OECD Health Statistics 2025

Definitions, Sources and Methods

Professionally active pharmacists

Professionally active pharmacists are practising pharmacists and other pharmacists for whom their education in pharmacy is a prerequisite for the execution of the job.

Inclusion

- Pharmacists who provide services for patients
- Pharmacists working in administration and management positions requiring a pharmacy education
- Pharmacists conducting research, testing drugs to determine identity, purity and strength
- Pharmacists participating in development of controls and regulations
- Pharmacists preparing scientific papers and reports

Exclusion

- Pharmacists who hold a post/job for which pharmacy education is not required
- 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.
- 1994-1999: **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 professionally active pharmacists include those pharmacists who reported working in pharmacy in the week before the survey. Hence, they are considered to be an 'employed pharmacist'.
- Up to 1999, data are based on annual re-registrations.
- Data include those currently working in pharmacy-community (retail), hospital/clinic and industrial pharmacists, administrators, teachers and educators and other n.e.c. They exclude those looking for work in pharmacy and on extended leave and those not in the pharmacy labour force.

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.

Austria

Data not available.

Belgium

Data not available.

Canada

Source of data:
- 1982-1990: **Canadian Pharmaceutical Association**. Licensed pharmacists (working full-time and part-time) as of April 30 of the following year (e.g., data shown for 1990 are as of April 30, 1991). The figures exclude non-practising and honorary pharmacists. The figures include pharmacists employed in hospitals. Data include licensed pharmacists employed by the Government, the Armed Forces, Drug Manufacturers and Wholesalers, Universities, Pharmaceutical Associations, etc.
- 1991-2008: **National Association of Pharmacy Regulatory Authorities**. Data that include only pharmacists working in hospital and community are as of January 1 of the following year (e.g., data shown for 2008 are as of January 1, 2009).
- 2009-2023: Health Workforce Database, **Canadian Institute for Health Information (CIHI)**, with the exception of Quebec and Nunavut for which data are from the **National Association of Pharmacy Regulatory Authorities (NAPRA)**. 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 Quebec and Nunavut data from NAPRA.
- 2006 Newfoundland and Labrador, New Brunswick and Manitoba was from NAPRA.
- 2007 Manitoba data was from NAPRA.
- 2008 Manitoba and Yukon data was from NAPRA.
- 2014 New Brunswick data was from NAPRA.
- 2014 and 2016-2023 Yukon data was from NAPRA.
- 2020 data for Prince Edward Island are from NAPRA.
Coverage:
- Data are for "professionally active" pharmacists (including pharmacists in administrative, academic or research functions, who are not providing direct care to patients).
- Data exclude pharmacists who have any of the following Employment Status: Employed in Other Than the Profession of Pharmacy, Seeking Employment in the Profession of Pharmacy, Not Seeking Employment in the Profession of Pharmacy, Unemployed and Seeking Employment in the Profession of Pharmacy, Unemployed and Not Seeking Employment in the Profession of Pharmacy, Not Collected or Unknown.
- The 2001 data include an estimate of the number of pharmacists employed in hospitals in the province of British Columbia (587) based on data for 2000 (567) and 2002 (606).
Break in time series:
- 1991: different source and exclusion criteria compared with data prior to 1991. Starting in 1991, data include only licensed pharmacists in community practice and in hospitals and certified clerks as of December 31 of each year.
- 2009: different data source from previous years except for Quebec and Nunavut.

- 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. ..
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

Source of data:
- From 2012 onwards: Calculations by the Direction of Human Talent Development in Health, **Ministry of Health, and Social Protection**.
- 2001-2011: (Ruiz, 2008), Health Human Resources in Colombia - 2008. Balance, skills, and foresight. Center of Studies for Development and Ministry of Social Protection (now the Ministry of Health and Social Protection) - 2009.
Coverage: National.
Estimation method:
- The estimation of stock considers the inputs (professionals graduates or with recognized diplomas in each period) and fewer withdrawals (adjustments for migration, retirement, and death).
- Estimation of the stock of practising pharmacists, who may not be exercising, without distinction of their field of exercise. Data thus include pharmacists working in areas that do not have direct contact with patients (e.g., pharmacists working in administration and research).
- Data presented are estimates.
- Includes professionals in pharmaceutical chemistry. Regents' technologists and pharmacy assistants are not included.

Costa Rica

Data not available.

Czechia

Data not available.

Denmark

Source of data: **The Danish Health Data Authority**, Labour Register for Health Personnel.
Reference period: 31st December.
Coverage: 1992-2021

Estonia

Data not available.

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: Professionally active pharmacists include all licensed pharmacists employed at the end of the given year in health and welfare fields (NACE 86-88), higher education (NACE P85.4) or fields linked to medical research (NACE C21, M72.1) – and licensed pharmacists working in any other field under the occupational title of pharmacist.

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 (years 2011 to 2021).
Reference period: 31st December year N (approximated by data of January1st year N+1).
Coverage:
- Data concern pharmacists in activity (including those working in a pharmacy or those working in pharmaceutical industry, administration, or research).
- All established pharmacists are included in figures.
- 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).

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:
- Included are practising pharmacists working in a public or hospital pharmacy and pharmacists working in administration, research and industry positions (head-count data).
- The data exclude pharmacists working abroad, unemployed, and retired pharmacists and students who have not yet graduated.

Greece

Source of data: **Hellenic Statistical Authority (EL.STAT.)**.
Reference period: 31st December.
Coverage: Data refer to the number of all pharmacists. Hospital pharmacists are included.

Hungary

Source of data:
- Up to 2012: **Hungarian Central Statistical Office** (KSH in Hungarian) on the basis of the data collection of the Ministry of Health.
- From 2013: Data not available.
Reference period: 31st December.
Coverage: According to the latest qualification acquired.
Break in time series:
Break in 2007, when the Office of Health Authorization and Administrative Procedures took over the maintenance of registration from the Ministry of Health.

Iceland

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

pharmacists working as professors, pharmacists working in public administration. Assistant pharmacists (people graduating with a shorter university education than full pharmacists) are included.
- Excluded: Pharmacists not working as pharmacists, unemployed pharmacists.
Break in time series: More detailed data (recently available) showed that some pharmacists had been counted twice (both as pharmacists and proprietary pharmacists). Corrections could not be made further back than 1999.

Ireland

Source of data: **Pharmaceutical Society of Ireland** (https://www.thepsi.ie/gns/home.aspx).
Reference period: Figures refer to as at end of December.
Coverage:
- Figures refer to all persons on the register of the Pharmaceutical Society of Ireland who have indicated to be active in the pharmaceutical industry (be it in Community/Hospital Pharmacies, Regulatory, Academics, etc.).
- Figures include professionally active pharmacists registered with a license to practice in Ireland but may be active abroad.
Deviation from the definition:
Estimation method:
Break in time series:

Israel

Source of data:
- *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.
Coverage:
- *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. Reference period: end of the year.
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. Professionally active pharmacists are employed pharmacists (employees and self-employed) in the Health Services (according to ISIC Rev.4) and in other industries (according to ISIC Rev.4) connected to pharmacy education.
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 2012: **ISTAT, Labour Force Survey**. http://www.istat.it/it/archivio/8263.
- 2013-2020: **COGEAPS** http://wp.cogeaps.it/ and **ISTAT, Labour Force Survey**. http://www.istat.it/it/archivio/8263.
- Since 2021: **ISTAT** Integrated Data System on Health Personnel.
Reference period: 31st December.
Coverage: Practicing pharmacists and pharmacists working in economic sectors other than Health care and Pharmacies.
Deviation from the definition: None.
Estimation method:
- Until 2012: Estimation from the sample survey. Data are affected by the statistical error due to the sample design.

- 2013-2020. the estimate is based on the number of practicing pharmacists (provided by COGEAPS) increased by a percentage of pharmacists working in economic sectors other than Health care and Pharmacies. This percentage is calculated by the labor force survey.
- 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: 2013 and 2021. Break in the time series due to changing of data sources. 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

Data not available.

Korea

Data not available.

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 who work in cies, medicine wholesales enterprises or in medicines production enterprises.
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. 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 pharmacists at the end of the year includes all active pharmacists.
Deviation from the definition:
Estimation method:
Break in time series: Change of data source since 2017.

Luxembourg

Source of data: **Direction de la Santé** – Service des statistiques until 2005; from 2005: Ministère de la Santé. Register of doctors and health professionals.
Reference period: 31st December.

Coverage: Data includes pharmacists working in community pharmacies, hospital pharmacies, community laboratories, wholesale, civil servants, and other sectors.

Mexico

Data not available.

Netherlands

Source of data: **Social Statistical Database of Statistics Netherlands, BIG Register** (official register of health care professionals).
Reference period: The last Friday before Christmas.
Coverage: all licensed and economically active (working) pharmacists.
Deviation from the definition:
Estimation method:
Break in time series: 2014, 2017.
- 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. All working pharmacists are thus included in the professionally active number. The re-registration has led to a decrease in the numbers published so far.
- 2014-2016: The selection of NACE classes has also been applied to self-employed pharmacists.
- 1999-2013: all licensed and economically active pharmacists. For employees: selection on NACE classes: section Q + healthcare related classes (including pharmaceutical industry, pharmaceutical wholesale trade and pharmacists). No requirement for re-registration existed in the official register of health care professionals.
- Up to 2011, figures have been rounded to 5.
-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:
- The Register of the Pharmacy Council sets out numbers for practising pharmacists, non-practising pharmacists and interns for the period 2005-2024 with figures as at 30 June.
- Professionally active pharmacists = Pharmacy Council category for 'Practising Pharmacists'.
- Currently practising pharmacists in the community and in hospitals as well as pharmacists working in administration, teaching, research etc. require an Annual Practising Certificate and are included in the NZ register category for 'Practising Pharmacists'.
- Prior to September 2004, pharmacists simply paid a fee to be on the register, and they were not divided into practising and non-practising. The register was maintained by the Pharmaceutical Society. With the introduction of the Health Practitioners Competence Assurance Act (HPCA), the Pharmacy Council was appointed to manage the registration of pharmacists and the register was split into two sections - practising and non-practising. The data for professionally active pharmacists are based on those who hold a practising certificate for roles (including advice and education) that are included in the scope of practice.
- Data not available prior to 2005.

Norway

Source of data: **Statistics Norway**; Statistics on health-care personnel. Administrative registers. See http://www.ssb.no/hesospers_en/.
Reference period: 3rd week of November.
Coverage:

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: **Ministry of Health, Ministry of Interior and Administration, Ministry of National Defence and Statistics Poland**.
Reference period: 31st December.
Coverage: Includes pharmacists with universities, units of state or local self-government administration or the National Health Fund as primary workplace.
Deviation from the definition:
Estimation method:
Break in time series:

Portugal

Source of data: Statistics Portugal, Health personnel statistics
http://www.ine.pt/xurl/ind/0012844
Reference period: 31st December.
Coverage:
- Data reflect the number of practising and non-practising pharmacists registered at the Portuguese Pharmaceutical Society.
- Pharmacists working abroad are excluded.
Deviation from the definition:
- Pharmacists who hold a post/job for which pharmacy education is not required are included.
Estimation method:
Break in time series:

Slovak Republic

Source of data: **National Health Information Center**.
- From 2005 onwards: Annual report M (MZ SR) 1- 01 on structure and number of health professionals.
Reference period: 31st December.
Coverage: Professionally active pharmacists with completed pharmaceutical education (including those working in management or research).
Deviation from the definition:
Estimation method:
Break in time series:

Slovenia

Source of data: **National Institute of Public Health, Slovenia**; National Health Care Providers Database.
Reference period: 31st December.
Coverage:
- Professionally active pharmacists include practising pharmacists working in pharmacies and in the health-care sector and pharmacists working at H.P.4, 6.1, 6.3-6.9 and H.P.7 providers.
- The category "Professionally active pharmacists" includes practising pharmacists (in pharmacies) as well as pharmacists working for other employers (e.g. pharmaceutical industry). Reporting on the latter depends on the accuracy and reliability of reported data. Additionally, practising pharmacists are recorded

individually within the National Health Care Providers Database, while other pharmacists are only aggregated.
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:
- The data set for professionally active pharmacists has been updated with better estimates in 2010. In this way, all the series follow the methodological definition. Before correction, some figures were in line with the definition of 'economically active professionals' whose values could include unemployed professionals.
- From 1995 to 2010 the data include professionally active 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 professionally active pharmacists was obtained by calculating the number of pharmacists employed in health sector/specialised stores as well as in remaining sectors of NACE rev.2 since 2009, and similarly with NACE Rev.1 and NACE Rev1.1 from 1995 to 2008. Thus, the 'Professionally active' data correspond to pharmacists regardless of NACE sector where they are working.
- 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: **National Board of Health and Welfare**, LOVA-register.
Reference period: 1st November.
Coverage:
- In addition to the NACE-codes used to identify practicing pharmacists the NACE-codes are used to identify professional active pharmacists:
    75.1 - Public authorities.
    80.3 - Higher education establishments.
- Pharmacists include all persons with a Swedish pharmacist license and prescriptionists.
- Full coverage.

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

Data not available.

Türkiye

Source of data:
- From 2000 onwards: **General Directorate for Health Services, Ministry of Health**.
- Up to 1999: **Health Statistics Yearbook - Ministry of Health**.

Reference period: 31st December.
Coverage:
- From 2000 onwards: Pharmacists in the MoH, universities, the private sector and self-employed pharmacists are included.
- Ministry of Health, university, private and other sectors (other public establishments, local administrations and since 2012 MoND-affiliated facilities) are included.
- Pharmacists acting as managers in the MoH, universities and the private sector are included.
- Pharmacists who work abroad or have not graduated from school yet are not included.

Deviation from the definition:
Estimation method:
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.

United Kingdom

Data not available.

United States

Source of data: **U.S. Department of Labor. Bureau of Labor Statistics**/Occupational Employment Statistics. http://www.bls.gov.oes.
Coverage: National.
-The OES survey covers all full-time and part-time wage and salary workers in US non-farm industries.

- Data are not FTE equivalents. The estimates presented include data for-profit and non-profit health service organisations.
- U.S. estimates include pharmacists in hospitals, nursing homes, industry, and managed care.
Deviation from the definition: Data match OECD definition.
Estimation method: National representative sample of the U.S. civilian non-institutionalised household.
Break in time series: 2020 breaks in time series. Due to features of the OEWS methodology, the May 2020 estimates do not fully reflect the impact of the COVID-19 pandemic. Because five of the six survey panels used to produce the estimates date from before the COVID-19 pandemic, only the most recent (May 2020) survey panel will reflect changes in occupational proportions related to the pandemic. In addition, because the OEWS employment estimates are benchmarked to the average of QCEW employment for November 2019 and May 2020, the estimates will reflect only part of the pandemic's impact on employment as of May 2020. Although the May 2020 QCEW data reflect the early employment effects of the COVID-19 pandemic, the November 2019 QCEW employment data precede the COVID-19 pandemic, and therefore do not reflect its impact. As a result of the pandemic, response rates for the November 2019 and May 2021 panels were lower in some areas. Lower response rates may negatively affect data availability and data quality.
For more information about the impact of the COVID-19 pandemic on OEWS, see the https://www.bls.gov/oes/2020/may/oes_tec.htm and the BLS OEWS COVID-19 impact statement (https://www.bls.gov/covid19/effects-of-covid-19-pandemic-on-occupational-employment-and-wage-statistics.htm).

NON-OECD ECONOMIES

Bulgaria

Source of data: **Bulgarian Pharmaceutical Association**, Register.
Reference period: 31st December.
Coverage: According to the national legislation all pharmacists who are professionally active in Bulgaria have to be included in the Register at the Bulgarian Pharmaceutical Association.
Deviation from the definition:
Estimation method:
Break in time series:

Croatia

Data not available.

Cyprus

Data not available.

Romania

Source of data: **National Institute of Statistics**, The activity of the sanitary and health care network – annual survey performed by INS.
Reference period: data as of 31st December.
Coverage:
- From 1970 to 1998, data refer only to the public sector.
- Before 1990 all pharmacies were only in the public sector, so all pharmacists worked in the public sector. After 1990 an increasingly large number of drugstores was privatized. The trend of sharp decrease in the number of pharmacists between 1991 and 1998 is due to the transition of the pharmacies and pharmacists from public to private sector.
- 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 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 number of professionally active pharmacists include: 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).
- Excluding: students, unemployed pharmacists in health field, retired pharmacists and pharmacists working abroad, pharmacists working in sales field if is not a pharmacy.
Deviation from the definition:
Estimation method:
Break in time series: 1999.