OECD Health Statistics 2025

Definitions, Sources and Methods

Practising pharmacists (ISCO-08 code: 2262)

Practising pharmacists prepare, dispense or sell medicaments and drugs for patients and provide advice.

Inclusion

- Practising pharmacists who have completed studies in pharmacy at university level (granted by adequate diploma) and who are licensed to practice
- Salaried and self-employed pharmacists delivering services irrespectively of the place of service provision
- Pharmacists working in hospitals
- Foreign pharmacists licensed to practice pharmacy and actively practising in the country

Exclusion

- Students who have not yet graduated
- Pharmacists working in administration, research and in other posts that exclude direct contact with the patients
- Pharmacists working in the pharmaceutical industry
- Unemployed pharmacists and retired pharmacists
- Pharmacists working abroad

Note: The number should be at the end of the calendar year.

Sources and Methods

Australia

Source of data:
- 2013 onwards: **Department of Health** (DoH) NHWDS Allied Health Practitioners Data. Data request. Also available at http://hwd.health.gov.au/. Data are as at the end of the re-registration period for the profession in the reference year.
- 2011-2012: **Australian Institute of Health and Welfare 2013**. Allied health workforce 2012. National health workforce series no. 5. Cat. No. HWL 51. Canberra: AIHW. Also available at www.aihw.gov.au.
- 1986-1991, 2000-2010: **Australian Bureau of Statistics**. Labourforce SuperTABLE e08 (average of 4 annual surveys). Cat. No. 6291.0.55.003. Data is from the ABS labour force survey, self-enumerated, all persons employed in pharmacy full-time and part-time. Four annual surveys are averaged to provide a yearly estimate. The survey is based on a multi-stage area sample of private dwellings (currently about 30,000 houses, flats, etc.) and a list sample of non-private dwellings (hotels, motels, etc.), and covers about 0.45% of the population of Australia.
These data, based on the Australian Bureau of Statistics' Labour Force Surveys, are volatile particularly for small occupations like pharmacy and can also be affected by changes in sample size.
- 1992-1999: **Australian Institute of Health and Welfare 2003**. Pharmacy labour force to 2001. National Health Labour Force Series 25. Cat. no. HWL 25. Canberra: AIHW (and previous issues). Also available at www.aihw.gov.au.
Coverage:
- From 2013, data exclude pharmacists with non-practising registration.

- From 2011, data regarding practising pharmacists include those pharmacists in a clinical role, namely, a practitioner who spends the majority of his or her time working in the area of clinical practice.
- Data from 2000 include community (retail) pharmacists, hospital/clinic pharmacists and industrial pharmacists. Data exclude administrators, teacher/educators, pharmacists employed overseas and 'other'.
- 1992-1999: data based on annual re-registrations.
- Education required is a 3-4 year degree plus a 1-year registration course.

Break in time series:

- From 2011, data are based on estimates derived from the National Health Workforce Data Set (NHWDS). The data set contains information on the demographic and employment characteristics of allied health practitioners registered in Australia. Data are collected via registration forms and a survey instrument administered by the Australian Health Practitioner Regulation Agency, in conjunction with the annual registration renewal process for pharmacists. Data prior to 2011 were supplied based on data from the now superseded state and territory pharmacy boards and councils. Comparison of 2011 and later data with data prior to 2011 should be made with caution.
- From 2013 the NHWDS is held by the Department of Health and the data has minor differences from the previous AIHW holdings due to the method of imputation for survey non-response and enhanced geocoding methods.
- For 2013 onwards, pharmacists who selected 'Other' as their role were manually recoded to the relevant role (based on information provided in a text field), where possible. This contributed to the increase in practising pharmacists from 2012 to 2013.

Austria

Source of data: **Austrian Chamber of Pharmacists**.
Reference period: 31st December.
Coverage:
Included are:

- Domestic and foreign practising pharmacists who are licensed to practice according to the Austrian legislation and who are registered at the Austrian Chamber of Pharmacists (head count).
- Salaried and self-employed practising pharmacists in different places of service provision (public pharmacies, hospital pharmacies).

Excluded are:

- Pharmacists who do not provide services to individual patients (in industry, administration, and research).
- Pharmacists working abroad, unemployed, and retired pharmacists.

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

Belgium

Source of data: **Institut National d'Assurance Maladie Invalidité**.
Reference period:
Coverage:
Deviation from the definition:
Estimation method:
Break in time series: Since 2009, data on practising pharmacists exclude pharmacists aged 65 years old and over.

Canada

Source of data: **Health Workforce Database**, **Canadian Institute for Health Information.** When jurisdictional data is not available, data from the **National Association of Pharmacy Regulatory Authorities (NAPRA)** is used as follows:
- Quebec & Nunavut for all the years.
- 2014 data for New Brunswick.

- 2014 and 2016-2022 data for Yukon.
- 2020 data for PEI.
Reference period: The number is as of October 1 of given year for data from the Health Workforce Database at CIHI and January 1 of the following year for NAPRA data.
Coverage:
- For data from Health Workforce Database at CIHI, practising pharmacist in Canada refers to only those pharmacists who provided services directly to clients, including those whose Primary Position is *staff pharmacist*, *pharmacy owner/manager*, *pharmacy manager* or *institutional leader/coordinator*.
- Data exclude pharmacist working as Director of Pharmacy, Pharmacist Consultant, Educator, Researcher, Industrial Pharmacist and Other.
- For data from NAPRA, practising pharmacist in Canada refers to Pharmacists practising in community & Pharmacists practising in hospital. Data exclude pharmacist working in other settings.
- Information prior to 2012 is not available.
- Starting in 2023, CIHI revised its methodology for imputing missing values in data for 2023 and subsequent years. This change may have an impact on the trends. As a result, comparisons with data for previous years should be made with caution.
- In 2022, the Ontario College of Pharmacists adopted a new methodology to improve the data quality. As a result, comparisons with data for previous years should be made with caution.
- 2023 counts for Newfoundland and Labrador was estimated by multiplying 2022 practising pharmacist data by the growth rate of professionally active pharmacist data, as their 2023 data was not available.
- 2023 counts for Yukon was estimated by multiplying 2022 NAPRA practising pharmacist data by the growth rate of professionally active pharmacist data, as their 2023 data was not available.
- For more information about data collection and comparability as well as notes specific to individual provinces and territories, refer to Pharmacists in Canada, 2023 — Methodology Notes on CIHI's website: Pharmacists in Canada, 2023 — Methodology Notes (https://www.cihi.ca/sites/default/files/document/pharmacists-in-canada-2023-meth-notes-en.pdf).

Chile

Data not available. These data exist only for the public sector (not reported in *OECD Health Statistics*). At the national level (public and private), data are available only for "pharmacists licensed to practice".

Colombia

Data is not available. Data are available for "professionally active" pharmacists (including pharmacists in administrative, academic, or research functions, who are not providing direct care to patients).

Costa Rica

Data not available.

Czechia

Source of data:
- Till 2013: **Institute of Health Information and Statistics of the Czech Republic**; Registry of Physicians, Dentists and Pharmacists.
- Since 2014, **Institute of Health Information and Statistics of the Czech Republic**; National Health Information System (Annual report on health personnel).
- Since 2022, **Institute of Health Information and Statistics of the Czech Republic**; National Registry of Healthcare Workforce
Reference period: 31st December.
Coverage:
- Until 1999, pharmacists working in other central organs not included. Since the year 2000, data cover pharmacists in all health services.
- In 2014, complete data are not available. Estimate is calculated from available data for 2014 and data from 2013.

- Double counting of pharmacists working in more than one health or social establishment.
Deviation from the definition:
Estimation method:
Break in time series: 2000, 2014, 2022

Denmark

Source of data: **The Danish Health Data Authority**, Labour Register for Health Personnel.
Reference period: 31st December.
Coverage: 1992-2022
Deviation from the definition:
Estimation method:
Break in time series:

Estonia

Source of data:
- Employees in hospital pharmacies: Annual reports from health care providers, **National Institute for Health Development,** Department of Health Statistics.
- Employees in general pharmacies: **Agency of Medicines**, monthly reports of pharmacies.
Reference period:
-1980-2012: 31st of December.
- Since 2013: November.
Coverage:
- The data refer to practising personnel in health care institutions and in pharmacies.
- In 2001, the collection of statistical reports in the Agency of Medicines moved from the Bureau of Drug Statistics into the Department of Pharmacy. From 1991 to 2002, there was no obligation for pharmacies to submit activity reports to the Agency of Medicines, and therefore not all pharmacies submitted their reports to the Agency. Therefore, when using data from the years 1996-2003, it should be considered that the numbers are slightly underestimated.
Deviation from the definition:
- Data for 2001 have been calculated as the 5-years' average, pharmacists working in pharmacies has been derived by subtracting the pharmacists working in health care institutions from the calculated number.
Estimation method:
Break in the series: 2004, 2013 and 2015.
- The data collection methodology of NIHD on health care personnel 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 an occupation with the highest workload.
- Since 2015 the Agency of Medicines changed the data-collection methodology on the employees in general pharmacies. Since 2015 the number of pharmacists in general pharmacies reflects only the total number of filled occupations and not the total number of persons. Therefore, the number of practising pharmacists can be slightly overestimated.

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 employed (including self-employed) licensed pharmacists working as pharmacists within the health care field in Finland – including pharmacies. Both ISCO-08 code: 2262 and 3213 have been included as they are licensed pharmacists in Finland. Includes pharmacists between the ages of 18 and 75.
Deviation from definition:
Estimation method:
Break in time series:

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 Professions de santé, **RPPS (Répertoire Partagé des Professionnels de Santé)**. Data were revised in 2023 (from 2011 to 2021).
Reference period: 31st December year N (approximated by data of January1st year N+1).
Coverage:
- Subsections of pharmacists: A, DA, DM, EA, ED, EH, H.
- Data concern pharmacists working in pharmacies (excluding those working in pharmaceutical industry, managing directors or assistant directors of laboratories, pharmacist working in administration, research, etc.).
- Data include foreign pharmacists licensed to practice and exclude pharmacists working abroad.
- Data refer to metropolitan France and D.R.O.M. (overseas departments and regions).
Deviation from the definition:
Estimation method:
Break in time series:

Germany

Source of data: **Federal Union of German Associations of Pharmacists**, Pharmacy and staff statistics 2023; http://www.abda.de or http://www.gbe-bund.de.
Reference period: 31st December.
Coverage:
- The number of practising pharmacists includes pharmacists working in a public or hospital pharmacy (head-count data).
- The data exclude qualified pharmacists who are working abroad, working in administration, research and industry positions, unemployed and retired pharmacists and students who have not yet graduated.
Deviation from the definition:
Estimation method:
Break in time series:

Greece

Data not available.

Hungary

Source of data:
- Up to 2012: **Hungarian Central Statistical Office** (KSH in Hungarian) www.ksh.hu.
- From 2013 until 2014: **Office of Health Care Authorisation and Administrative Procedures** (EEKH in Hungarian) www.eekh.hu, Operational Register.
- From 2015 to 2016, **Health Registration and Training Center** (ENKK in Hungarian) www.enkk.hu, Operational Register.
- From 2017, **National Healthcare Service Center** (ÁEEK in Hungarian) www.enkk.hu, Operational register.
- From 2021, **National Directorate General for Hospitals** (OKFŐ in Hungarian) www.okfo.gov.hu, Operational register.
Reference period:
Coverage:
- Up to 2012: All pharmacists working in public pharmacies and hospital pharmacies are included, according to the latest qualification acquired.
- Since 2013: Pharmacists with a valid registration in the Operational Registry, which is the condition of the unsupervised healthcare activity.
Deviation from the definition:
Estimation method:
Break in time series: 2013, 2015, 2020.
- In 2013 due to change of the data source.

- In 2015, 2020: In case of physicians, dentists and pharmacists there is a five-yearly cyclical decrease in the operational registration because of the expiry of the five yearly renewable operational license. In every fifth year (2000, 2005, 2010, 2015, 2020) there was a dropout in the case of those physicians, dentists and pharmacists, who did not request the renewal of their next five year cycle because they did not fulfil their mandatory further training, or they have been retired, or left to a foreign country, left the healthcare sector, or died.

Iceland

Source of data: **Directorate of Health** and **The Association of Icelandic Pharmacists**.
Reference period: 31st December.
Coverage:
- Included: Practicing pharmacists and exam pharmacists working in pharmacies and in hospitals.

Ireland

Source of data: **Pharmaceutical Society of Ireland** (https://www.thepsi.ie/gns/home.aspx) and **Ireland's Census** (https://www.cso.ie/en/census/).
Reference period:
- Figures from the Pharmaceutical Society refer to data as at end of December.
- Census estimates are based on data as at Census Night of the respective Census year (i.e., 2016 for pre-2022 reference years and 2022 for 2022 reference years onwards).
Coverage:
- Figures refer to all persons on the register of the Pharmaceutical Society of Ireland who have indicated to be active and practicing in the pharmaceutical industry (be it in Community/Hospital Pharmacies, Regulatory, Academics, etc.). - Figure for 2019 is estimated using information extracted from the Pharmacists database in 2020. In the context of renewing registration, a pharmacist is required to declare whether or not s/he is practising in a patient facing role. This declaration is made if the pharmacist practises for any period in a patient facing role and therefore may not necessarily be the practitioners' primary area of practice. The definition used is as follows: "A patient-facing role includes any pharmacist providing care directly to a patient and/or any pharmacist whose work has an impact on patient care, irrespective of setting or the number of hours of practice per week, month, or year. Although not exhaustive, the following gives examples of roles which are considered as patient-facing; Pharmacists working on a fulltime, occasional, or casual basis in community pharmacy, Hospital Pharmacists working on a fulltime, occasional, or casual basis, Superintendent Pharmacists, Supervising Pharmacists and Locum Pharmacists."
- Figures for 2021 and 2022:
For data from the Pharmaceutical Society of Ireland:
- Figures refer to all persons on the register of the Pharmaceutical Society of Ireland. They may include pharmacists not in activity.
- The following are included; pharmacists employed in community pharmacies, pharmacists employed in the pharmaceutical industry, pharmacists employed in medical research, pharmacists employed in firms or public bodies in exercise of their profession, pharmacists employed in public and private hospitals, foreign pharmacists registered in Ireland and some Irish pharmacists living/working abroad.
For data from Census:
- Data includes all Irish population as part of the Census enumeration. This includes persons having been resident in Ireland for at least 12 months or with the intention of staying for at least 12 months in Ireland.
- Figure excludes temporary stays (e.g., tourists, medical treatment, religious events, etc.) and any other stays amounting less than 12 months as at the established Census night.
- Figures for 2023 onwards are obtained from self-declarations made to the Pharmaceutical Society and refer to all persons on their register who have indicated to be patient-facing in the pharmaceutical industry (i.e., working in a Community or Hospital Pharmacy). Figures include self-reported practicing pharmacists registered with a license to practice in Ireland but may be active abroad.
Deviation from the definition:
Estimation method:
From 2021onwards, where an estimation is indicated: Let:

- $PP_{C16/22}$ = Population reporting their Occupation as "Pharmacists" (code: 2213) under the UK Standard Occupational Classification (SOC) in the 2016/2022 Census.
- $PC_{2016/2022}$ = Total number of persons registered with the Pharmaceutical Society for the year 2016/2022.
Therefore: $PP_{C16/22} / PC_{2016/2022} = P_{C16/22}$
Where $P_{C16/22}$ is the proportion of persons in Census 2016/2022 reporting their occupation to be pharmacists out of the total registered dentists with the Pharmaceutical Society in 2016/2022.
So, an estimate for any year *N* after 2016/2022: $PC_N * P_{C16/22} = PR_N$
Where PR_N is the estimated number of practising pharmacists for year *N* based on Pharmaceutical Society registrations in the same year as a proportion of $P_{C16/22}$.
The proportion will be updated at each available Census, unless better data sources would become available.
- Estimates prior to 2021 not provided.
Break in time series:
From 2021: Change in source led to an estimation method (refer to estimation method section above).

Israel

Source of data:
- *From 1996 till 2009* (included): 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. Occupation is determined by the type of work performed by the interviewed person at his place of work, without regard to what he studied if his work is not in that field. The classification of occupations is based on the classification of the International Labour Office (ILO): *International Standard Classification of Occupations ISCO 88.*
- *2010 onwards*: From 2010 data are based on Pharmacists License Registry maintained by the Medical Professions Division and the Health Information Division in the **Ministry of Health** and Income tax files – employees and self-employed.
Reference period: end of the year.
Coverage:
- *From 1996 to 2009*: The sample of practising pharmacists is relatively small, and therefore the data are subject to large variations due to sample errors and wide confidence intervals. Any data analysis should be carried out with caution.
- *From 2010*: Coverage of income tax files is very high. Every year it is checked that all the major employers in the Health Services are included in the file, such as the Ministry of Health, the HMOs in Israel, and some of the hospitals.
Estimation method:
- *From 1996 to 2009*: Moving average of three years (numbers for previous, current and next years) was made in order to diminish the fluctuations in the numbers. For example, the number of practicing pharmacists in 1996 is an average of 1995-1997. The number for 2009 is an average of 2008-2010.
Methodology:
- *From 2010*: Linkage between Pharmacists license registry and income tax files is performed at the Central Bureau of Statistics. Pharmacists who have an income of at least 1,000 Israeli Shekel are considered employed and included in the calculations. Practising pharmacists are employed pharmacists (employees and self-employed) in the Health Services (according to ISIC Rev.4).
Break in time series: 2010.
Further information: *From 1996 to 2009*:
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.
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:
- Until 2020: **COGEAPS** http://wp.cogeaps.it/.

- Since 2021: **ISTAT** Integrated Data System on Health Personnel.
Reference period: 31st December.
Coverage: Pharmacists working in Health care and Pharmacies.
Deviation from the definition: None.
Estimation method:
- Until 2020: data on the "Continuing Medical Training program" have been used to estimate the practicing personnel. In Italy health professionals have to be recorded in the professional register to be licensed to practice and to acquire "training credits" while practicing. These credits are registered in the Continuing Training Education database. The estimate of practicing personnel was done by counting, among all registered professionals, those who acquired at least one credit in the last three years.
- Since 2021: Data for the last year are provisional: except for data on professionals employed in the private sector, for other professionals (public sector employees, non-employees in the public and private sector) an estimate is made on the basis of the changes observed in years t-1 and t-2.
Break in time series: 2021: due to changes in data source. The Integrated Data System on Health Personnel provides more accurate data, exhaustive and compliant with the definition. Previous data were estimated and referred to pharmacists who acquired training credits in the last three years (as a proxy of being practicing/professionally active). The new data source, based on the integration of individual data of professional registers with data from ISTAT's Registers (on jobs, on economic units, on training) and the Population Census, provides more accurate data on the number of practicing or professionally active pharmacists. The increase in the number of pharmacists in 2021 is due to the under-estimation of previous data source.

Japan

Source of data: **Ministry of Health, Labour and Welfare**, Statistics of Physicians, Dentists, and Pharmacists (published annually until 1981, and every two years from 1982).
Coverage:
- Data consist of pharmacists working at pharmacies, hospitals and clinics. Data exclude pharmacists working in the areas such as industry, research and development, pharmacists working abroad, and not-acting pharmacists.

Korea

Source of data: **Health Insurance Review & Assessment Service**, Health care resources by provider.
Coverage: Data include Korean oriental medicine pharmacists since 2004.
Break in time series: 2012. The data on practising pharmacists are changed from registered practising pharmacists to full-time practising pharmacists from 2012.

Latvia

Source of data:
- 2007-2008 and from 2013 onwards: Pharmacist and pharmacist assistant register, under direct jurisdiction of **Pharmacists' Society of Latvia.**
- Up to 2006 and 2009-2012: **State Agency of Medicines**, report "Summary on operation of pharmacies, medicine wholesales enterprises and medicines production enterprises".
Reference period: 31 December.
Coverage: Persons who have graduated completed studies in pharmacology at university level and working in pharmacies or hospital pharmacies and its branches.
As the registration is not compulsory for the pharmacists, the numbers may vary from year to year. This may explain the higher number of practising pharmacists in 2017.
Deviation from the definition:
Estimation method:
Break in time series: 2007, 2009, and 2013: Change in data source.

Lithuania

Source of data:
- Up to 2003 for data on pharmacists working in pharmacies and wholesale medicine supply enterprises - State Medicines Control Agency; for data on pharmacists working in health care institutions - Health Information Centre of Institute of Hygiene, data of entire annual survey of health establishments.
- Since 2017: **Health Information Centre of Institute of Hygiene**. Data are calculated from the Compulsory Health Insurance Fund information system (subsystem METAS). Report "Health Statistics of Lithuania" available from https://www.hi.lt/sveikatos-statistikos-leidiniai/#--lietuvos-sveikatos-statistika.
Reference period: 31st December.
Coverage: Up to 2003 the number of practicing pharmacists at the end of the year includes all professionally active pharmacists excluding those working in administration, health education and research. Since 2017: the number of practicing pharmacists at the end of the year employed in pharmacies.
Deviation from the definition:
Estimation method:
Break in time series: Change of data source since 2017.

Luxembourg

Source of data: **Direction de la Santé**.
- Until 2005: Service des statistiques.
- 2005-2011: Division de la pharmacie et des médicaments.
- From 2012: **Ministère de la Santé**. Register of doctors and health professionals.
Reference period: 31st December.
Coverage:
- The data reported do not include pharmacists paid by hospital, making pharmaceuticals or those working abroad.
- Data includes self-employed pharmacists and pharmacies' employees, along with employees in clinical laboratories, retail sales of medications, and those working in administrations.
- Foreign pharmacists authorised to work in Luxembourg who work in the mentioned sectors are included.
- The series has been rectified back to 1993. It includes only pharmacists (salaried or self-employed) who have direct contact with patients. Foreign pharmacists who are permitted to practice in Luxembourg are also included.
- Data should be considered with care due to methodological issues encountered during the census series concerning pharmacists and nurses.
- A more precise methodology has not yet been finalised for data relating to pharmacists.
Deviation from the definition:
Estimation method:
Break in time series: 1993

Mexico

Data not available.

Netherlands

Source of data:
- 1999 onwards: **Social Statistical Database of Statistics Netherlands, BIG Register** (official register of health care professionals).
- 1995-1998: pharmacists in public pharmacies: **Stichting Farmaceutische Kengetallen** (Foundation Pharmaceutical Key figures); pharmacists in hospitals: **Koninklijke Nederlandsche Maatschappij ter bevordering der Pharmacie** (KNMP) (Royal Dutch Society for the Advancement of Pharmacy).
- Up to and including 1994: **Inspectorate Health Care**.
Reference period: The last Friday before Christmas.
Coverage:
- From 2017 onwards: the license register required re-registration for pharmacists. The register required pharmacists to have been practising with a certain minimum amount working hours in the last 5 years in their professional field. The practising has to be directly related to individual patients or to research and

industry activities. Therefore, we kept the selection of branches (Sector Q (SIC 86, 87 and 88) and public pharmacies (NACE 4773)). The re-registration has led to a decrease in the numbers published so far.
- From 1999 onwards: licensed pharmacists working in health care and social assistance (SIC 86, 87 and 88) and in public pharmacies (NACE 4773).
- Up to 1998: Pharmacists in public pharmacies + pharmacists in hospitals.
Deviation from the definition:
Estimation method:
Break in time series: 1999, 2017, 2023.
-2023 : Re-registration effect. Since 2017, dentists and pharmacists are obliged to re-register. The requirement is that they have been practising in the past 5 years.

New Zealand

Source of data: **Pharmacy Council: Workforce Demographics 2024**, available at https://pharmacycouncil.org.nz/2024-workforce-demographic-report/
Reference period: 30 June.
Coverage:
- Type of work history (1 April 2023 to 31 March 2024) is listed by pharmacists on their registration for a practicing certificate.
- The number of practising pharmacists is estimated based on the percentage of pharmacists who listed they have worked as a community pharmacist, hospital pharmacist or pharmacist in general practice over the past year on their application form for the Annual Practicing Certificate. Categories on the application form are: “Community Pharmacist”, “Hospital Pharmacist”, “General Practice”, “Pharmaceutical Industry”, “Teaching/Research”, “Primary Health Organisations”, , “Pharmacy professional association”, “Government/Regulatory Health Organisation”, “Other”.
- This subset of professionally active pharmacists is estimated to be practising in a patient facing capacity.
- This number is an estimate as it refers to past year’s work in the Pharmacist or Pharmacist prescriber scope, rather than as at 30 June. Also, a small number of those working as a community or hospital pharmacist may not work in direct contact with patients. Similarly, there are some pharmacists under the category “Primary Health Organisation that will be working directly with patients, e.g., medication reviews, prescribing etc.
- Data not available prior to 2008.

Norway

Source of data: **Statistics Norway**; Register-based statistics on employment of health-care personnel.
Reference period: 3rd week of November.
Coverage:
- Practising pharmacists are pharmacists working within HP1-HP4 and in nace 21, 46.46 and 47.73.
- Pharmacists working in administration cannot be separated from pharmacists working with patients.
Deviation from the definition:
Estimation method:
Break in time series: 2015.
- 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).

Poland

Source of data: **Statistics Poland, Ministry of Health, Ministry of Interior and Administration, Ministry of National Defence**.
Reference period: 31st December.
Coverage:

- Since 2003 data from the Ministry of National Defence and the Ministry of Interior and Administration are included.
- Includes pharmacists working in hospitals, pharmacies and pharmaceutical outlets and excludes pharmacists working in pharmaceutical manufacturing corporations. Teaching and administrative staff have been excluded since 2004. cists in training were included in years 2003 and earlier.
Deviation from the definition:
Estimation method:
Break in time series: Since 2004, pharmacists in training are excluded.
The main reason for the decrease in the number of pharmacists in 2004 was the change in data collection methods (for example pharmacists were previously listed together with persons undergoing training).

Portugal

Source of data: Statistics Portugal, Health personnel statistics
http://www.ine.pt/xurl/ind/0012843
Reference period: 31st December.
Coverage:
- Data reflect the number of practising pharmacists registered at the Portuguese Pharmaceutical Society.
Deviation from the definition:
Estimation method:
Break in time series:

Slovak Republic

Source of data: **National Health Information Center**.
- Before 2005: Administrative register of health care professionals.
Reference period: 31st December.
Coverage: Pharmacists with completed pharmaceutical education, licensed and practising.
Deviation from the definition:
Estimation method:
Break in time series: As of 2005, data are only available for professionally active pharmacists. Suitable data source for providing "practising" concept is under development.

Slovenia

Source of data: **National Institute of Public Health, Slovenia**; National Health Care Providers Database.
Reference period: 31st December.
Coverage:
- Practising pharmacists are those working in pharmacies and the health-care sector (primary and secondary care), including public health institutes and the health insurance institute.
Deviation from the definition:
Estimation method:
Break in time series:

Spain

Source of data: **National Statistics Institute** (INE). **Labour Force Survey** (several issues).
https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176918&menu=ultiDatos&idp=1254735976595.
Reference period: Annual average. Three-year moving averages (e.g., data reported in 1996 is an average of 1995-1997).
Coverage:
- From 1995 to 2010, the data include practising pharmacists (2224 ISCO-88 code). The data by occupation are classified according to the National Occupations Classification (CNO-94 Spain, code 214), the Spanish equivalent of ISCO-88 code 2224.

- From 2011 onwards the data are classified according to CNO-11 Spain, code 214. The CNO-11 code 214 is the Spanish equivalent of ISCO-08 code 2262 (pharmacists).
- Although the replacement of the old classification CNO-94 (the Spanish equivalent of ISCO-88), which had been in force since 1995 until 2010, by the current Spanish Classification of Occupations CNO-11 (equivalent of ISCO-08) in the source of the data should not have any impact on data, in practice this fact may have influenced the gap between 2010 and 2011 of some occupations such as the pharmacists. Besides, series on 'practising' and 'professionally active' pharmacists are based on a source that provides fluctuating data from year-to-year (i.e. the use of the Labour Force Survey) while the data on licensed to practice are based on a more stable registry from the Register of Pharmacists Council.
- The number of practising pharmacists was obtained by calculating the number of pharmacists employed in the health sector and dispensing medicaments/drugs in specialised stores according to NACE rev.2 (chapter Q + code 4773) since 2009, and similarly with NACE Rev.1 and NACE Rev.1.1 from 1995 to 2008.
- Data analysis over time should be carried out with caution. Data are obtained from a survey and fluctuations in the data can occur for a number of reasons, one of them being the sampling errors. These variations can lead to false assumptions about trends. We advise users of time series data to carefully explore the relevant issues before drawing any conclusions about the reasons for year-on-year changes.
- During the **first quarter of 2005** various changes have been introduced into the **Economically Active Population Survey**:

1. New variables have been included in accordance with Eurostat (Statistical Office of the European Communities) requirements, set forth in Regulation 2257/2003.
2. A centralised procedure has been implemented for the process of the telephone interviews.
3. With the goal of further standardising the survey process, the questions of the questionnaire have been reformulated.

- In **2021** various changes have been introduced into the **Economically Active Population Survey**:

1. New variables have been included in accordance with Eurostat (Statistical Office of the European Communities) requirements, set forth in Regulation (EU) *2019/1700* of the European Parliament and of the Council of 10 October 2019.
2. The data referring to CNO-11 codes at 4-digit level are available.
3. The target population is extended to people aged 15 years and older.
4. Introduction of the CAWI (web interviews) for second and subsequent interviews.

Deviation from the definition:
Estimation method: In 2024, data series from 2020 onwards have been updated with Spanish population figures imported from Census 2021 and recalculated by using three-year moving averages in order to reduce the large year-to-year fluctuations in data derived from the LFS. In 2014, data series have been updated with Spanish population figures imported from Census 2011 and recalculated by using three-year moving averages in order to reduce the large year-to-year fluctuations in data derived from the LFS. The number reported in 1996 is an average of 1995-1997; the number for 2012 is an average of 2011-2013.
Break in time series:

Sweden

Source of data:
- Before 1999: **The National Corporation of Swedish Pharmacies**.
- From 1999: **National Board of Health and Welfare,** LOVA-register.

Reference period: 1st November.
Coverage:
Before 1999:
-The figures include all pharmacists employed by the National Corporation of Swedish pharmacies.
- All pharmacists working in retail are included in these figures. Even prescriptionists (with a 2-year university education) are included.
- The latter category makes up about 80 % of the group.

From 1999:
- Pharmacists include all persons with a Swedish pharmacist license employed within the retail pharmacy sector.

- Prescriptionists (with a 3-year university degree) are included. This category makes up about 60 % of all pharmacists.
- Full coverage.
Break in time series: Figures on pharmacists before 1999 are not consistent with the data from 1999 onwards because of differences in sources and methodology.
Deviation from the definition:
- Prescriptionists (with a 3-year university degree) are included. This category makes up about 60 % of all pharmacists.
Estimation method:
Break in time series:

Switzerland

Source of data: **Pharmasuisse, Swiss Pharmaceutical Association (FPH)**, Bern; Statistics of members.
Reference period: Data as of December 31.
Coverage: Full coverage, based on survey data.
Deviation from the definition: Data relates to “responsible pharmacists” pharmacies and drugstores.
Estimation method:
Break in time series:

Türkiye

Data not available. Data are available for "professionally active" pharmacists (including pharmacists in administrative, academic or research functions, who are not providing direct care to patients).

United Kingdom

Source of data:
- **Great Britain**: **General Pharmaceutical Council** (GPhC) from 2011 onwards; **Royal Pharmaceutical Society of Great Britain** (RPSGB) prior to 2011.
- **Northern Ireland**: **Pharmaceutical Society of Northern Ireland**.
- **Wales:** Staff directly employed by the NHS | GOV.WALES (https://www.gov.wales/staff-directly-employed-nhs)
Reference period:
- **Wales**: data for 2018 onwards at 31 December.
Coverage:
- Data are the sum of GB data and Northern Ireland data.
- **Great Britain**:
For the purposes of the Pharmacy Order 2010, section 3(2), a person practises as a pharmacist if, whilst acting in the capacity of or purporting to be a pharmacist, that person undertakes any work or gives any advice in relation to the preparation, assembly, dispensing, sale, supply or use of medicines, the science of medicines, the practice of pharmacy or the provision of healthcare. To practise as a pharmacist in Great Britain, an individual must be registered with the GPhC. Therefore the GB numbers are based on pharmacists registered.
Data exclude:
    - Students who have not yet graduated and pre-registration trainees
    Pharmacists in these groups will be included if the definition of practising (Pharmacy Order 2010 3(2)) applies to them and they register with the GPhC:
    - Pharmacists working in administration, research and in other posts that exclude direct contact with the patients (clients)
    - Unemployed pharmacists and retired pharmacists
    - Pharmacists working abroad.
- **Great Britain**: The data will not necessarily exclude these groups, since if they intend to practise or wish to be known as a pharmacist they need to register. A pharmacist would not normally come off the register if they are temporarily unemployed, for example.

- **Northern Ireland**: Data only available from 2005. The number of pharmacists who paid for full membership in the Pharmaceutical Society of Northern Ireland in each year. This will exclude practising pharmacists aged 65+ (these pharmacists are not required to pay for full membership).
- In Northern Ireland, there will be a small percentage of students included (approx. 150 to 200 per year).
Estimation method:
- **Great Britain**: Data estimated by using data from the RPSGB register data 2009 and workforce census of 2005 and 2008. Estimates were calculated by applying the proportion of survey respondents who were found to be "working as a pharmacist" in 2005 and 2008 to the number of registered members of the RPSGB who were living in Britain in each year.
- **Northern Ireland**: Data for 2002 to 2004 estimated based on the contribution to the UK total between 2005 and 2008. In 2011, data for 2007-2009 have been revised and were approximated using the Pharmaceutical Society annual reports excluding an estimate of those in academia, but figures may still include retirees. Data from 2010, however, do exclude staff working in academia and those retired.
Break in time series: change in data source for the Great Britain in 2011. The RPSGB maintained a 'practising' register and a 'non-practising' register. Before 2011, data refer to 'RPSGB Practising Pharmacists register'. The GPhC was established under the Pharmacy Order 2010 and took over the regulatory functions of the RPSGB from 27 September 2010. In accordance with Article 20(3) of the Pharmacy Order, the GPhC register is a register of pharmacists who intend to practise in GB, the Channel Islands or the Isle of Man. Anyone on the RPSGB 'non-practising' register who intended to practise as a pharmacist had to apply to enter the GPhC register of pharmacists. This explains the increase in the number of pharmacists reported in 2011.

United States

Data not available. Data are available for "professionally active" pharmacists (including pharmacists in administrative, academic or research functions who are not providing direct care to patients).

NON-OECD ECONOMIES

Bulgaria

Source of data: Until 1999: **Ministry of Health.** From 2018, **Bulgarian Pharmaceutical Association**, Register.
Reference period: 31st December.
Coverage: Until 1999: All pharmacists who worked in outpatient and inpatient facilities as well as those who worked in health administration and research institutions. Pharmacists working in pharmacies outside the health establishments are not covered. Up to 1999 administrative sources were used.
From 2019: All pharmacists who worked in pharmacies are included.
Deviation from the definition:
Estimation method:
Break in time series: In 2000, this data collection was excluded from the National Statistical Program. No data available for 2000-2018, new data source in 2019.

Croatia

Source of data: Croatian Institute of Public Health, National Register of Health Care Providers.
Reference period: Status on December 31st.
Coverage: Private pharmacists have been included since 1993.
Deviation from the definition:
Estimation method:
Break in time series:

Cyprus

Source of data: **Statistical Service of Cyprus**, Public sector administrative sources.
Reference period: 31st December.
Coverage: Up to 2014, the numbers of practising pharmacists refer to personnel employed in the public sector only. From 2015 onwards, the figures refer to both public and private sectors.
Deviation from the definition:
Estimation method: No estimation, actual data used.
Break in time series: There is a break in series in 2015, since from 2015 onwards the figures refer to both public and private sectors (up to 2014 the figures refer to the personnel employed in the public sector only).

Romania

Source of data: **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:
- From 1999 the data cover all sanitary pharmacists from public and private sector.
- Pharmacists (ISCO/COR 2224) are defined as the persons who have completed studies in pharmacology at university level and who are licensed to practice in pharmacology. Pharmacists' tasks include: preparing and supervising the preparation of drugs according to prescription of physicians and dentists, or establish formulae for drugs, checking prescriptions to assure that the recommended dosages are not exceeded and that the instructions are understood by patients or persons who will administrate the drugs, advising on possible drug incompatibility; dispensing drugs in hospital or selling them in pharmacies.
- The pharmacists who work in education field as teachers and pharmacists from health insurance field or that work in other institutions involved in the administration of the healthcare system (e.g., public health institutes) are not included as practising pharmacists. It was impossible to exclude pharmacists who have administrative function in health units because separate registrations do not exist.
- Excluding: students, unemployed pharmacists in health field, retired pharmacists not still working and pharmacists working abroad, pharmacists working in sales field if is not a pharmacy.
Until 2007 pharmacists working in administration, research and in other posts that exclude direct contact with patients could not be totally excluded.
Deviation from the definition:
Estimation method: