

ANNEX TABLE 1

Annex Table 1 provides a set of policy-relevant indicators on major health expenditure aggregates. The indicators include the total expenditure on health, broken down into public/general government expenditure on health and private health expenditure. Selected components are presented of public health expenditures (social security expenditure on health) and private health expenditures (health insurance and prepaid schemes and out-of-pocket expenditure). General government expenditure on health is also presented as a ratio to total general government expenditure (GGE). Data on external resources, which are flows earmarked for health originating outside the country and treated as a financing source, are also available. External resources represent all outside funds that finance the above-mentioned general government health expenditure and private health expenditure.

The data include the best figures that were accessible to WHO until the end of 2006 for its 193 Member States (the former state union of Serbia and Montenegro was considered as one member state up to 2005). Subsequent updates, additional years and detailed information are available on the WHO National Health Accounts (NHA) web site at <http://www.who.int/nha/en/>.

During the past half decade, an increasing number of countries have been releasing more comprehensive data on health spending: about 100 countries have produced full national health accounts (for one year or more), 30 report expenditures on health to the Organisation for Economic Co-operation and Development (OECD), released as *OECD Health Data*, 6 Asia-Pacific, and ---European and ---- OECD countries submitted returns to the Joint EUROSTAT_OECD_WHO System of Health Accounts data collection.

WHO publishes data collated from national and international sources and reports. Data are consolidated, triangulated and harmonized in the NHA framework, using international classifications and standard national accounts procedures. Standard accounting estimation

and extrapolation techniques have been used to provide time series spanning 10 years. As in previous years, a draft template of the estimates was sent to ministers of health seeking their comments and assistance in obtaining additional information. Their responses and those of other government agencies, such as statistical offices, provided valuable feedback that has improved the estimates for the health expenditure indicators reported here. WHO staff at headquarters and in regional and country offices facilitate this process. Consultations and discussions spanning seven years, with ministries of health, central statistical offices and other agencies, with domestic and international experts and networks have helped in developing national capacity.

Measurement of expenditure on health

Health accounting (HA) is a synthesis of the financing and spending flows recorded in the operation of a health system. It offers the potential to monitor all transactions from funding sources to the distribution of benefits according to geographical, demographic, socioeconomic and epidemiological characteristics. NHA are further related to the macroeconomic and macrosocial accounts whose methodological approach they borrow.

An important methodological contribution to the construction of HA is the *Guide to producing national health accounts with special applications for low-income and middle-income countries* (1), itself grounded on the OECD *A System of health accounts* (2) principles. This methodology rests on the foundations of the United Nations *System of national accounts* (commonly referred to as SNA93) (3).

Because HA is a discipline in development – not only regarding methods but also regarding implementation by countries – several Member States have modified previous estimates in order to improve measurement. Reasons for improved estimates can be categorized into five groups: 1) new NHA reports, providing the first consolidated basis of a country's health spending behavior, 2) repeat NHA reporting yielding improved estimates; 3) greater diffusion of NHA results leading to a more critical review of the data and subsequent enhancement resulting in greater plausibility of the estimates, 4) new

data sources, where there is access to new data including more detailed social security data or newly released household expenditure survey results; 5) better access to government data 6) improvement in the identification of classifications and flows, e.g instances of double counting; and 7) macro data updated. Caution is required when comparing newly published estimates with previously published series or when trying to construct a series longer than the currently available multiyear series (please refer to the country specific files on the web site for longer reconciled series).

Definitions

Total health expenditure (THE) has been defined as the sum of general government expenditure on health (commonly called public expenditure on health), and private expenditure on health. General government health expenditure (GGHE) is estimated as the sum of outlays by government entities to purchase health care services and goods: notably by ministries of health and social security agencies. Private health expenditure (PvtHE) includes total outlays on health by private entities: notably commercial insurance, non-profit institutions, households acting as complementary funders to the previously cited institutions or disbursing unilaterally on health commodities. The revenue base of these entities may comprise multiple sources, including external funds. This necessitates taking into account essential attributes of health accounting such as comprehensiveness, consistency, standardization and timeliness when building estimates. Figures are originally estimated in million national currency units (million NCU) and in current prices.

GGHE comprises the outlays earmarked for health maintenance, restoration or enhancement of the health status of the population, paid for in cash or in kind by the following financing agents:

- central/federal (ministry of health or other ministries), state/provincial/regional, and local/municipal authorities;
- extrabudgetary agencies, principally social security schemes;

- direct expenditure on health care by parastatals and public firms. Parastatals are corporations and quasi-corporations engaged in commercial or other forms of activities and are subject to control by government units. They may be market oriented and sell goods and services at economically significant prices.

All three can be financed through domestic funds or through external resources (mainly as grants passing through the government or loans channeled through the national budget).

GGHE includes both recurrent and investment expenditures (including capital transfers) made during the year. The classification of the functions of government (COFOG) promoted by the United Nations, the International Monetary Fund (IMF), OECD and other institutions sets the boundaries for public outlays. In many instances, the data contained in the publications accessed are limited to those supplied by ministries of health. Expenditure on health, however, should include all expenditure when the primary intent is to improve health, regardless of the implementing entity. An effort has been made to obtain data on health expenditure by other ministries, the armed forces, prisons, schools, universities and others, to ensure that all resources accounting for health expenditures are included. Furthermore, all expenditures on health include final consumption, subsidies to producers, and transfers to households (chiefly reimbursements for medical and pharmaceutical bills)

The figures for social security expenditure on health comprise direct outlays to medical care providers and to suppliers of medical goods as well as reimbursements to households and the supply of services in kind to the enrolees. Social security or National health Insurance schemes are imposed and controlled by government units for the purpose of providing social benefits to members of the community as a whole, or to particular segments of the community. Government-controlled and mandatory social security schemes that apply only to a selected group of the population, such as public sector employees only, are included here. A major hurdle faced by accountants is the need to avoid double counting and exclude cash benefits for periods of sickness or loss of employment, which are classified as income maintenance expenditure.

PvtHE has been defined as the sum of outlays for health by the following private entities:

- Prepaid plans and risk-pooling arrangements: the outlays of private insurance schemes and private social insurance schemes (with no government control over payment rates and participating providers but with broad guidelines from government), commercial and non-profit (mutual) insurance schemes, health maintenance organizations, and other agents managing prepaid medical and paramedical benefits (including the operating costs of these schemes). Private insurance enrollment may be contractual or voluntary, and conditions and benefits are agreed under voluntary basis between the insurance agent and the beneficiaries.
- Firms' expenditure on health: Outlays on health services by all resident corporations and quasi-corporations not controlled by government, additional to those channeled through social security and private medical insurance. These comprise direct outlays to medical care providers and to suppliers of medical goods as well as reimbursements to households and the supply of services in kind to the employees and sometimes their relatives. At the request of several governments, the WHO does not normally report parastatals expenditure on health under private expenditure but under general government expenditure on health; This is one difference of WHO reporting compared to OECD and EUROSTAT reporting.
- Non-profit institutions serving households (e.g. NGOs): Outlays on health by non-profit institutions serving households (NPISHs), which are not predominantly financed and controlled by government, that provide goods or services to households free or at prices that are not economically significant. This includes funding from internal and external sources.
- Household out-of-pocket spending: the direct outlays of households, including gratuities and in-kind payments made to health practitioners and to suppliers of pharmaceuticals, therapeutic appliances and other goods and services, whose primary intent is to contribute to the restoration or the enhancement of the health status of individuals or population groups. This includes household payments to public services, non-profit institutions or nongovernmental organizations and non-reimbursable cost sharing, deductibles, co-payments and fees for services. It excludes payments made by

enterprises which deliver medical and paramedical benefits, mandated by law or not, to their employees and payments for overseas treatment. It also excludes transport and food costs (except those paid officially to the providers) and contributions to pre-paid pooling schemes. A household is an individual or a group of persons sharing the same living accommodation, which pool some, or all, of their income and wealth and which consume certain types of goods and services collectively, mainly housing and food.

External resources are those financing sources, channelled towards health by all non-resident institutional units that enter into transactions with resident units, or have other economic links with resident units, explicitly labelled or not to health, to be used as means of payments for health goods and services by financing agents in the government or private sectors. It includes donations and loans, in cash and in-kind resources.

The other institutions and entities reported are public or private expenditures on health acting as financing agents. Financing agents are entities that pool health resources collected from different financing sources (such as households, government, external agencies, firms and nongovernmental organizations) and pay directly for or purchase health care.

Gross domestic product (GDP) is the value of all goods and services provided in a country by residents and non-residents without regard to their allocation among domestic and foreign claims. Expenditure-based GDP (with small adjustments) corresponds to the total sum of expenditure (consumption and investment) of the private and government agents of the economy during the reference year.

General government expenditure (GGE) includes consolidated direct outlays and indirect outlays (for example, subsidies to producers, transfers to households), including capital, of all levels of government (central/federal, provincial/regional/state/district, and local/municipal authorities), social security institutions, autonomous bodies, and other extrabudgetary funds.

Data sources

Data are provided 1996–2005, revising and extending previous series. National sources include: national health accounts reports, public expenditure reports, statistical yearbooks and other periodicals, budgetary documents, national accounts reports, central bank reports, nongovernmental organization reports, academic studies, and reports and data provided by central statistical offices, ministries of health, ministries of finance and economic development, planning offices, and professional and trade associations, statistical data on official web sites, and household surveys.

Specific health accounts or comprehensive health financing documents and studies (including both private and public sectors) are available for the following countries presented by WHO regional groupings:

African Region: Algeria, Benin, Burkina Faso, Cameroon, Ethiopia, Ghana, Guinea, Kenya, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe.

Region of the Americas: Argentina, Bahamas, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, United States of America, Uruguay.

South-East Asia Region: Bangladesh, India, Indonesia, Myanmar, Sri Lanka, Thailand.

European Region: Albania, Armenia, Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Republic of Serbia, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.

Eastern Mediterranean Region: Bahrain, Djibouti, Egypt, Iran, Jordan, Lebanon, Morocco, Oman, Sudan, Tunisia, Yemen.

Western Pacific Region: Australia, China, Japan, Malaysia, Mongolia, New Zealand, Papua New Guinea, Philippines, Republic of Korea, Samoa, Tonga, Viet Nam.

OECD HD series supply GGHE and PvtHE entries for its 30 Member countries. For GGHE, a larger number of reports on expenditure on health from non-OECD countries have been made available in recent years. The IMF *Government finance statistics* now reports central government expenditure on health for over 100 countries, as well as regional and local government outlays on health for a third of these countries.

Government finance data, together with statistical yearbooks, public finance reports, reports from social security agencies, and status reports on the implementation of health policies, facilitate the estimation of GGHE for Member States which do not yet release this information.

Most data on private expenditure on health come from NHA reports, statistical yearbooks and other periodicals, statistical data on official web sites, reports of nongovernmental organizations, household expenditure surveys, academic studies, and relevant reports and data provided by central statistical offices, ministries of health, insurance agencies, professional and trade associations and planning councils. Standard extrapolation and estimation techniques are used to obtain the figures for missing years.

Information on external resources is taken from the Development Action Committee of the OECD (DAC/OECD) (4) and from reports by recipient countries. Where Member States explicitly monitor the external resources entering their health system, their estimates are used. For the years, where Member States' external resources data is not available to WHO, DAC disbursement entries, when available, are used. Otherwise DAC commitment entries are adjusted to estimate the likely disbursements in the country.

For macro variables, several international references facilitate the compilation of needed estimates, including the latest estimates from IMF *Government finance statistics yearbook* (5), *International financial statistics yearbook* (6) and *International financial statistics* (7); the Asian Development Bank *Key indicators* (8); *OECD health data* (9); the United Nations *National accounts statistics: main aggregates and detailed tables* (10);

United Nations Statistics Division, and the Economic Commission for Europe of the United Nations; The World Bank's *World development indicators (11)*, IMF Selected Issues paper and Statistical Appendix, unpublished data from the IMF research department, the Caribbean Community Secretariat (CARICOM), the Central Bank of West African States, the Bank of Central African States; and national series from ministries of finance or central banks.

The main sources of GDP are latest current year estimates from *OECD National Accounts* and *OECD Health Data* for the OECD countries; For non OECD countries, the United Nations *National accounts statistics* and data from other United Nations agencies are used. Countries reporting according to SNA93 supply separate estimates for household consumption and for non profit institutions (mainly non governmental organizations); their sum is akin to the private consumption aggregates for countries reporting still under SNA68 rules. OECD and EUROSTAT also report general government expenditure; for the other countries, national sources or Government Financial Statistics are used

Methodological notes

Variations in the boundaries used in the original sources have been adjusted as far as possible to allow standardized definition. For example, in some countries, GGHE and hence THE may include expenditure on environmental health, education of health personnel and health research activities, whereas other countries treat these expenses as a memorandum item. In the tables reported here, the principles outlined in the *Guide to producing national health accounts with special applications for low-income and middle-income countries (1)* have been followed, which consider these expenditures as health-related and hence have not been included in THE. Inability to exclude these has sometimes led to publication of overestimated ratios of THE to GDP. Availability of new information and subsequent adjustment have then produced lower figures than previously reported.

External resources in these estimates are treated differently from the Rest of the World (ROW) resources under the OECD *System of Health Accounts*. Under OECD, ROW funds are classified under sources of financing (same as financing agents under NHA categories) and include only grants passing through the countries.

In some cases, expenditures reported under the government finance classification are limited to those of the ministry of health rather than all expenditures on health regardless of source. In such cases, wherever possible, other series have been estimated to supplement that source. GGHE and, therefore, the figures for THE, may sometimes be an underestimate in the cases when it has not been possible to obtain data for local government, nongovernmental organizations, other ministries and insurance expenditures.

The IMF *International financial statistics* provides central government disbursement (CGD) which approximates GGE in many developing countries without autonomous local taxing power. The CGD figures have been complemented whenever possible by data for local/municipal governments as well as some social security payments for health. Several public finance audits, executed budgets, budget plans, statistical yearbooks, web sites, World Bank and Regional Development Bank reports, and academic studies have been consulted to verify GGE.

The entries are not always a continuous time series for all countries, necessitating a search for the relevant national publications to triangulate and complete the information. Also, previous time series have been updated when benchmarking revisions or changes in methodology to estimate particular items, especially out-of-pocket expenditures, for an extensive HA reconstruction are undertaken. Changes in ratios will occur when estimates of GDP are made using the current *System of national accounts* SNA93 instead of the 1968 version (SNA68).

Several quality checks have been used to assess the validity of the data. The data are triangulated with information from different sources and with the macro data available from the country to obtain the best estimates. For example, the aggregate government

health expenditure data are compared with total GGE, or out-of-pocket expenditure is compared with total or household private consumption expenditure. Furthermore, estimated expenditure on health is compared against inpatient care expenditure, pharmaceutical expenditure data and other records (including programme administration) to ensure that the outlays for which details have been compiled constitute the bulk of the government and private expenditure on health. The estimates obtained are thus plausible in terms of a system's description.

ANNEX TABLE 2

Total expenditure on health and general government expenditure on health are also presented in per capita terms. The methodology and sources to derive THE and GGHE are those discussed in the notes above. Ratios are represented in per capita terms by dividing the expenditure figures by population figures. The per capita figures are expressed in US dollars at an average exchange rate (the observed annual average or year end number of units at which a currency is traded in the banking system). The per capita values in local currency units are also presented in international dollar estimates, derived by dividing these by an estimate of their purchasing power parity (PPP) compared with US dollars, i.e. a rate or measure that minimizes the consequences of differences in price levels existing between countries.

OECD Health Data is the major source for population estimates for the 30 OECD Member countries, just as it is for other health expenditure and macroeconomic variables. For European and central Asian countries that are part of the UNECE but are not members of OECD, the UNECE data is used. All estimates of population size and structure, other than for the above mentioned countries, are based on demographic assessments prepared by the United Nations Population Division (12). The estimates are of de facto population, and not the de jure population, in each Member State.

The exchange rates (annual average) have mainly been obtained from the IMF *International financial statistics*. For the remaining countries, United Nations, World Bank, and Asian Development Bank reports have been used. While official rates are mostly used, market exchange rates sometimes have also been used. Further, complete change in currency in a particular year has at times led to a revision of the full series.

For OECD Member countries, the OECD PPP has been used to calculate international dollars. For European and central Asian countries that are part of the UNECE but are not members of OECD, the UNECE PPPs are used. For non-European and non-OECD countries, international dollars have been estimated by WHO using methods similar to those used by the World Bank.

References

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