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## Report of the World Health Organization on health statistics

### Note by the Secretary-General

In accordance with a request of the Statistical Commission at its thirty-fifth session,[a] the Secretary-General has the honour to transmit to the Commission the report of the World Health Organization on health statistics. The Commission may wish to comment on the progress made thus far by the World Health Organization with regard to its recommendations.

* E/CN.3/2005/1.

[a] See *Official Records of the Economic and Social Council, 2004, Supplement No. 4* (E/2004/24 and Corr.1), chap. II.C, para. 4 (e).

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# Report of the World Health Organization on health statistics

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# I. Introduction

1. At its thirty-fifth session, in March 2004, the Statistical Commission, had before it the report of the Friends of the Chair on health statistics (E/CN.3/2004/4), and underscored that health statistics are an integral part of social statistics, strongly influenced by economic and environmental concerns, and that the Fundamental Principles of Official Statistics should be applied in the development of official health statistics. Specifically, the Commission called for:

(a) A strategic review of international programmes on the production of health statistics, including vital statistics and disability statistics, also intended to reach agreement on areas of responsibility of the agencies involved;

(b) An intersecretariat working group on health statistics to develop a coordinated and integrated agenda for the production of health statistics and agree on standard definitions, classifications and methodologies in health statistics, taking advantage of existing mechanisms wherever possible and involving the community of official statistics at all stages;

(c) An annual report to be prepared by the World Health Organization (WHO) to the Commission on progress on specific initiatives in support of harmonization of concepts, definitions and methods, and improved coordination of health statistics programmes at the different levels, as well as capacity-building efforts in countries, especially those most in need.

2. The present report has been prepared in response to the request of the Statistical Commission.

# II. Background

3. Measurement in the area of health is conceptually and technically complex, requiring both statistical, public health and biomedical knowledge and expertise unique to each disease or programme area. Accurate measurement in health is highly dependent on the availability of disease-specific biometric tests, clinical diagnoses and population-level measurability; thus, different health statistics vary greatly in terms of the reliability and validity of the indicators, and the feasibility and accuracy of measurement instruments. This complexity means that there is no uniform measurement strategy across the range of health statistics. The technical challenges are compounded by the weakness of health information systems in developing countries. Even the most fundamental health indicators — numbers of deaths — are generated using different approaches depending on country circumstances, age and sex of the deceased and cause of death. The measurement of health status, incidence and prevalence of disease, health-related behaviours and risk factors, all require different approaches and no single methodology is likely to work in all settings. The measurement of such complex health indicators as quality-adjusted life years or disability-adjusted life years is problematic in countries with weak health information systems; these are the very countries with the biggest burden of disease. There is as yet no universal agreement on the measurable dimensions of health system functioning.

4. In the light of this complexity, country and global actors involved in the production and use of health statistics have developed a range of approaches for

coordinating the production of different health statistics and agreeing on standard definitions, classifications and methodologies. Disease- and programme-specific inter-agency and expert working groups have been established, some of which are described in the present report. Some of these coordination efforts have a long and well-established history; others function on an ad hoc basis to address particular measurement issues.

5. The present report describes ongoing efforts to strategically coordinate the generation of health statistics and to support countries in strengthening their health information systems accordingly. In particular, the report addresses the following issues:

(a) Strategic review of international programmes on the production of health statistics;

(b) Support to statistical capacity-building at the country level;

(c) Coordination of international programmes on the production of health statistics;

(d) Harmonization of definitions, classifications and methodologies;

(e) Collaboration at the regional level between WHO and other agencies involved in health statistics;

(f) Alternative methods of estimating the prevalence of HIV/AIDS.

# III. Strategic review of international programmes on the production of health statistics

6. The health statistics arena is characterized by three mutually reinforcing problems: health statistics are technically demanding from a measurement and an analysis perspective; health information systems are inadequate; countries with the weakest health systems are those with the greatest overall burden of ill-health. For several years, efforts to fill gaps in the availability of sound health data have focused on technical issues related to definitions and methodologies (see sect. IV below for a description of ongoing work in this area). More recently, attention has been drawn to the need to address the underlying weaknesses of health information systems as the mechanisms by which sound data can be generated. In July 2003, WHO, the Bill and Melinda Gates Foundation, and a range of country and international partners involved in the generation, analysis, dissemination and use of health-related data, started a year-long process of reviewing health information systems around the world. This development phase consisted of interactions with country technical partners in both the health and statistics communities (ministries of health, national statistics offices). Discussions also involved international partners, including the Joint United Nations Programme on HIV/AIDS (UNAIDS), the Department of Economic and Social Affairs of the United Nations Secretariat, the United Nations Children's Fund (UNICEF), the World Bank and the Global Fund to Fight AIDS, Tuberculosis and Malaria. In addition, a number of bilateral donors and regional centres of excellence contributed to the review.

7. The process culminated in the production of technical and strategic documents describing the strengths and weaknesses of current health information systems and

outlining a way to strengthening them in the future. These documents served as the basis for a proposal to the Bill and Melinda Gates Foundation and for the establishment of a global collaboration for health information, the Health Metrics Network. The Network Board membership reflects the strong focus of the collaboration on bringing together health and statistics constituencies at global, regional and country levels in order to strengthen the ability of countries to generate, analyse, disseminate and use sound health statistics. Board members include representatives in developing countries of the ministries of health, national statistics offices and regional research centres. Representatives of the multilateral system are UNICEF, the World Bank, the Department of Economic and Social Affairs and WHO. Bilateral donors, foundations and public/private partnerships include the United States Agency for International Development (USAID), the United Kingdom Department for International Development, the Danish International Development Agency, the Bill and Melinda Gates Foundation, the European Commission, the Global Fund to Fight AIDS, Tuberculosis and Malaria, and UNAIDS. Other Board members are the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD), the Partnership in Statistics for Development in the Twenty-first Century (PARIS 21), and the United States Centers for Disease Control and Prevention in Atlanta, Georgia. The Health Metrics Network secretariat is currently located in WHO headquarters.

8. The goal of the Health Metrics Network is to catalyse the development of country health information systems, thus increasing the availability and use of timely and sound information to support health-related decision-making at the country and global levels. In support of this goal, the Network has three objectives:

(a) To forge consensus around technical approaches, including tools, indicators and analyses to guide and drive the development of country health information systems and enhance access to, and quality of, data;

(b) To provide technical and financial support to countries to strengthen their health information systems; and

(c) To develop policies, systems and incentives to ensure access to, and use of, information for decision-making in countries and throughout the world.

9. Following the formal receipt of funding, anticipated at the end of 2004, WHO will work with Network partners to elaborate a work plan and to formalize administrative and management arrangements. A first step will involve elaborating modalities of cooperation with country partners. WHO will report on progress to the Statistical Commission at the 37th meeting of the Commission.

10. After collaboration with countries, WHO also reports on some aspects of health expenditure for its 192 member States each year in the *World Health Report*, while continuing to develop a database on other aspects of health expenditure. It bases its work on the *Guide to Producing National Health Accounts, with Special Applications for Low-Income and Middle-Income Countries*, a manual for developing countries, which was prepared jointly with USAID and the World Bank, and is based on the OECD manual entitled *A System of Health Accounts* (SHA). The *Guide* also had strong input from OECD. While the *Guide* builds on SHA, it is recognized that many poor countries will be unable to implement SHA fully in the near future. Indeed, some OECD and European Union (EU) countries still do not

use SHA. Discussions with various partners about the need to review SHA in view of the problems that have emerged in poor countries over the last few years are ongoing. Discussions are continuing about incorporating work on national health accounts into the Network.

# IV. Supporting statistical capacity-building at the country level

11. The primary focus of the Network will be to provide countries with technical and financial support to strengthen their health information systems. In support of this, WHO and Network partners are developing a consensus technical framework to guide overall support to country health information systems development. The first draft of a technical framework is under development and will be reviewed by technical experts during the first half of 2005. Application and refinement in countries identified for Network support will commence shortly thereafter. Work is also continuing on criteria for country selection and on a plan that will permit Network support to scale up rapidly.

12. The capacity of countries to produce internationally comparable statistics very much depends on the use of international classifications and standards in national health information systems. WHO provides technical and financial support to countries for introduction of the International Statistical Classification of Diseases and Related Health Problems (ICD), an international definition of live births and other international standards.

13. As part of its support to country health information systems, WHO has developed innovative approaches to data collection at the district level. The service availability mapping tool, seeks to fill the gap between such tools for use at the national level as household surveys, and data collection at the patient and facility levels. The objective of the tool is to provide timely information on the availability and coverage of specific public and private health interventions and resources in a given district and country. The tool is a simple assessment carried out at the district level by the district health team, which can provide strategic information on the necessary link between scaling up programmes and strengthening health systems. The information collected from the districts is linked to a global positioning system (GPS) or geographical information systems (GIS) database containing the geographic coordinates of each health facility. This allows the production of maps demonstrating the distribution of specific interventions at the district level. The long-term objective of this tool is to enable district and national planners to use service availability mapping as a key tool for public health decision-making. A key feature of the tool is that it permits analysis of inequities in the availability of services both within and between districts. The tool focuses to a great extent on programmes that are scaling up, such as access to antiretroviral therapy, but is useful for a range of different programmes, including those on child survival, safe motherhood, malaria and tuberculosis. In addition, the tool provides crucial information about the health system's readiness to handle major programmes, looking at, for example, the availability and distribution of human resources, essential infrastructures and equipment.

14. During 2002-2003, WHO worked with statistical offices in many countries to implement the World Health Survey. Currently, WHO is cleaning the data sets in close collaboration with country counterparts and some of its regional offices have

resources to provide technical assistance to countries. WHO has been working towards providing countries with basic tabulations and clean data sets. It is envisaged that country statistical offices will be the key users of Survey data in terms of analyses at the country level.

15. WHO continues to work with countries to strengthen their ability to track and report health expenditure information. Few other agencies are involved in this type of activity, although some sponsor external teams to conduct expenditure reviews or national health account exercises on a one-time basis.

# V. Coordination of international programmes on the production of health statistics

## A. Harmonization of household surveys

16. In recent years, household surveys have become a dominant form of health-related data collection in developing countries. A number of survey programmes are sponsored by such international agencies as UNICEF, USAID, the United States Centers for Disease Control and Prevention, the World Bank and WHO. As a result, over the past 20 years, considerable progress has been made in terms of data availability, and national capacities to collect and process data have been strengthened. But the plethora of survey programmes has come at some considerable costs in terms of overlap and duplication and a heavy demand on fragile country statistical systems. In response, international agencies are stepping up their collaborative efforts around the harmonization of questionnaires and improved sharing of results. For example, UNICEF and the Opinion Research Corporation subsidiary, Macro International Inc., are working together to coordinate the timing of the multiple indicator cluster surveys and the Demographic and Health Surveys (DHS), and to maximize harmonization of their respective questionnaires. Preliminary discussions have started to enhance coordination with other health-related survey programmes.

17. During the development of the Health Metrics Network, the need to integrate household surveys into the health information system and to improve coordination was discussed. A similar recommendation emerged from the Marrakech Action Plan for Statistics, which called for establishment of an international household survey network.[1] Household surveys have a critical role in generating health data, and the high-level forum on health-related Millennium Development Goals at its meeting in January 2004 and the Board of the Health Metrics Network at its first meeting both stressed the importance of inter-agency collaboration on the issue. In follow-up, the World Bank Development Economics Data Group and WHO convened consultations in Washington, D.C., and Geneva, with the participation of key survey sponsors, including those involved in the formation of the Network. Participants included the Asian Development Bank, the United Kingdom Department for International Development, the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO), the Center for Population, Poverty and Public Policy Studies/International Networks for Studies in Technology, Environment, Alternatives, Development, the Intersecretariat Working Group on Agriculture Statistics, the Norwegian Social Science Data Services, Macro International and the Demographic and Health Surveys, PARIS 21, the secretariat of

the Pacific Community, UNICEF, the United Nations Development Programme (UNDP), the Economic Commission for Africa, the Economic Commission for Europe (ECE), the Economic and Social Commission for Asia and the Pacific (ESCAP), the Economic Commission for Latin America and the Caribbean (ECLAC), and the Economic and Social Commission for Western Asia (ESCWA), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Statistics Division, the Economic Research Service of the United States Department of Agriculture, the University of California, Global Health Sciences and USAID.

18. Those meetings resulted in the establishment of the International Household Survey Network, the goal of which is to promote enhanced survey coordination, greater harmonization, and improved tools for the archiving and dissemination of survey microdata and metadata.[2] An immediate product of this collaboration is expected to be a central survey data archive and dissemination toolkit, which is currently under development at the World Bank and will offer the possibility of building a common register of survey data. The World Bank is sharing its work with such key partners as WHO and UNICEF to expand the contents of the database.

### B. National health accounts

19. In addition to helping to prepare the above-mentioned *Guide* (see para. 10 above), WHO interacts with the Development Assistance Committee of OECD on estimates of external flows of funds from bilateral donors and with the Global Fund to Fight AIDS, Tuberculosis and Malaria, the World Bank, UNAIDS and a number of bilateral agencies interested in tracking expenditure on specific diseases or activities.

## VI. Harmonization of definitions, classifications and methodologies

### A. Definitions and methods for health statistics

20. In the past few years, WHO has worked with many partners to improve coordination of definitions, classifications and methodologies in the area of health statistics. Because each area of health statistics requires a specific combination of technical and statistical expertise, reference groups have been established focusing on different disease-related and programme areas.

21. Child mortality is a key indicator for monitoring progress towards country and global goals, including the Millennium Development Goals. Work on reconciling child mortality estimates derived from different sources has continued and there is now agreement to work towards a single set of estimates that will be used by all international agencies. The foundation will be a common database and uniform, transparent estimation methods. In addition, considerable progress has been made in addressing the complex causes of child deaths, information that is critical for determining programmatic interventions. An important new area of work concerns estimates of deaths occurring in the first month of life. Considerable progress has been made in generating consensus on regional and global figures in that area. This body of work has been carried forward by multilateral agencies (WHO, UNICEF,

the World Bank, the United Nations Population Division) working closely with technical experts at Johns Hopkins University, the London School of Hygiene and Tropical Medicine, the United States Centers for Disease Control and Prevention and Aga Khan University, among others, and development partners that work in the area of child survival, such as Saving Newborn Lives.

22. WHO is the primary organization that provides estimates on cause-specific mortality. A major problem has been the lack of accurate cause-specific mortality data from developing countries, especially those with higher levels of mortality. These data gaps need to be addressed, both by stepping up efforts to work with countries and initiatives to obtain more recent mortality data, and by collaborating with partners to promote better tools (e.g. for verbal autopsy) and investment in data collection and analysis. There is also a need for better harmonization of cause-specific mortality estimates within WHO and with other United Nations bodies and academic institutions. WHO also aims to be consistent in its use of the mortality "envelope", that is, the total number of deaths irrespective of cause. Up-to-date estimates of the size of the envelope by age and sex are crucial for WHO in order to ensure that programme and disease-specific estimates of mortality (and morbidity) are internally consistent and fit within the global or regional envelope.

23. In 2001, WHO established a technical advisory group to help improve the estimates of cause-specific mortality in childhood, which has succeeded in furthering the work on estimates of cause-specific mortality and has been very active and productive over the last few years. Given an increasing demand for country-specific estimates of cause-specific mortality in childhood, both for health planning and evaluation purposes, WHO, in close collaboration with other agencies of the United Nations system and academic institutions, will continue to support such activities, with more emphasis on the development of estimates of the lead cause of death distribution at global, regional, subregional and country levels, and design a process and method to update such estimates over time.

24. Similar coordination groups exist in other areas of health.

25. The Malaria Monitoring and Evaluation Reference Group focuses on the development of indicators and data collection methods for coverage of malaria interventions, malaria prevalence (and proximate indicators) and malaria mortality (and proximate indicators). The Group includes experts from WHO, UNICEF, the United States Centers for Disease Control and Prevention and a number of university departments working in this area.

26. The WHO and UNICEF joint monitoring programme for water supply and sanitation maintains a database that brings together administrative data on water supply and sanitation, as well as data generated from such community surveys as the UNICEF-supported multiple indicator cluster surveys, the USAID-supported DHS, and censuses. The various sources provide the basis for the international estimates of water and sanitation coverage.

27. The HIV/AIDS Epidemiological Reference Group brings together epidemiological experts and provides guidance on methods for estimating and projecting HIV/AIDS prevalence, globally and in countries. The group is jointly chaired by WHO and the UNAIDS secretariat and involves UNICEF, the Department of Economic and Social Affairs and technical experts.

28. The HIV/AIDS Monitoring and Evaluation Reference Group provides guidance on programme monitoring and evaluation and on related indicators for monitoring progress towards international targets, including the Millennium Development Goals. The Group involves WHO, the UNAIDS secretariat and UNICEF, as well as a range of technical experts.

29. The Maternal Mortality Peer Review Group reviews methods used for generating internationally comparable estimates of maternal mortality. The group is composed of WHO, UNICEF, the United Nations Population Fund (UNFPA), the United Nations Population Division, the World Bank and technical experts.

## B. Family of international classifications

30. The World Health Organization maintains two reference classifications in health, namely ICD and the International Classification of Functioning, Disability and Health (ICF), which are members of the United Nations family of economic and social classifications.

31. Following the mandate given by the World Health Assembly in 1990, WHO has established an ongoing updating process to incorporate new scientific knowledge (e.g., on SARS and new emerging diseases). A major revision of ICD is planned for 2010.

32. Implementation of ICD remains problematic in countries lacking comprehensive vital registration of death with certification of cause of death. Of the 192 WHO member States, nearly 80 are unable to generate mortality statistics using ICD as required by WHO regulations. These are the very countries that have the most serious burdens of mortality and morbidity. To address the issue, WHO has developed a short mortality list and various tools to assist countries in reliably and efficiently applying the classification in the collection of mortality statistics.

33. Adopted in 2001 as the international standard for health and disability statistics, ICF has now been translated into 30 languages, and the development of various tools to facilitate its implementation is under way. Most importantly, the Washington Group on Disability Statistics has taken ICF as a basis for its efforts to develop census and survey questions. At the regional level, WHO is collaborating with ESCAP and ESCWA in projects to improve disability statistics in those regions by using the ICF framework. Similarly, the ECE meeting on health status also based its approach on ICF.

## C. Measurement of burden of disease and health states

34. WHO is continuing to develop tools to facilitate country-level analysis of burden of disease and the attributable burden of risk factors using standard methods and definitions. These tools are currently being finalized and tested in collaboration with a number of research groups.

35. In the area of health states, an individual’s health state can be conceptualized as the capacity to function in a given set of domains linked to the conceptual framework of ICF. Determinants of health status, risk factors and interventions are important and should be measured in health interview or examination surveys but need to be separated from the measurement of health status per se. Comparability of

data to permit the estimation of levels of individual and population health is dependent on conceptual clarity with regard to what is being measured, a common parsimonious set of domains/attributes; comparable survey instruments that have linguistic and conceptual equivalence; explicit strategies at the design and analytical phase to ensure comparability across population groups; and demonstrated reliability and validity.

36. The choice of domains for measurement of health states should be dictated by the feasibility of their inclusion in health interview surveys (e.g. brevity, clarity, psychometrics). There is consensus around broad domains of "functioning" — physical (mobility, dexterity, self-care, cognition), mental (memory and concentration), sensory (seeing, hearing), other important domains (pain/discomfort, vitality/fatigue), psychological functioning (affect/anxiety, interpersonal relationships) and social functioning.

37. A working group has been established to work towards the development of a new common instrument, building on the work already done by national and international organizations with regard to health surveys, and will coordinate with existing groups such as the Eurostat group on health information systems and the Washington Group. A steering group comprising Canada, the United States of America, WHO, Eurostat and ECE will oversee this exercise.

## D. Approaches for tracking the health-related Millennium Development Goals

38. The health-related Millennium Development Goals consist of a few health-status indicators (mortality, morbidity and nutritional status) and a selected number of health programme coverage indicators (immunization coverage, maternity care, condom use). Many of the indicators are difficult to monitor on a short-term basis because measurement techniques are subject to wide margins of uncertainty, and the indicators are slow to change and are poorly responsive to programmatic inputs. At the above-mentioned meeting of the high-level forum on health-related Millennium Development Goals, participants called for the identification of a limited set of indicators that could be used for regular (biannual) monitoring of progress, performance-based disbursement of funds and for informing such non-health constituencies, as ministers of finance, about progress.

39. In response to this challenge, WHO organized a one-day meeting of agency, donor and academic experts in June 2004. Meeting participants agreed to explore different options for responding to this call, including exploration of:

(a) The extent to which health-service or health-programme indicators can be used as predictors of levels and trends in health-status indicators;

(b) A limited set of health-system performance indicators that could be used alongside the health outcome indicators to monitor system-wide progress towards the health-related goals;

(c) A possible health commodity index that associates well with levels of health status and health trends;

(d) The strength of association between available data on health expenditures and trends in the Millennium Development Goals;

(e) Ways to obtain better disaggregation of proxy indicators;

(f) A menu of good practice intermediate indicators to help countries identify the best set of indicators to monitor their own programmes, of which a small subset could then be highlighted and promoted as key indicators for international monitoring.

40. In order to move the agenda forward regarding health-system statistics, WHO and the World Bank have convened country and technical partners to examine definitions and methodologies, and an initial set of health-system metrics focuses on financing and the fair and efficient use of resources, human resources, health information, drugs, diagnostics, equipment and infrastructure, and policies, institutionalization and governance. This effort will build upon existing work on health-system indicators and performance assessments[3] and is intended as a first step towards reaching consensus around a limited set of core indicators of health systems that can be used by developing countries to regularly monitor progress towards strengthening their systems, especially in the context of achieving the Millennium Development Goals.

41. Progress in this work will be reported to the meeting of the high-level forum to be held in Abuja in December 2004.

# VII. Collaboration at the regional level

42. The WHO regional office for the Eastern Mediterranean attended an expert group meeting on data and indicators to monitor progress towards the Millennium Development Goals in the ESCWA region in February 2004. An important outcome of the meeting was an agreement that Arab States should establish mechanisms to ensure consistency in data at national levels and should regularly report new and updated data to ESCWA, the United Nations Statistics Division, WHO and other competent agencies to ensure consistency in data at regional and global levels. It was also agreed at the meeting that central statistics offices and ministries of health should adhere to WHO standards for the collection of health-related data and WHO calculation methods for health-related indicators, especially in the preparation of data and indicators concerning the Goals. To facilitate this, WHO agreed to provide needed guidance on data collection and analysis.

43. WHO attended the forum for African statistical development, hosted by the ECA in May 2004 and presented a summary of the development phase of the Health Metrics Network, focusing particularly on the potential for collaboration and mutual reinforcement of efforts to strengthen statistical capacity in the area of health statistics. Specifically, in collaboration with the forum, the development of national vital registration systems in the framework of strengthening the national health information systems will be a priority.

44. The joint meeting of ECE, WHO and Eurostat on the measurement of health status was held in Geneva from 24 to 26 May 2004. The meeting focused on the development of common instruments to measure health states in multiple dimensions. The WHO conceptual framework to measure health was agreed upon.

45. WHO is a decentralized agency with five independent regional offices. The global organization works closely to respond to the demand for timely, reliable and consistent information on key health indicators, including the Millennium

Development Goals. At all levels, WHO collects and summarizes a wide range of quantitative data from a variety of health domains. These data are used internally by WHO for setting policy and are widely disseminated in formal publications, as well as through more informal mechanisms, both electronically and in print. Information published by WHO is frequently used worldwide for benchmarking, for advocacy of particular policies, for monitoring achievements towards internationally accepted goals and targets and for guiding technical strategies and responses.

46. At the regional level, for example, the WHO Regional Office for Europe maintains a set of databases, including basic and topic-specific health statistics for European countries, which are widely used for health-situation analyses and benchmarking in Europe.[4] The Regional Office for Europe also regularly participates in the technical meetings of the European Commission (Eurostat and the Health and Consumer Protection Directorate-General) and OECD on the issues related to health indicators, and the harmonization and standardization of data collection and definitions. About half of 52 European WHO member States are also members of EU and/or OECD; it is therefore very important to harmonize methodologies, classifications used and definitions, including common data collection instruments in order to avoid placing an unnecessary burden on countries which may receive different requests of the same data from different organizations. The progress towards such harmonization is particularly noticeable in the areas of cause-of-death statistics, some hospital statistics and national health-system accounts.

47. The WHO Regional Office for the Americas/Pan American Health Organization (AMRO/PAHO) established a GIS technical cooperation line for epidemiology and public health). In 2004, several activities and projects in the cooperation line have been implemented, with specific relevance to strengthening national capacities for using and analysing data from routine health and statistical information systems in GIS. This cooperation line includes application and software development, capacity-building, inter-agency collaboration and development of standards.

48. Together with the United Nations Environment Programme and eight ministries of health and environment in the Mesoamerican region, AMRO established a project to use sustainable alternatives to DDT for malaria vector control. GIS will be set up in each demonstration area for planning, monitoring and evaluating the interventions, using current available data.

49. With WHO headquarters and all WHO regional offices, AMRO has been working to develop a WHO global public health in mapping and GIS strategy, based on experiences and successful histories from Headquarters and each region. The dissemination and use of GIS in epidemiology and public health, the GIS software developed by AMRO for public health and epidemiological analysis using spatial and temporal dimensions, have been very successful during the current year, with applications in Puerto Rico, Brazil, Costa Rica, Canada, the United States, Ecuador, the Dominican Republic and Argentina.

50. In 2004, AMRO established an umbrella project with USAID for public health in Latin American countries for the next three years. As part of that project, a package for health information systems has been developed and put into effect since October. The main purpose of the package is to document and assess the experiences

of Brazil and Mexico in the health information systems region to serve as guidelines for best practices.

51. In 2003, AMRO held a meeting of the regional adviser committee on health statistics. Several recommendations were made by the committee, including preparation of an international course in vital and health statistics.

52. AMRO launched a regional core health data initiative in 1995. The core health data is updated annually, with data received from member States and specialized agencies. The extensive database is accessible through the Internet. A subset of core data is published in a brochure format and distributed among the member States. In 2004, a 10-year evaluation of the regional core health data initiative was issued; it presents an accounting of the results and impact of the initiative and it offers recommendations for consolidating and expanding the initiative. The report was presented to the Directing Council of PAHO in September 2004 at PAHO headquarters.

53. In order to effectively fulfil its data management role, and building upon the work of AMRO and other WHO regional offices, WHO is developing an organization-wide information clearinghouse that compiles, disseminates and maximizes access to sound country-level health indicators. This involves:

(a) The selection of an organization-wide core set of some 50 health indicators, which include the Millennium Development Goals, and are reported through country and regional offices and headquarters;

(b) The development of a standardized format for data management and documentation, including metadata for the core health indicators (empirical data, data source with description, quality of data or data collection effort, methods of estimation and the ultimate estimate). Both country-reported data and best estimates, according to WHO established methods, are presented;

(c) The building of a database maintained by WHO and its application to disseminate core-health indicators using a variety of customized tables, graphs and maps.

# VIII. Alternative methods of estimating the prevalence of HIV/AIDS

54. UNAIDS and WHO work together closely in developing estimates of HIV at the country, regional and global levels. A joint UNAIDS/WHO working group meets weekly. Regional estimates are updated annually, country level estimates biannually. The working group is advised by the UNAIDS Epidemiology Reference Group, which includes leading modellers, demographers and epidemiologists in HIV/AIDS, the United Nations Population Division, the United States Centers for Disease Control and Prevention and WHO.

55. An estimation model has been developed for countries, with different methods for generalized and concentrated/low-level epidemics. Recent publications describe the model and the issues related to the use of the model and to the use of population-based surveys in surveillance systems.[5] During the previous two years, more than 120 countries have been trained in the use of estimation and projection software. Guidelines for the use of population-based surveys in surveillance systems are in an

advanced stage of preparation. Active technical assistance is given to countries that have conducted a population-based survey to reconcile surveys and surveillance.

# IX. Intersecretariat Working Group on Health Statistics

56. In response to the call by the Statistical Commission at its thirty-fifth session for "an intersecretariat working group on health statistics to develop a coordinated and integrated agenda for the production of health statistics and agree on standard definitions, classifications and methodologies in health statistics, taking advantage of existing mechanisms wherever possible, and involving the community of official statistics at all stages" (E/2004/24, chapter II.C, para. 4 (e)), the Intersecretariat Working Group on Health Statistics has been set up under the joint coordination of the Statistics Division and WHO.

57. As a first step, members of the Committee for the Coordination of Statistical Activities have been solicited to identify specific priority issues that could usefully be addressed by the Intersecretariat Working Group. The report of the Friends of the Chair on health statistics, presented to the Statistical Commission in March 2004, served as a starting point. As of November 2004, a total of eight responses had been received from members of the Committee. A preliminary analysis of the responses found that they fall into three broad groupings:

(a) **Normative, technical and operational issues**, including the identification of core indicators related both to specific health conditions (including maternal and child health, reproductive health, nutrition, and health aspects of the environment, drugs and crime) and to health-system statistics (including national health accounts, human resources, health information and health-system functioning);

(b) **Legal, policy and implementation issues related to the generation and use of health statistics**, including the legal framework for vital registration, rules related to confidentiality and handling of microdata, and the roles and relationships of national statistics offices and national ministries of health;

(c) **Inter-agency collaboration**, including the repercussions of the draft declaration of principles for the domain of health statistics and the roles and mandates of different agencies involved in producing and using health statistics.

58. As already noted in the present report, collaborative mechanisms for addressing statistical issues in several aspects of health are already in place and open to the involvement of additional partners as relevant and appropriate. As a next step, the Statistics Division and WHO will collaborate to undertake further analysis of the proposed list of issues and outline a process for further collaboration on key aspects of health statistics. This process will build upon available mechanisms to the maximum extent possible. The Health Metrics Network and its associated task forces and working groups will provide a vehicle for further stakeholder involvement in a number of the issues identified, including vital registration systems, national health accounts and health-system functioning. The work of Network partners in countries will focus explicitly on strengthening collaboration between ministries and health and national statistics offices, and on involving a broad range of country partners, including external donors and development agencies, and civil society in health information system strengthening.

# X. Conclusion

59. WHO is committed to the dissemination and application of the declaration of principles in its own work and will work to ensure this throughout technical programmes. It will continue to engage in regular consultations with key users and producers of health statistics to ensure the timeliness, quality, access and use of health-related data. The establishment of the Health Metrics Network will further contribute to enhanced collaboration among partners involved in producing and using health data, and to building closer and more productive partnerships between health and statistics constituencies at global, regional and country levels.

*Notes*

[1] See http://unstats.un.org/unsd/statcom/doc04/marrakech.pdf.

[2] See www.surveynetwork.org.

[3] See for example, J. Hurst and M. Jee-Hughes. “Performance measurement and performance management in OECD health systems”, Labour Market and Social Policy Occasional Paper, No. 47 (OECD, Paris, 2001).

[4] See http://www.euro.who.int/InformationSources/Data/20010827_1.

[5] H. Ward, N. Walker and P. D. Ghys, “Methods and tools for HIV/AIDS projections and estimates”, *Sexually Transmitted Infections*, 2004, vol. 80, supplement No. 1; N. Walker, N. C. Grassly, G. P. Garnett, K. A. Stanecki and P. D. Ghys, “Estimating the global burden of HIV/AIDS: what do we really know about the HIV pandemic?”, *Lancet*, June 2004; J. T. Boermat, P. D. Ghys and N. Walker, “HIV estimates from national population-based surveys: a new gold standard for surveillance systems”, *Lancet*, 2003.