Number of

- physicians per 1,000 population
- nurses per 1,000 population
- midwives per 1,000 population
- dentist per 1,000 population
- pharmacists per 1,000 population
- public and environmental health workers per 1,000 population
- community health workers per 1,000 population
- laboratory health workers per 1,000 population
- other health workers per 1,000 population
- health management and support workers per 1,000 population

Rationale for use

The availability and composition of human resources for health is an important indicator of the strength of the health system. Even though there is no consensus about the optimal level of health workers for a population, there is ample evidence that worker numbers and quality are positively associated with immunization coverage, outreach of primary care, and infant, child and maternal survival.

Definition

**Physicians**: includes generalists and specialists.

**Nurses**: includes professional nurses, auxiliary nurses, enrolled nurses and other nurses, such as dental nurses and primary care nurses.

**Midwives**: includes professional midwives, auxiliary midwives and enrolled midwives. Traditional birth attendants, who are counted as community health workers, appear elsewhere.

While much effort has been made, caution must be exercised in using the data for nurses and midwives; for some countries the available information does not distinguish clearly between the two groups.

**Dentists**: includes dentists, dental assistants and dental technicians.

**Pharmacists**: includes pharmacists, pharmaceutical assistants and pharmaceutical technicians.
Laboratory health workers: includes laboratory scientists, laboratory assistants, laboratory technicians and radiographers.

Environment and public health workers: includes environmental and public health officers, sanitarians, hygienists, environmental and public health technicians, district health officers, malaria technicians, meat inspectors, public health supervisors and similar professions.

Community health workers: includes traditional medicine practitioners, faith healers, assistant/community health education workers, community health officers, family health workers, lady health visitors, health extension package workers, community midwives, institution-based personal care workers and traditional birth attendants.

Other health workers: includes a large number of occupations such as dieticians and nutritionists, medical assistants, occupational therapists, operators of medical and dentistry equipment, optometrists and opticians, physiotherapists, podiatrists, prosthetic/orthotic engineers, psychologists, respiratory therapists, speech pathologists, medical trainees and interns.

Health management and support workers: includes general managers, statisticians, lawyers, accountants, medical secretaries, gardeners, computer technicians, ambulance staff, cleaning staff, building and engineering staff, skilled administrative staff and general support staff.

Associated terms

The above classification of health workers is based on education, regulation, activities and tasks criteria (combined WHO and ILO classification system).

The 2004 Joint Learning Initiative report on human resources for health used three categories too identify low, medium and high density of health workers: less than 2.5, 2.5-5.0 and 5.0 or more health workers respectively per 1,000 population.

Data sources

The indicators needed to describe the characteristics of the health workforce and monitor its development over time are often generated from a multitude of sources and cover many areas (such as profession, training level and industry of employment). The data provided were compiled from four major sources: establishment surveys, household and labour force surveys, population and housing censuses and records from professional and administrative sources.

The diversity of sources meant that harmonization had to be undertaken to arrive at comparable estimates of the health workforce for each Member State. The harmonization process was based on internationally standardized classification systems, mainly the International Standard Classification of Occupations (ISCO), but also the International Standard Classification of Education (ISCED) and the International Standard Industrial Classification of all Economic Activities (ISIC).

Some difficulties of harmonizing data based on a variety of definitions and classification systems could not be solved through the application of the ISCO. For example, in order to include country-specific types of workers, many ministries of health apply their own national classification system. Community health workers and traditional birth attendants are not captured through the standard ISCO system, but sometimes account for up to a third of the health workforce and form an important part of the infrastructure for service delivery.
Apart from harmonization of health workforce categories, an additional challenge was the triangulation of various data from different sources in one country. Generally, when data were available from more than one source, we chose censuses because they provide information on both health service providers and health management and support workers. However, not many recent censuses with sufficiently detailed ISCO coding were both available and accessible.

The present data set includes recent and sufficiently detailed census data from 12 countries: Australia, Bolivia, Brazil, Costa Rica, Honduras, Mexico, Mongolia, New Zealand, Panama, Paraguay, Thailand and Turkmenistan.

For a further three – Estonia, the United Kingdom and the United States of America – the data presented are from representative labour force or household surveys that are part of the Luxembourg Income (or Employment) Study. These surveys were as detailed as census data in terms of the occupational categories they provided and at the same time were based on the ISCO classification system (in the case of Estonia) or a national system with equivalent detail (in the cases of the United Kingdom and the United States surveys).

For most countries in the African Region as well as for many countries in the South-East Asia Region and the Eastern Mediterranean Region, the data presented were obtained through a special survey developed by WHO and executed through its regional and country offices. As much as possible, the survey attempted to obtain information on both health service providers and health management and support workers; it was based mainly on the ISCO system but maintained some country-specific classifications for selected occupations. The survey was implemented in the following countries:


For the following countries, which were not included in the WHO special survey, data were obtained from records of departments of health, lists maintained by public service commissions or other administrative sources:

Argentina, Belize, Brunei, Cambodia, Chile, China, Colombia, Cook Islands, Cuba, Dominican Republic, Ecuador, El Salvador, Fiji, Finland, Jamaica, Malaysia, Nicaragua, Uruguay, Venezuela, Papua New Guinea, Philippines, Tonga, Tuvalu, Viet Nam.

For the remaining countries, the relevant data were compiled from the OECD Health Data database, the European Health for All database or the previous version of WHO's Global Atlas for the Human Resources for Health. These data were the least detailed of all, containing information on only four to five occupations and almost always containing no information on health management and support workers.

The countries for which data was obtained from these sources are the following:

Afghanistan, Albania, Andorra, Angola, Antigua and Barbuda, Armenia, Austria, Azerbaijan, Bahamas, Barbados, Belarus, Belgium, Bosnia and Herzegovina, Canada, Croatia, Cyprus, Czech Republic, Denmark, Dominica, France, Georgia, Germany, Greece, Grenada, Guatemala,
Guyana, Haiti, Hungary, Iceland, Ireland, Israel, Italy, Japan, Kazakhstan, Kiribati, Korea, Rep., Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Latvia, Libya, Lithuania, Luxembourg, The former Yugoslav Republic of Macedonia, Malta, Marshall Islands, Micronesia (Federated States of), Moldova, Monaco, Nauru, Netherlands, Niue, Norway, Palau, Peru, Poland, Portugal, Qatar, Romania, Russian Federation, Samoa, San Marino, Serbia and Montenegro, Slovakia, Slovenia, Solomon Islands, Somalia, Spain, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Sweden, Switzerland, Syrian Arab Republic, Tajikistan, Trinidad and Tobago, Turkey, Ukraine, United Arab Emirates, Uzbekistan, Vanuatu.
Country reports to WHO regional offices or headquarters, based on administrative records such as databases of registered physicians/nurses in the country. In some countries data are obtained from the census, labour force or other surveys that include questions about occupations of the household members. Data on physicians and nurses data are generally the best human resource information available.

Methods of estimation

No methods of estimation have been developed.

Disaggregation

- References


Database


Comments