technologist, Clinical laboratory technologist, Health laboratory technician, Clinical engineer, Japanese traditional massage or Massage acupressure therapist, Judo therapist, Senior nutritionist, Nutritionist, Psychiatric social worker, Certified care worker, Nursery staff (from 2017), Other technicians and Medical social worker.

Break in time series: 2017. Nursery staff added from 2017 onwards.

Other staff

Coverage: Persons in the following categories who are employed in hospitals that are medical institutions with 20 beds or more: Administrative staff, and Other staffs.

Korea

Source of data: **Health Insurance Review & Assessment Service**, Health care resources by provider.

Coverage:

- Medical institutions equipped with at least 30 beds.

- Hospital employees: all employees working in the hospitals (full time positions and contract employees).

Professional nurses and midwives, Associate professional nurses

Break in time series: 2016. There is a break in the time series because of a new reporting system for health employment as of 2016.

Other health service providers

Coverage: Includes medical laboratory technologists, radiologists, technologists, dental technologists, dental hygienists, medical record administrators, isotope handlers, supervisors of radiation isotope, nutritionists, refrigerating handlers of hematopoietic stem cell, health insurance administrators, dentists, pharmacists, physical therapists, and occupational therapists.

Break in time series: 2012. Health insurance administrators are excluded from 2012.

Other staff

Coverage: Includes cooks, hospital administrators, social workers, etc.

Break in time series: 2012. Hospital administrators are excluded from 2012.

Latvia

Source of data: **Centre for Disease Prevention and Control**; Statistical Report.

Reference period: 31 December.

Deviation from the definition: Data for full-time equivalent (FTE) not available.

Break in time series: 2018. The variations observed in 2018 for other health service providers and other health service providers may be explained by changes in data collection and format of the statistical report, as well as with the registration of new specialties in the Medical Persons' Register.

Associate professional nurses

Data not available. (Within the Latvian Statistical System data on nurses are not completely comparable and compatible with requirements (practising nurses/professionally active nurses/nurses licensed to practise). Health statistics data from the Health Economic Center and the Health Inspectorate include information on nurses in the main job distinguishing between nurses with secondary medical education and nurses with higher education. Latvia has no practice in publication of information about nurses according to the ISCO-88 classification for all nurses authorised to carry out professional activity regardless of the level of education. Thus, nursing care staff breakdown in Professional and Associate professional nurses is not possible, and all nurses are included in group Professional nurses.)

Other health service providers

Coverage: There is no specific explanation regarding the increase by 10% in the number of "other health service providers employed in hospital" in 2014, but it could be caused by data reporting problems.

Lithuania

Source of data: **Health Information Centre of Institute of Hygiene**, data of entire annual survey of health establishments. Available on Official Statistics Portal of Statistics Lithuania <http://osp.stat.gov.lt/en>.

Reference period: 31st December.

Coverage:

- Data for all hospitals excluding nursing hospitals. Service contracts with non-employed health professionals are excluded.

- The Annual survey collection includes data on physical persons and full time equivalents. For physical persons: a person is included only if this institution is the main job for this person. If a person is working in several institutions he/she will be presented as a physical person only once. But FTE will be presented for the person in every institution he works.

- For full time equivalents data on contractual working hours is presented in annual survey: an employee with a full-time employment contract is counted as 1 FTE; depending on the contractual hours an employee could work 0.25, 0.5, 0.75, 1.25, 1.5 FTE.

- Full time equivalents data is higher than head count data. Very often in Lithuania medical specialists (especially physicians) and some other employees are working more than 1 staff (1.25 or 1.5).

Break in time series: Since 2020, health care assistants includes only caring professionals with the at least 3 month of nursing courses. Since 2020, more detailed list of health specialties is used for data collection therefore more health specialists were included in the number of other health services providers and less to the number of other staff.

Luxembourg

Total hospital employment

Source of data:

- Head Counts (2005-2006): Administrative database on social security registration, survey on physicians working in hospitals (**IGSS**), provider registration database (**National Health Insurance**).
- Full Time Equivalents (1999-2008): **National Health Insurance**.

Coverage:

Head counts:

- The definition of health employment is linked to the SHA provider classification of HP1.
- About half of the hospitals have subcontracting contracts for the cleaning and kitchen auxiliary services. People providing these services are not included.

Full Time Equivalents:

- Doctors are not included, since almost all doctors have private offices and it is very difficult to make the link with hospitals based on administrative sources.
- Approximately half of the hospitals have subcontracting contracts for the cleaning and kitchen auxiliary services. People providing these services are not included.
- The staff of the specialised institution 'Centre National de Rééducation Fonctionnelle et de Réadaptation de Hamm' is included in data from 2002.
- In 2003: The opening of a general hospital replaced two old private hospitals in July 2003.
- Data for 2008 are estimated.
- In 2008: There was no negotiated staff for some of the hospitals. The rate indicated for "total hospital staff" has been calculated with the staff negotiated for the previous year (for those hospitals only) and should be considered as provisional.

Physicians, Other health service providers, Other staff

- Data not available.

Professional nurses and midwives, Associate professional nurses, Health care assistants

Source of data: **Direction de la santé**, service des statistiques.

Reference period: 31st December.

Mexico

Source of data: **Ministry of Health**. 2012 to 2021 data are taken from the National Health Information System (SINAIS). In the case of the private sector, for 2012 to 2021 the data are taken from the **National Institute of Statistics and Geography** (INEGI). National Survey on Medical units with Inpatient Hospital Services.

Coverage:

- Head count data. Excludes non-practising physicians, retired professionals and professionals working abroad. Includes professionals who are foreigners. Includes interns and residents.
- The data presented include public and private human resources from the Hospitals health sector.
- In the case of private providers, personnel on the payroll and personnel in special agreement are included.
- Some double counting may occur as physicians can work in the public and private sector simultaneously.

Netherlands

Source of data: **Statistics Netherlands**.

- 2012 onwards: Data based on **BIG Register** (register of (para)medical professions); **SSB database** (micro-integrated database of Statistics Netherlands with data from the municipal register, tax register, social security, and business register).
- 2006-2011: **Annual reports social account**.
- 2002-2005: **Prismant survey**.
- 1980-2001: Survey.

Coverage: Does not include self-employed medical specialists who work in the hospital.

Deviation from the definition:

- Until 2005: The figures present persons employed (FTEs) in general, university and specialised hospitals, including mental hospitals. The data are based on an annual questionnaire among hospitals. All persons paid by the institution, both persons on the payroll and those who are paid by the institution in another way (temporary employees, employees of employment agencies), are included. This means that administrative staff, technicians, maintenance staff, etc., when paid directly by the institution, are included. On the other hand, medical specialists are not all included as these are often self-employed or organised in partnerships per specialty.
 - Since 1999: The data have been distributed among 1) physicians (based on the BIG register) 2) nurses and midwives (based on the BIG register) 3) Health care assistants (based on LFS estimates for ISCO 5132) 4) other employees (up till 2009 further distribution was possible to other health service providers and other staff using the annual reports social account).
 - The increase between 1997 and 1998 is due to the inclusion of (out-patient) mental health care institutions that have been merged with mental hospitals into integrated mental hospital institutions. Moreover, the data now comprise annual averages and are no longer data per 31 December.
- Estimation method: As we used the Labour Force Survey for “health care assistants employed in hospital” and “other health service providers employed in hospital” and therefore also in the total hospital employment. The numbers are not precise and a relative rough estimation.
- Break in time series:
- 2002, 2006 and 2012 due to changes in the source.
 - 2014: due to obligatory reregistration the number of nurses and midwives (and physiotherapists) is lowered substantially.

Professional nurses and midwives, Associate professional nurses

Coverage: No distinction could be made between qualified nurses and associate nurses. Therefore, all nurses have been reported in the number of professional nurses and midwives.

Break in time series: In 2014, the number of nurses and midwives (and physiotherapists) was lowered substantially due to obligatory reregistration.

Other health service providers, Other staff

Coverage: “Other staff employed in hospitals” includes students in nursing and caring that work in the hospital. Since 2010, they are included in other health service providers.

Estimation method: As we used the Labour Force Survey for “health care assistants employed in hospital” and “other health service providers employed in hospital”, the numbers are not precise and a relative rough estimation.

Break in time series: Since 2010, the data previously reported under “Other staff employed in hospitals” are included under “Other health service providers employed in hospitals”.

New Zealand

Total hospital employment

- Data not available.

Note: The health system in New Zealand is characterised by universal healthcare. The health system is predominantly funded with an estimated 83.2% (2010) in health expenditure coming from public sources. A separate publicly funded accident and compensation insurance scheme known as ACC funds accident related care, which accounts for an estimated 8.4% of expenditure. Twenty publicly owned District Health Boards (DHBs) are funded to undertake planning for all publicly funded health services for their geographic populations and to ensure their delivery. DHB own public hospitals, and they themselves deliver a wide range of services. Only data related to DHB employed personnel are available in the New Zealand. (Data have been provided for DHB employed personnel by category of personnel).

Headcount and FTE data (from 2019 onwards): Physicians, Professional nurses and midwives, Associate professional nurses, Health care assistants, Other health service providers, Other staff

Source of data: **Central Region’s Technical Advisory Services Limited (TAS) from the Health Workforce Information Programme (HWIP).**

Reference period: Headcount data on 30 September.

Coverage:

- DHB employed personnel, including public hospital staff and some DHB employees who work in the community.

- Private hospital employment is not covered.
- The data reported to OECD collect a snap-shot of the DHB employed workforce using the following criteria:
 - a) 'Employed' means those who have more than zero contracted hours (i.e. not in casual employment), excluding those on parental leave, those on leave without pay and self-employed contractors;
 - b) Only staff employed on the reporting date (30 September) are included;
 - c) All FTE figures are Contracted FTE (2086 hours per annum).

Break in time series: 2019.

Headcount data (from 2010 to 2018): *Physicians, Professional nurses and midwives, Associate professional nurses, Health care assistants, Other health service providers, Other staff*

Source of data: DHB Shared Services, DHB Workforce Information (DHBWI) from the Health Workforce Information Programme (HWIP).

Reference period: Headcount data on 30 June.

Coverage:

- DHB employed personnel only.
- The data reported to OECD collect a snap-shot of the DHB employed workforce using the following criteria:
 - a) 'Employed' means those who have more than zero contracted hours;
 - b) Do not have a 'leaving date' prior to or equal to the 30th June, i.e. they were actively employed on the reporting date;
 - c) Do not have "Leave" in their job title (i.e. those on long term leave).

FTE data: Physicians, Professional nurses and midwives, Associate professional nurses, Health care assistants
a) Data from 2008 to 2018

Source of data: Ministry of Health.

Reference period: FTE data are at 30 November each year, except 2012 onwards which is 30 September.

Coverage:

- DHB (District Health Boards) employed personnel only.
- Figures provided used the Employed FTE methodology:
 - Employed FTE counts the number of staff up to a maximum of 1.0 FTE based on their contracted number of hours compared to a 40-hour week.
 - Part time and casual staff paid via payroll are included.
 - Overtime is excluded from this calculation.
- **Physicians:** Medical personnel includes: Senior Medical Officers (SMOs), Medical Officer of Specialist Service (MOSS), General Practitioners, Registrars, House Officers and House Surgeons, and Probationers and Interns. Figures provided are for medical personnel submitted by DHBs in accordance with the DHB/Ministry of Health Common Chart of Accounts classification system.
- **Professional nurses and midwives:** Nursing and Midwifery personnel includes: Senior Nurses, Nurse Practitioners, Registered Nurses, Registered Midwives, and Internal Bureau Nurses. Figures provided are for nursing and midwife personnel submitted by DHBs in accordance with the DHB/Ministry of Health Common Chart of Accounts classification system.
- **Associate professional nurses:** Associate professional personnel includes: Enrolled Nurses. Figures provided are for Enrolled Nurses submitted by DHBs in accordance with the DHB/Ministry of Health Common Chart of Accounts classification system.
- **Health care assistants:** Health Care Assistants personnel includes: Health Assistants. Figures provided are for Health Assistants submitted by DHBs in accordance with the DHB/Ministry of Health Common Chart of Accounts classification system.

Break in time series: 2008.

- From 2008 onwards, the source is still the "DHB monthly financial templates" but the definition of FTE has been changed to that of the concept of 'Employed FTEs' for physicians, nurses, midwives and health care assistants.

- **Professional nurses and midwives:** Associate professional nurses and health care assistants are included until 2007 and excluded since 2008.

b) Data up to 2007

Source of data: Ministry of Health: DHB monthly financial templates.

Reference period: FTE data are as of 30 June each year.

Coverage:

- DHB employed personnel only.
- **Physicians:** Figures provided are for medical personnel.
- **Professional nurses and midwives:** Figures provided are for nursing personnel, which includes senior nurses, registered nurses, enrolled nurses, registered midwives, internal bureau nurses and health service assistants.
- **Associate professional nurses, Health care assistants:** Data not available. (Data cannot be provided separately and are included in Professional nurses and midwives employed in hospital).
- Hospital employment numbers are based on provider arm only FTEs; the number of staff employed in the DHB Governance arm does not have a material effect on the results.
- Information does not count vacancies.
- Excludes private hospital employees.
- The figures for 30 June 2002 through 30 June 2007 represent the FTE total as of that date.
- Note: Public hospitals only.

Estimation method:

- Hospital employment numbers are based on the average accrued FTEs; this method takes the total number of hours worked (including overtime) and divides by 40 hours - a usual working week.

Break in time series: 2007. The average accrued FTE method was introduced on 1 July 2006; prior to this there was not a standardised method of reporting staff numbers. (As FTEs data provided relate to financial years (July to following June), the impact of this change was in the 2007 year.)

FTE data: Other health service providers, Other staff

a) Data from 2010 to 2018

Source of data: **DHB Shared Services, DHB Workforce Information (DHBWI) from the Health Workforce Information Programme (HWIP).**

Reference period: FTEs data on 30 June.

Coverage:

- DHB (District Health Boards) employed personnel only
- The data reported to OECD collects a snap-shot of the DHB employed workforce using the following criteria:
 - a) 'Employed' means those who have more than zero contracted hours;
 - b) Do not have a 'leaving date' prior to or equal to the 30th June, i.e. they were actively employed on the reporting date;
 - c) Do not have "Leave" in their job title (i.e. those on long term leave).
- The FTE is calculated by using the Total Contracted Hours variable (this records the annual contracted hours for that employee) and dividing by 2086 hours.
- As DHBWI uses snap-shot data there is no averaging over time for FTEs. This means that DHBWI have not reported on: a) casual workers (as they will have zero contracted hours DHBWI could only report headcount and not FTE at this stage) – typically >10% for large DHBs and <10% for small DHBs; and b) contractors – as they would often not show on the DHB's HR Information System.

Break in time series: Break in 2010 for FTEs data, due to change in data source.

b) Data up to 2009

Source of data: **Ministry of Health: DHB monthly financial templates.**

Reference period: FTEs data are as of 30 June each year.

Coverage:

- DHB employed personnel only.
- Allied Health.
- Hospital employment numbers are based on provider arm only FTEs; the number of staff employed in the DHB Governance arm does not have a material effect on the results.
- Information does not count vacancies.
- Excludes private hospital employees.
- The figures for 30 June 2002 through 30 June 2007 represent the FTE total as of that date, while the FTE figures from 30 June 2008 represent the year to date average.
- Note: Public hospitals only.

Estimation method:

- Hospital employment numbers are based on the average accrued FTEs; this method takes the total number of hours worked (including overtime) and divides by 40 hours - a usual working week.

Break in time series: 2007. The average accrued FTE method was introduced on 1 July 2006; prior to this there was

not a standardised method of reporting staff numbers. (As FTEs data provided relate to financial years (July to following June), the impact of this change was in the 2007 year.)

Norway

Source of data: **Statistics Norway**; Register-based statistics on employment of health-care personnel.

Reference period: 3rd week of November.

Deviation from the definition: Data refer to economically active professionals.

Coverage:

- The figures provided give the number of practising personnel within HP1. There is no guarantee that these professionals actually work in patient care as data refer to education the individuals have rather than the job they hold within the HP structure.

- The health sector in Norway underwent a large reorganisation in 2001. Figures are therefore provided from 2002.

Break in time series: 2004, 2009, 2015.

- 2004: Personnel in multidisciplinary specialist substance abuse treatment included from 2004, as this area was included in the hospital sector.

- 2009: Break in 2009 due to new version of Standard Industrial Classification from SIC 2002 (2002-2008) to SIC 2007 (2009-)

- As from 2015, the register-based employment statistics will be based on a new data source for employees. Until the end of 2014, the main data source was The Central Register on Employers and Employees (EE register), produced by the Norwegian Labour and Welfare Organisation (NAV). In 2015, this reporting to NAV was coordinated with the reporting of earnings and personnel data to the Tax Administration and Statistics Norway. This common reporting system is called "a-ordningen" (the a-system).

Associate professional nurses

Norway has no occupation corresponding to ISCO-08 code 3221.

Poland

Total hospital employment, Associate professional nurses, Health care assistants, Other health service providers, Other staff

Data not available.

Physicians, Professional nurses and midwives

Source of data: **Ministry of Health** and Statistics Poland.

- Until 2017: survey of medical personnel based on reports provided by health care units and doctor's practices.

- From 2019 onwards: estimates based on administrative sources, i.e. register of licensed physicians (Polish Chamber of Physicians), files provided by Social Insurance Institution and registers of health care establishments.

Coverage:

- Due to the possibility of physicians, midwives and nurses working in several places, the data may be duplicated.

- Excludes physicians, midwives and nurses employed in hospitals founded by the Ministry of Interior and Administration.

Break in time series:

- 2019: The new calculation method based on administrative sources provides more robust results. The data until 2018 are underestimated due to high non-response rates in the survey.

Portugal

Source of data: **National Statistical Office - Survey on Hospitals.**

Reference period: 31st December.

Coverage:

- The Hospital Survey began in 1985. This survey covers the whole range of hospitals acting in Portugal: hospitals managed by the National Health Service (public hospitals with universal access), non-public state hospitals (military and prison) and private hospitals.

- Information on full time equivalents is not available.

Break in time series: 1999.

- In 1999, a methodological change occurred in this survey. Information regarding qualified nurses and midwives, associate professional nurses and caring staff became available from then on. Before 1999, these data were included in “Other health professionals employed in hospital” and “Other staff employed in hospital”. Therefore, there is a break in these series in 1999.

Physicians

Coverage: Includes all physicians employed in hospital.

Professional nurses and midwives

Coverage: Includes all specialised nurses employed in hospital since 1999.

Associate professional nurses

- The category “Associate professional nurse” does not exist in Portugal.

Health care assistants

Coverage: Includes all “other nursing staff” (nurse’s assistants and medical care assistants) employed by hospitals since 1999.

- The 2011 numbers of health care assistants and other staff employed in hospital have been estimated by the OECD Secretariat (to eliminate the break due to a partial switch between both categories in 2011).

Other health service providers

Coverage: Includes “technical diagnosis and therapeutic staff” and “senior health technician staff”.

Break in time series: 1999.

- In 1999, a methodological change occurred in this survey. Information regarding qualified nurses and midwives, associate professional nurses and caring staff became separately available from then on. Therefore, there is a break in the series “Other health professionals employed by hospital” in 1999.

Other staff

Coverage: Includes “other senior technician staff”, “administration staff”, “administrative and technical-professional staff”, “auxiliary staff of medical action”, and “other staff”.

- The 2011 numbers of health care assistants and other staff employed in hospital have been estimated by the OECD Secretariat (to eliminate the break due to a partial switch between both categories in 2011).

Break in time series: 2009.

- In 1999, a methodological change occurred in this survey. Information regarding qualified nurses and midwives, associate professional nurses and caring staff became separately available from then on. Therefore, there is a break in the series “Other staff employed by hospital” in 1999.

Slovak Republic

Source of data: **National Health Information Center.**

- “Annual report S (MZ SR) 1 – 01 on network of health care providers” for data up to 2008.

- “Report on network of health care providers” since 2009.

Reference period: 31st December.

Coverage:

- Data are available for FTE hospital employment in Hospitals - HP1 (according to the recommendations and definitions following the SHA version 1.0.) in the territory of the Slovak Republic (i.e. general hospitals, specialty hospitals, sanatoriums - i.e. hospitals providing long-term care for the chronically ill and hospitals providing rehabilitation and related services to physically challenged or disabled people).

- There are no data available for head count.

- Total hospital employment includes only health care workers. No data exist regarding other staff.

Deviation from the definition: Total hospital employment does not include ‘other staff employed in hospital’.

Break in time series:

- 2009: Data source changed from “Annual report S (MZ SR) 1 – 01 on network of health care providers” for years 2008 and earlier to “Report on network of health care providers” in 2009. From 2009 onwards, service contracts with non-employed health professionals are included in the data (which is not the case for data before 2009).

Associate professional nurses

- The category "Associate professional nurse" does not exist in the Slovak Republic. All nurses are classified as Professional nurses.

Health care assistants, Other health service providers

- The 2008 data have been estimated by the OECD Secretariat based on the respective share of these categories in 2007 and 2009.

Slovenia

Source of data: **National Institute of Public Health, Slovenia, National Health Care Providers Database.** With this database, data on hours worked (FTE) and jobs (number of contracts) were not available.

Reference period: 31st December.

Coverage: Slovenia.

Health care assistants

Break in time series: 2012.

- Until 2012: health care assistants who were individually registered in National Health Care Providers Database.

- From 2012: health care assistants who were individually registered in National Health Care Providers Database and the number of health care assistants which are reported only as aggregated data from health care providers to the National Health Care Providers Database.

Health care providers report following categories of employed staff as aggregated data:

- health care workers with less than 4 years of secondary education (includes predominantly health care assistants), and
- non-health care workers with less than university education.

Note: E flag (Estimate) is added from the year 2016 onwards, due to underreporting in aggregated data.

Other staff

Break in time series: 2012.

- Until 2012: staff who was individually registered in National Health Care Providers Database.

- From 2012: staff who was individually registered in National Health Care Providers Database and the number of other staff which are reported only as aggregated data from health care providers to the National Health Care Providers Database.

Health care providers report following categories of employed staff as aggregated data:

- health care workers with less than 4 years of secondary education (includes predominantly health care assistants), and
- non-health care workers with less than university education.

Note: E flag (Estimate) is added from the year 2016 onwards, due to underreporting in aggregated data.

Spain

Source of data:

- Up to 2009: **Ministry of Health**, from **Statistics on Health Establishments Providing Inpatient Care (ESCRI).**

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

<https://www.sanidad.gob.es/estadEstudios/estadisticas/estHospInternado/inforAnual/homeESCRI.htm>.

Reference period: 31st December.

Coverage:

- All public and private hospitals in Spain are included.
- FTE data are not available.

Physicians

Coverage: Number of physicians employed by hospital: doctors in training (interns and resident) are included.

Break in time series: 2010. Until 2009 Family practitioners in training in hospital are included. Since 2010 Family practitioners in training in hospital are excluded.

Associate professional nurses

- The category 'associate professional nurses' does not exist in Spain.

Other health service providers

Coverage: Other health professionals include other health staff (with university degree or adequate diploma) working in the hospital (e.g. physiotherapists, psychologists, pharmacists, etc.).

Other staff

Coverage: Other staff includes non-health staff working in hospital (e.g. administrative staff, etc.).

Sweden

Data not available.

Switzerland

Source of data: **Federal Statistical Office (FSO)**, Neuchâtel; Hospital Statistics; yearly census.

Reference period: Data as of December 31 (Headcount), yearly average (Full-time equivalent).

Coverage: Full coverage based on population data (full-survey).

Deviation from definition: Self-employed persons (mostly physicians) are not included.

Estimation method: FTE based on yearly average. The method used for FTE calculation is based on detailed data on contractual working hours.

Break in time series: 2010.

- Until 2009, the hospital employment estimate was made with data on professions from 75% of hospitals.

- Hospital Statistics have been revised since 2010. No more estimation needed, all categories can be identified.

Physicians

Coverage: There are a large number of self-employed physicians working in hospitals without being employed, leading to a severe underestimation of medical attendance in hospitals.

Türkiye

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

Reference period: 31st December.

Coverage:

- Total hospital employment includes physicians, nurses, midwives, other health service providers and other employees working in the MoH, universities, private and other sector (other public establishments, local administrations and since 2012 MoND-affiliated facilities).

- Total hospital employment is available from 2011 onwards because the numbers of other staff employed in hospital are missing before then.

Break in time series: 2018.

- In 2018, the used database for health personnel has been changed. This new source keeps the data as person-based. Health personnel data were collected from health facilities as health facility-based before 2018.

Physicians

Coverage:

- Physicians in the MoH, universities, private and other sector are included.

- Physicians acting as managers in the MoH, universities and private sector are included.

Professional nurses and midwives

Coverage:

- Professional nurses and midwives in the MoH, universities, private and other sector are included.

- Professional nurses and midwives acting as managers in the MoH, universities and private sector are included.

Associate professional nurses, Health care assistants

- Data not available.

Other health service providers

Coverage:

- Other health service providers include: Surgery Technician, Anesthesia Technician, Biologist, Environmental Health Technician, Child Development Specialist, Dental Technician, Dietitian, Physical Therapy Technician, Physiotherapist, Emergency and First Aid Technician, Heart-Lung Pump Operation Technician, Laboratory Technician, Audiologist, Audiometric Technician, Orthopedic Technician, Pathological Anatomy Technician, Perfusion Pump Technician, prosthetic Technician, Psychologist, X-ray Technician, Health Physician, Health Officer of the war, Health Technician, Cytopathologist, Social Worker, Medical Secretary, Medical Technologist, Public Health Technician.
- Other health service providers employed in hospitals cover those in the MoH, universities, private and other sector.
- Data also include dentists and pharmacists working in public hospitals. For the private sector, data on dentists and pharmacists are available but there is no possibility to disaggregate salaried professionals from self-employed professionals. Hence dentists and pharmacists working in the private sector are excluded.

Other staff

Coverage:

- This number includes Lawyers, Imams and other hospital staff not elsewhere classified, working in the MoH, universities, private and other sector.
- Data are available since 2011.

Break in time series: 2013. In 2018, the data on “Other staff” have been revised since 2013, with a data source offering a better coverage. This explains the increase in the number of Other staff and Total hospital employment in 2013.

United Kingdom

Source of data: **NHS-Digital**.

Estimation method:

- In 2021, NHS – Digital were able to supply hospital based full-time equivalent employment for the 2020 reference year. The England estimates have been adjusted (grossed-up) to provide a UK estimate based on per-capita populations.
- In 2020, NHS-Digital supplied England statistics for every category of head-counts and full-time equivalents (FTEs) in a time series from 2009 to 2019. In 2020 this time series has been re-weighted (grossed-up) to represent United Kingdom estimates based on per-capita population share. The ‘total hospital employment’ estimates previously submitted by the UK have been revised since 2009.
- The England Hospital Employment total is less than the sum of the categories because many doctors are split over two categories.

United States

Source of data: **American Hospital Association (AHA)/Annual Survey of Hospitals database/AHA Hospital Statistics** for the relevant years. Unpublished data. http://www.ahadata.com/ahadata_app/index.jsp.

Coverage: National.

- The Hospital Statistics draws its data from the AHA Annual Survey of Hospitals.
- Through 2016 data are for all AHA-registered hospitals in the United States. The AHA Survey was mailed to all hospitals, both AHA-registered and non-registered, in the U.S. and its associated areas: American Samoa, Guam, the Marshall Islands, Puerto Rico and the Virgin Islands.
- Estimates exclude U.S. associated territories, Puerto Rico and through 2016, non-registered hospitals.
- Beginning with 2017, AHA Hospital Statistics began reporting on all hospitals rather than only AHA-registered hospitals.
- Overall AHA Survey average response rate: 82%.
- U.S. government hospitals located outside the mainland U.S. are not included.
- Personnel data include full-time personnel and full-time equivalents of part-time personnel.
- Full-time equivalent (FTE) is calculated as full time personnel plus .50 part time personnel.
- Head count is calculated as full time personnel plus part time personnel.

- The U.S. estimates for Total hospital employment include physicians and dentists, registered nurses, licensed practical nurses and other salaried personnel.

Deviation from the definition: Data match OECD definition. Calculation methods match OECD definition.

Estimation: Survey.

Break in time series: 2017. Includes all AHA-reported hospitals rather than only AHA-registered hospitals.

Mapping between OECD categories and AHA categories for recent years:

OECD Occupation Category	USA, American Hospital Association (AHA) Occupation Category
Physicians	Physicians, Dentists, Medical residents/interns, Dental residents/interns
Professional nurses and midwives	Registered nurses (In the US, nurse practitioners and nurse midwives are all registered nurses.)
Associate professional nurses	Licensed practical (vocational) nurses Nursing assistant personnel
Health care assistants	Not available separately
Other health service providers	Radiology technicians Laboratory technicians Pharmacists licensed Pharmacy technicians Respiratory therapists
Other Staff	All other personnel

Physicians

Coverage: Includes physicians and dentists as well as medical and dental residents/interns.

Professional nurses and midwives

Coverage: Includes registered nurses.

- Nurse practitioners (1991-1993) and nurse midwives (1993), who are registered nurses, were collected separately in these respective years and added to the data.

Associate professional nurses

Coverage: Includes licensed practical (vocational) nurses and nursing assistant personnel from 2003 onwards.

Break in time series: 2003. There is a break in 2003 due to the inclusion of nursing assistant personnel.

Health care assistants

Coverage: Includes ancillary nursing personnel (1991-1993).

Other health service providers

Coverage: Includes other trainees (from 1994), laboratory technicians (from 2006), radiology technicians (from 2006), licensed pharmacists (1991-1993, from 2006), pharmacy technicians (1991-1993, from 2006), respiratory therapists (1991-1993, from 2007).

- Separate other health service provider categories were available for physician assistants (1991-1993), medical technologists (1991-1993), other laboratory personnel (1991-1993), dieticians (1991-1993), dietetic technicians (1991-1993), radiographers (1991-1993), radiation therapy technologists (1991-1993), nuclear medicine technologists (1991-1993), other radiologic personnel (1991-1993), occupational therapists (1991-1993), occupational therapy assist. and aides (1991-1993), physical therapists (1991-1993), physical therapy assistants and aides (1991-1993), recreational therapists (1991-1993), speech pathologists (1991-1993), audiologists (1991-1993), respiratory therapy technicians (1991-1993), psychologists (1991-1993), social worker (1991-1993), and all other health professional and technical personnel (1991-1993).

Break in time series: 1994 and 2006.

Other staff

Coverage: Includes all other personnel.

- Separate other staff categories were available for administrators and assistant administrators (1991-1993), medical records administrators (1991-1993), medical records technicians (1991-1993).

Break in time series: 1994, 2003 and 2006 (See above for Associate professional nurses, Health care assistants and

Other health service providers).

NON-OECD ECONOMIES

Bulgaria

Source of data: **National Statistical Institute**, Exhaustive annual survey.

Reference period: 31 December.

Coverage: All persons (head counts) who worked on a basic labour contract in all type of hospitals as well as in dispensaries (HP.1).

Since 2010 the pulmonary dispensaries are transformed into specialized hospitals, dermato-venereological dispensaries – into Dermato-venereological centres, oncological dispensaries – into Complex oncological centres, psychiatric dispensaries – into Mental health centres. The activities and functions of the centres and dispensaries are same.

Break in time series: See below for individual variables.

Physicians employed in hospitals

Coverage: All physicians (head counts) who worked on a basic labour contract in inpatient health establishments (HP.1). Physicians with maxillo-facial surgery speciality are excluded.

Professional nurses and midwives employed in hospitals

Metadata information and comments: All qualified nurses and midwives (head counts) who worked on a basic labour contract in inpatient health establishments (HP.1).

Associate professional nurses employed in hospitals

This category does not exist.

Health care assistants employed in hospitals (ISCO-08 code: 5321)

Coverage: All Health care assistants (head counts) (ISCO-08 code: 5329) who worked on a basic labour contract in inpatient establishments (HP1).

Professional activities carried out by health care assistant are legally regulated in Ordinance № 1 of the Ministry of Health from 2011 (SG. 15 of 2011) for professional activities that nurses, midwives, associated medical specialists and healthcare assistants can made by appointment or alone.

Estimation method: Data on medical specialists refer to the speciality that is practiced.

Break in time series – up to 2013 the category does not exists.

According to the National Classification of Occupations and Duties, consistent with the International Standard Classification of Occupations (ISCO-08), the code 5321 includes hospital attendants (caring personnel) and persons responsible for hygiene. Persons included in this group do not have any medical education, knowledge or training. The tasks they perform are as follow: assisting patients with personal and therapeutic care needs such as personal hygiene, dressing; positioning, lifting and turning patients and transporting them in wheelchairs or on movable beds; maintaining patients' environmental hygiene standards, such as cleaning patient rooms and changing bed-linen. All these persons are included in the group “Other staff employed in hospitals” - non health professionals working on a basic labour contract in inpatient health establishments.

Other health service providers employed in hospitals

Coverage: Other health professionals who worked on a basic labour contract in inpatient health establishments (HP.1).

Includes Dentists (with Physicians with maxillo-facial surgery speciality), pharmacists, doctors' assistants, laboratory assistants (clinical and X-ray), dental mechanics, sanitary inspectors, other medical specialists who worked on a basic labour contract in inpatient health establishments (HP.1). Physician physiotherapists are included.

Other staff employed in hospitals

Coverage: Other staff (non-health professionals) who work on a basic labour contract in inpatient health establishments (HP.1).

Break in time series: up to 2013 the category Health care assistants does not exist. All these professionals are included in the group “Other staff employed in hospitals” - non health professionals working on a basic labour contract in inpatient health establishments.

Croatia

Source of data: **Croatian Institute of Public Health**, National Register of Health Care Providers.

Reference period: Status on December 31st.

Coverage: Public and private health sectors included.

Romania

Source of data:

- 2000-2006: **Ministry of Public Health**.

- 2007: **National Institute of Statistics**, The activity of the sanitary and health care network – annual survey performed by NIS.

Reference period: data as of 31st December.

Coverage:

- For the period 2000-2006, the data cover only Ministry of Health network. From 2007, data cover public and private sector.

- From 2018, it refers to the staff employed in hospitals, excluding medical centres that provide predominately out-patient services, but provide also day-care services for some specialisations (with a small number of beds/places).

Estimation method: Hospital employment on FTE basis is calculated as 1 FTE for a worker with full-time employment and 1 FTE for 2 part-time workers.

Break in the series: 2007.

Physicians employed in hospitals

Coverage:

- The number of physicians in hospitals is oscillating because some of these doctors are registered on integrated ambulatory hospital. Also, in hospitals are employed resident physicians whose number increases in some years, and decreases in other years.

- Until 2010 the data for the private sector are collected centrally, from administrative sources (data from the Ministry of Health), but some of the private hospitals refused to report statistical data to the Ministry of Health. Since 2010, NIS collected data through a Web application directly from hospitals. In 2010 several private hospitals were reported.

Break in the series: 2007.

Professional nurses and midwives employed in hospitals

Coverage:

- Data cover public and private sector.

- Since 2007, the first series of nurses ISCED 5 were graduated. The trend of increasing of number of professional nurses remains because new generations of nurses are graduated from university.

Associate professional nurses employed in hospitals

Coverage:

- Data from 2007 till 2009 refers to ancillary medical staff. Since 2010, the data refers only to nurses.

- The ancillary medical staff includes: medical assistants, pharmacy assistants, nurses, infant care personnel, sanitary technicians, laboratory assistants, registering clerks, masseur, autopsy assistant and statistician specialized in health statistics, medical physical trainer, ergo therapy trainer and other categories of medical staff with equivalent upper secondary level of education.

- The data include also associated nurses from dentists units and pharmaceutical units. It would be specified that for midwives and nurses the level of education is ISCED 3 or 4 and ISCO codes are 3231 and 3232.

Until 2007 ancillary medical staff working in administration, research and in other posts that exclude direct contact with patients could not be totally excluded.

Break in the series: 2007, 2010.

- Number of nurses declined in 2010 because in the period 2007-2009 data refers to ancillary medical staff (see definition above).

Health care assistants employed in hospitals (ISCO-08 code: 5321)

Coverage:

- In health care assistants employed in hospitals was included the health care personnel (another than nurses and midwives): infant care personnel, sanitary technicians, laboratory assistants, registering clerks, masseur, autopsy assistant and statistician specialised in health statistics, medical physical trainer, ergo therapy trainer and other categories of medical staff with equivalent upper secondary level of education.

Break in series: 2007.

Other health service providers employed in hospitals

Coverage:

- Data from 2007 till 2009 refer to dentists, pharmacists, physiotherapists and other sanitary staff with high education level (biologists, chemists, psychologists etc).

- Since 2010 data refers to: dentists, pharmacists, physiotherapists and other sanitary staff with high education level (biologists, chemists, psychologists etc) and other than nurses and midwives sanitary staff (infant care personnel, sanitary technicians, laboratory assistants, registering clerks, masseur etc.)

- The number of physicians in hospitals is oscillating because some of these doctors are registered on integrated ambulatory hospital. Also, in hospitals are employed resident physicians whose number increases in some years and decreases in other years.

- Until 2010 the data for the private sector are collected centrally, from administrative sources (data from the Ministry of Health), but some of the private hospitals refused to report statistical data to the Ministry of Health. Since 2010, NIS collected data through a Web application directly from hospitals. In 2010 several private hospitals were reported.

Break in series: 2007.

Other staff employed in hospitals

Coverage:

- The data refer to: economists, lawyers, engineers, social workers with higher education, workers, service staff, staff from the functional department, etc.

Break in series: 2007.

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<http://www.oecd.org/health/health-data.htm>