

ANNEX TABLE 5

National health accounts (NHA) are a synthesis of the financing and spending flows recorded in the operation of a health system, with the potential to monitor all transactions from funding sources to the distribution of benefits across geographical, demographic, socioeconomic and epidemiological dimensions. NHA are related to the macroeconomic and macrosocial accounts whose methodological approach they borrow. Annex Table 5 provides the best figures that were available to WHO up to December 2004 for each of its 192 Member States. Any subsequent updates will be made available on the WHO NHA website at <http://www.who.int/nha/en/>. Although more and more countries collect health expenditure data, only about 95 either produce full national health accounts (some of them have done so only once) or report expenditure on health to OECD. Nationally and internationally available information has been identified and compiled for each country. Standard accounting estimation and extrapolation techniques have been used to provide time series. A policy-relevant breakdown of the data (for example, general government/private expenditure) is also provided. Each year draft templates are sent to ministers of health seeking comments and their assistance in obtaining additional information should that be necessary. The constructive responses from ministries and other government agencies such as statistical offices have provided valuable information for the NHA estimates reported here. WHO staff at headquarters and in regional and country offices participated in this process.

An important methodological contribution to producing national health accounts is available in the *Guide to producing national health accounts with special applications for low-income and middle-income countries* (27). This guide is based on the Organisation for Economic Co-operation and Development (OECD) *System of health accounts* (28). Both documents were built on the principles of the *United Nations System of national accounts* (commonly referred to as SNA93) (29).

The principal international references used to produce the tables are the International Monetary Fund (IMF) *Government finance statistics yearbook, 2003* (30), *International financial statistics yearbook, 2003* (31) and *International financial statistics* (November 2004) (32); the Asian Development Bank *Key indicators 2004* (33); *OECD health data 2004* (34) and *International development statistics* (35); and the United Nations *National accounts statistics: main aggregates and detailed tables, 2001* (36). The organizations charged with producing these reports facilitated the supply of advance copies to WHO and gave additional related information, and their contributions are acknowledged here with gratitude.

National sources include: national health accounts reports, public expenditure reports, statistical yearbooks and other periodicals, budgetary documents, national accounts reports, statistical data on official web sites, 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.

Annex Table 5 provides both updated and revised figures for 1998–2002. Figures have been updated when new information that changes the original estimates has become available (e.g. for India, details of expenditure on social security, private insurance, by firms and by other ministries became available this year which led to a revision of the ratios published in *The World Health Report 2004*). This includes benchmarking revisions, whereby an occasional wholesale revision is made by a country owing to a change in methodology, when a more extensive NHA effort is undertaken, or when shifting the main denominator from the *System of national accounts* 1968 version (SNA68) to SNA93. This category includes benchmarking revisions, whereby an occasional wholesale revision is made by a country owing to a change in methodology, when a more extensive NHA effort is undertaken, or when shifting the main denominator from the *System of national accounts* 1968 version (SNA68) to SNA93.

Total expenditure on health has been defined as the sum of general government health expenditure (GGHE, commonly called public expenditure on health), and private health expenditure (PvtHE). All estimates are calculated in millions of national currency units (million NCU) in current prices. The estimates are presented as ratios to gross domestic product (GDP), to total health expenditure (THE), to total general government expenditure (GGE), to general government health expenditure (GGHE), or to total private health expenditure (PvtHE).

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. This (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. The United Nations *National accounts statistics: main aggregates and detailed tables, 2001 (36)*, Table 1.1, was the main source of GDP estimates. Updated 2002 unpublished figures were obtained for most countries. For most Member countries of the OECD, the macroeconomic accounts have been imported from the OECD health data 2004 (34). Updates for some countries (e.g. Australia) that had not yet been transmitted to the OECD were provided by the country. For non-OECD countries, collaborative arrangements between WHO and the United Nations Statistics Division and the Economic Commission for Europe of the United Nations have permitted the receipt of advance information on 2002. For Lebanon and the United Arab Emirates, United Nations Economic and Social Commission for Western Asia data were used. Likewise, the estimates for Liberia, Nauru and Somalia originate from the web site of the United Nations Statistical Department (UNSTAT).

When United Nations data were unavailable, GDP data reported by the IMF (*International financial statistics*, November 2004) have been used. Unpublished data from the IMF Research Department were used for Palau and Suriname. In cases where none of the preceding institutions reported updated GDP information, national series were used. This covers Andorra, Djibouti, Cape Verde, Cook Islands, Georgia, Jamaica, Jordan, the Federated States of Micronesia, Niue, Pakistan, the Russian Federation, Solomon Islands, Sudan, Tonga and Yemen. Figures for Afghanistan, Kiribati, Myanmar, Samoa and Tuvalu were obtained from the Asian Development Bank. The estimates for Comoros, the Democratic Republic of the Congo, the Democratic People's Republic of Korea, Eritrea, Ghana, Guinea, Mauritania, Timor-Leste and Zimbabwe originate from the World Bank (WDI). Estimates for Benin, Cameroon, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea Bissau, Mali, Niger, Senegal and Togo originate from the Banque des Etats de l'Afrique Centrale (BEAC). Those for Antigua and Barbuda, Barbados and Grenada are taken from the Caribbean Community Secretariat (CARICOM).

The data for China exclude estimates for Hong Kong Special Administrative Region and Macao Special Administrative Region. The public expenditure on health data for Jordan includes contributions from United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) to Palestinian refugees residing in Jordanian territories. The 1998 health expenditure data for Serbia and Montenegro included the provinces of Kosovo and Metohia; for 1999 to 2002 the data excluded these territories placed under the administration of the United Nations.

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 municipal/local authorities), social security institutions, autonomous bodies, and other extrabudgetary funds. *OECD health data 2004* and *National accounts of OECD countries: detailed tables 1991/2002, 2004 edition, Volume II*, Table 12, supplies information on GGE for 26 OECD Member countries (37). The IMF *Government finance statistics yearbook* supplies GGE, and IMF *International financial statistics* reports central government disbursement figures. These are complemented by data for local/municipal governments (as well as some social security payments for health data received from the IMF). Several other 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 general government expenditure. During the consultative process, national authorities had the opportunity to review the GGE figures for their countries.

GGHE comprises the outlays earmarked for the enhancement of the health status of the population and/or the distribution of medical care goods and services among population by the following financing agents:

- central/federal, state/provincial/regional, and local/municipal authorities;
- extrabudgetary agencies, principally social security schemes;
- parastatals' direct expenditure on health care.

All three can be financed through domestic funds or through external resources (mainly grants passing through the governments or loans channelled through the federal budget).

The figures for social security and extrabudgetary expenditure on health include

purchases of health goods and services by schemes that are mandatory and controlled by government. A major hurdle has been the need to verify that no double counting occurs and that no cash benefits for sickness and/or loss of employment are included in the estimates, as these are classified as income maintenance expenditure. All health expenditures include final consumption, subsidies to producers, and transfers to households (chiefly reimbursements for medical and pharmaceutical bills). General government health expenditures include both recurrent and investment expenditures (including capital transfers) made during the year. The classification of the functions of government, promoted by the United Nations, IMF, OECD and other institutions, sets the boundaries. In many instances, the data contained in the publications are limited to those supplied by ministries of health. Expenditure on health, however, should include expenditure where 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. Variations in the boundaries used in the original sources were adjusted to allow a standardized definition. For example, in some countries THE includes expenditure on environmental health, training of health personnel and health research activities whereas others treat these expenses as memorandum items. Inclusion of these have sometimes led to a ratio of THE to GDP that is higher than previously reported, as in case of Togo. Some countries report expenditure on health by parastatal institutions as public whereas others include them as private. Many countries following the OECD *System of health accounts* framework treat environmental health, training and health research as memorandum items. 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* (27) were followed.

OECD health data 2004 supplies GGHE and PvtHE entries for its Member countries, with some gaps mainly for the year 2002. The data for 2002 for Japan and Turkey have been projected by WHO and others such as Australia and the Netherlands provided data directly to WHO to fill these gaps. A larger number of health expenditure reports from non-OECD countries were available than in previous years which allowed a more complete estimation than in recent *World health reports*. The IMF *Government finance statistics* reports central government expenditure on health for over 120 countries, and regional government outlays and local government outlays on health for a third of these countries. The entries are not continuous time series for all countries, but the document serves as an indicator that a reporting system exists in those countries allowing a thorough search to be conducted for the relevant national publications. In some cases expenditures reported under the government finance classification were limited to those of the ministry of health rather than all expenditures on health regardless of ministry. In such cases, wherever possible, other series were used to supplement that source. Government finance data, together with statistical yearbooks, public finance reports, and analyses reporting on the implementation of health policies, have led to GGHE estimates for most WHO Member States. Information on Brunei Darussalam, for example, was accessed from national sources, but also from an International Medical Foundation of Japan data compendium (38). This source provided a means for double checking health budget data for seven countries.

Private expenditure on health has been defined as the sum of expenditures by the following entities:

- Prepaid plans and risk-pooling arrangements: the outlays of private and private social (with no government control over payment rates and participating providers but with broad guidelines from government) insurance schemes, 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).
- Firms' expenditure on health: outlays by public and private enterprises for medical care and health-enhancing benefits other than payment to social security.
- Non-profit institutions serving mainly households: resources used to purchase health goods and services by entities whose status does not permit them to be a source of income, profit or other financial gain for the units that establish, control or finance them. 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 suppliers of

pharmaceuticals, therapeutic appliances, and other goods and services, whose primary intent is to contribute to the restoration or to 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, copayments and fee-for-service. 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.

Most of the information on private health expenditures comes 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, professional and trade associations and planning councils (eg. for Qatar's out-of-pocket expenditures). For most OECD Member countries they are obtained from *OECD health data 2004*. Standard extrapolation and estimation techniques were used to obtain the figures for missing years.

Information on external resources was received by courtesy of the Development Action Committee of the OECD (DAC/OECD). Some Member States explicitly monitor the external resources entering their health system, information that has been used to validate or amend the order of magnitude derived from the DAC entries which often related to commitments rather than disbursements.

External resources appearing in Annex Table 5 are those entering the system as a financing source, i.e. all external resources whether passing through governments or private entities are included. On the other hand, other institutions and entities under the public or private health expenditures are financing agents. Financing agents include institutions that pool health resources collected from different sources that pay directly for health care from their own resources.

Several quality checks have been used to assess the validity of the data. For example, estimated health expenditure has been compared against in-patient 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/private expenditure on health. The estimates obtained are thus plausible in terms of systems' descriptions. For countries where there is a severe scarcity of information (such as Afghanistan, Democratic People's Republic of Korea, Equatorial Guinea, Gabon, Guinea Bissau, Libya, Sao Tome and Principe, Somalia, Sudan and Turkmenistan), indirect estimating methods were used. WHO intends to introduce a grading system in future publications reporting NHA data, after consultation with partners, showing the extent to which data have had to be estimated.

The aggregate governmental health expenditure data have also been compared with total GGE, providing an additional source of verification. It is possible that the GGHE and, therefore, the figures for total health expenditure, may be an underestimate in the cases where it is not possible to obtain data for local government, nongovernmental organizations and insurance expenditures.

ANNEX TABLE 6

Annex Table 6 presents total expenditure on health and general government expenditure on health in per capita terms. The methodology and sources to derive THE and GGHE have been discussed in the notes to Annex Table 5. Ratios are represented in per capita terms by dividing the expenditure figures by population figures. These per capita figures are expressed first in US dollars at an average exchange rate, or the observed annual average number of units at which a currency is traded in the banking system. They are also presented in international dollar estimates, derived by dividing per capita values in local currency units by an estimate of their purchasing power parity (PPP) compared to US dollars, i.e. a rate or measure that minimizes the consequences of differences in price levels existing between countries.

OECD health data 2004 is the major source for population estimates for the 30 OECD Member countries, just as it is for other health expenditure and macroeconomic variables. All estimates of population size and structure, other than for OECD countries, are based on demographic assessments prepared by the United Nations Population

Division (3). This report uses the estimates referred to as the de facto population, and not the de jure population, in each Member State. An exception was made for Serbia and Montenegro for 2001 and 2002, because expenditure figures excluded the provinces of Kosovo and Metohia which became territories under the administration of the United Nations. Population figures for Serbia and Montenegro, excluding Kosovo and Metohia, were obtained from the *Statistical pocket book 2004*, Serbia and Montenegro (39), thus ensuring that the basis for the numerator and denominator is consistent. Three quarters of the exchange rates (average official rate for the year) have been obtained from the IMF's *International financial statistics*, November 2004. Where information was lacking, available data from the United Nations, the World Bank, the Asian Development Bank and donor reports were used. The euro:US dollar rate has been applied for Andorra, Monaco and San Marino. The New Zealand dollar:US dollar rate has been applied for Niue. The Australian dollar:US dollar rate has been applied for Nauru and Palau. The exchange rate regime in the Islamic Republic of Iran changed in March 2002 from multiple exchange rates to a managed floating exchange rate. This year the inter-bank market rate has been used, replacing the lower pre-2002 official exchange rate series used in the previous *World Health Reports*. Ecuador dollarized its economy in 2000, and the entire dataset has been recalculated in dollar terms for the five-year period reported.

For OECD Member countries, the OECD PPP has been used to calculate international dollars. For countries that are part of the UNECE but are not members of OECD, the UNECE PPPs are used. The Spanish euro, French euro, and Italian euro rates have been used for Andorra, Monaco and San Marino, respectively. For other countries international dollars have been estimated by WHO using methods similar to those used by the World Bank.