Statistical Commission, thirty-third session, New York, 6-8 March 2002

Item 3 © of provisional agenda
Demographic and Social Statistics: Health Statistics

Report by the World Health Organization

I. Introduction

In response to a request from the Commission, this Report summarizes the activities and plans of the World Health Organization in health statistics. These are presented according to major substantive areas of work.

The World Health Organization (WHO) has been developing a mechanism for providing key information required by decision makers which is not routinely collected by health information systems. It is seeking to do this in a way that complements the activities of routine health information systems. The major focus is on developing indicators to help measure:
- Levels and inequalities in health.
- Levels and inequalities in health system responsiveness.
- Levels and distribution of financial contributions to the health system.
- Coverage of a critical set of key interventions.

Data collection and methodological development at WHO are consequently orientated towards providing recent reliable, valid and comparable information for the periodic assessment of these key outcomes in Member States.

II Levels and Inequalities in Health

a) <u>Overall Population Health</u>

For the past half-century, the World Health Organization has routinely collected cause-of-death statistics annually from Member States based on vital registration. Data are received from about 90 Member States and are validated in collaboration with countries. These data have been widely used to assess the national, regional and global health situation and to help identify health sector priorities.

Given the substantial resources that are devoted to improving levels of health, in addition to preventing premature death, it is important that summary measures of population health encompass both mortality and the prevalence and severity of non-fatal outcomes. Data collection in Member States on non-fatal outcomes has been much less systematic than for mortality and suffers from significant comparability problems across populations. As a consequence, the methodological and empirical data collection focus has been on how to promote comparable data collection on

these outcomes in countries, and on methods to infer overall population health levels from limited data.

Statistical activities related to overall population health levels centre around the two required inputs for healthy life expectancy:
- age-sex specific death rates.
- prevalence of ill-health by age, sex and severity.

i) Age-sex specific death rates. WHO systematically collects vital registration data from Member States where these are available (approximately 130 countries). All data are systematically checked for under-reporting and corrected according to standard demographic techniques. For other countries, levels of child mortality have been estimated from all available survey and census data and death rates at higher ages inferred from the new Modified Logit Life Table System developed at WHO. This life table system better encompasses the variations observed today across populations in age-specific mortality. Further details on the Modified Logit Life Table system and the estimation of age-specific death rates are available from GPE Working Papers N° 39 and 40 at the following web address: http://www.who.int/health-systems-performance/docs/levelofhealth_docs.htm

ii) Age-specific prevalence of ill-health: WHO is developing methods to measure the age-sex-specific prevalence of health states in a way that enables comparison across populations. Two approaches are being taken: firstly, the Global Burden of Disease Study is being updated to the year 2000. Secondly, new methods are being developed to ensure comparability of self-reported data in population health surveys. The ongoing GBD 2000 revisions draw on a wide range of data sources, and use various methods to reconcile often fragmented and partial estimates of epidemiological parameters, to develop internally consistent estimates of incidence, prevalence, duration and years lived with disability (YLD), for over 130 major causes, for 17 sub-regions of the world.

b) World Health Survey

Detailed data on these two basic components are missing in a number of Member States. WHO plans to initiate a World Health Survey (WHS) in all Member States over the next 3 years to collect these data, and other information as described below. WHO has developed new approaches to solve the problem of comparability of self-report data, and results from the WHO Multi-Country Survey Study carried out during 2000-2001 provide strong evidence that the methods improve cross-population comparability.

The objectives of the WHS are:

1. develop a means of providing valid, reliable and comparable information, at low cost, to supplement the information provided by routine health information systems.
2. build the evidence base necessary for policy-makers to monitor if health systems are achieving the desired goals, and to assess if any additional investment in health is achieving the desired outcomes.

3. provide policy-makers with the evidence they need to adjust their policies, strategies and programmes as necessary.

The World Health Survey uses a common survey instrument with separate modules for various components. Policy-makers can choose from these modules in any combination according to their policy needs. Presently, the modules cover key aspects of outcomes to which systems should contribute, inputs to that system, and one aspect of the way systems are functioning – coverage of key interventions. The different modules cover:

- *the health states of populations:* measuring health in multiple domains,
- *risk factors and their association with health states:* measuring various risk factors such as tobacco, alcohol, physical activity levels, exposure to pollution,
- *the responsiveness of health systems:* whether health systems serve to meet the legitimate expectations of people,
- *coverage, access and utilization of key health services:* such as immunization, treatment of childhood illness, safe motherhood interventions, DOTS for tuberculosis, STD and HIV/AIDS prevention, mental health interventions, etc.
- *health care expenditures:* how much households contribute to the health system.

Other modules will be added over time as countries express a need.

The instrument has been developed in multiple languages using cognitive interviews and cultural applicability tests; stringent psychometric tests for reliability (i.e. test-retest reliability to demonstrate the stability of application) and utilizing novel psychometric techniques for cross-population comparability.

All the modules have been developed after a rigorous scientific review of existing instruments (e.g. the health module is based on selected domains of the *International Classification of Functioning, Disability and Health),* followed by international consultations with experts and key informants. They were then pilot tested in more than 63 countries.

Survey Methods
There is a choice of survey methods available. All have been pre-tested. The choice will depend on the most practical and cost-effective mode in different settings. Choices can be made from:

- *Household Face-to-Face Surveys:* In most countries randomly selected houses are contacted and a single person from that house is interviewed.
- *Telephone Surveys*: when there is a good coverage of telephone network, surveys could be conducted via phone using computerized systems.

All modes involve random selection of respondents. The first phase of the work covers adult populations (i.e. older than 18 years of age). A second phase will focus on the health of younger people.

The WHO Survey Programme has been developed with a view to cultural sensitivity. Novel techniques have been introduced to calibrate the self-reports of individuals on their own health and on how they are treated by the system. Calibration is done by anchoring self-reports on the same person's response to vignettes describing hypothetical people – their mobility, for example, or how they are treated in a particular interaction with the system. In some domains of health, self-reports are also calibrated against well-known performance tests (e.g. self-report vision is measured against standard Snellen's visual acuity test).

The Survey Programme will be developed in individual countries through consultation with policy-makers, particularly those involved in planning the scaling-up of health activities in response to the prospective increase in available resources. It will also be undertaken in collaboration with the people involved in routine health information systems. It will be complementary to their efforts, to ensure periodic data input in a cost-effective way so that important gaps in health information are covered. It will also establish a baseline for efforts to scale-up health activities.

c) Health Inequalities

In addition to improving overall levels of population health, health systems should contribute to reducing health inequalities. WHO will assess the extent of health inequalities in Member States according to three complementary approaches:

- Estimation of life expectancy distribution in populations based on age-specific death rates for small geographical areas in countries with functioning vital registration systems.
- Estimation of inequality in the risk of child death (0-2 years) based on microdata about child survival collected in international survey programmes (DHS).
- Record linkage of census, survey and registration data on survival and socio-economic characteristics of individuals.

Methodologies for the analysis of data in each case are, or have been developed at WHO. Discussion papers describing the current work and methodology can be found at:
http://www.who.int/health-systems-performance/docs/healthinequality_docs.htm

d) Related Epidemiological Activities

i) Burden of Disease

Regional and Global levels for over 130 diseases and injuries based on collaboration with a vast network of epidemiologists. Data on the incidence, prevalence, age at onset, duration and case-fatality of all major sequelae are collected, evaluated and made internally consistent using disease modelling developed at WHO. The results are reported annually (Deaths and DALYs by cause in the World Health Report.)

Version 1 estimates for the Global Burden of Disease 2000 can be downloaded from www.who.int/evidence/bod and an overview of methods, definitions and results is provided in GPE Discussion Paper 36, available at the same web address.

ii) Comparative Risk Assessment

In addition to disease burden calculations, WHO has initiated a project to estimate the current and future disease and injury burden for 25 major risk factors worl-dwide. Over 100 epidemiologists have collaborated on this activity. The findings of this evaluation will form the analytical basis for the World Health Report 2002 on "risk to Health".

iii) Summary Measures of Population Health

WHO has recognized the need for measures of overall health status that simultaneously incorporate data on mortality and ill-health. WHO has promoted methodological work on the construction of such summary measures of population health and will shortly publish a volume on the various ethical, substantive and technical issues in the development and use of summary measures for assessing overall health levels, health inequalities and the contribution of diseases, injuries and risk factors to population health.

III Responsiveness

The methodology for measuring the average level of responsiveness of a health system, and inequalities in responsiveness across the population is being developed through the design and testing of a standard survey module on responsiveness, that has several modes of delivery: through a household face-to-face survey; household telephone interview survey; a self-administered postal survey; and a key informant survey. The results from the different country surveys are being analysed and evaluated in several countries in and outside the European Commission. It should be noted that responsiveness is quite different to patient satisfaction. The latter encompasses what happens in relation to patient expectations and it is not unusual to find that the rich are less satisfied than the poor. Yet we know that the rich are not treated worse than the poor when they come in contact with the health system. Responsiveness measures what actually happens as opposed to what happens in relation to people's expectations.

IV National Health Accounts and Household Financial Contributions to the Health System

Statistical activities on NHA to be developed during 2002:
a)   build up a data base with public and private expenditure on health by country (all 191 State Members)1970-2000. Information included: expenditure on health by Financing source, financing agent, provider, function, cost of factors, beneficiaries
b)   build up a data base with macro variables by country (all 191 State Members) to complement analysis of NHA variables (1970-2000): exchange rates, PPP, GDP, general government expenditure, private consumption, debt, trade, population, household consumption by type.

c)   Contribute to standardization of NHA data in countries through diffusion of methodological guidelines and technical advisory.

d)   Enhance methodological NHA procedures through development of research and analysis

e)   Promote the use of NHA data for policy-making in countries through selected indicators.

f)   Build in an expenditure component into the WHS particularly for countries without recent household expenditure surveys.

These data will help to analyse current financial inputs to the health system. The distribution of household financial contributions can also be used to assess the fairness of these contributions.

V Coverage of health system interventions

WHO considers the coverage of population with critical health interventions as a key indictor of the health service provision function. Coverage is defined as the proportion of population whose health care needs are met with appropriate and effective health interventions. In order to fully reflect health systems' characteristics as determinants of coverage, and assess the inequality of coverage across individuals, WHO proposes the measurement of individual probability of coverage with a set of critical health interventions. The probabilistic approach will take into account different variables of a health system that determine the probability of coverage. WHO is developing a conceptual framework of coverage, and a methodology for measuring it. WHO's household survey - The World Health Survey - will be a main instrument for the measurement of coverage. A coverage module is currently being developed. It will include a range of interventions representing different domains and modes of health care.

VI WHO Family of International Classifications

One of WHO's constitutional mandates is the production of international classifications on health so that there is a consensual, meaningful and useful framework which multiple parties (governments, providers and consumers) can use as a common language. These classifications form an integrated family, the various members of which can be used jointly in health information systems to reflect different dimensions of health .The WHO Family of International classifications is a set of interrelated classifications that have been produced by the World Health Organization, reviewed and approved by the WHO's intergovernmental bodies. The WHO FIC basically cover the following classifications as main (reference) classifications:

a. International Statistical Classification of Diseases and Related Health Problems (in short ICD) 10th edition

b. International Classification of Functioning Disability and Health (ICF)
and the related classifications and associated products as follows:

i. related classifications: derivatives of main classifications for speciality settings; or extended areas for use on health interventions

ii. associated products: such as nomenclatures, vocabularies, coding tools etc.

The *International Classification on Functioning, Disability and Health (ICF)* was endorsed unanimously by all 191 WHO Member States during the 54th World Health Assembly in May 2001 as the international standard to describe and measure health and disability. In October 2001 ICF was published simultaneously in 6 different languages (Arabic, Chinese, English, French, Russian and Spanish) together with electronic and internet applications

A special group of WHO Collaborating Centers is overseeing the overall architecture and maintenance of this suite of integrated documents as an international public good. A standard scientific review process has been established for the periodic update and world-wide implementation of WHO FIC.