

## THIRD WORLD HEALTH STATISTICS

Anyone wishing to present an argument on the state of health in the poorer countries of the world will find themselves with very limited published official statistics to back them up. Those figures that are available are often unreliable. This article is an attempt at a brief summary of some of the available sources, with some comment on their reliability.

### How Much Do We Know?

We know that the state of health in the third world is bad, but do we know how bad? We read in a World Bank publication that infant mortality in the Dominican Republic is 62 per thousand live births, but what of babies who die before their births have been registered, or whose deaths go unregistered? Registration systems in less developed countries are likely to be incomplete, and to cover in full only the better-off whose mortality is lowest.

In occupational health there are the well-known examples of the tin miners of Bolivia, whose life expectancy is greatly reduced by their work, or of the many peasant farmers worldwide who use dangerous pesticides with written warnings they cannot read, which suggest protective clothing they cannot possibly afford. Yet there are no statistics on such deaths or illnesses.

Pharmaceuticals are promoted on an enormous scale in the third world. Such drugs are often expensive, inappropriate, and in some cases positively harmful, such as the pushing of anabolic steroids to encourage growth in children stunted by malnutrition. Patented drugs cost valuable foreign exchange, and Bangladesh has tried to ban 237 harmful drugs, get 1500 inessential ones withdrawn, and set up its own production of essential drugs. The government has come under great pressure from drug companies and their governments to rescind all this (eg. U.S. threats to stop food aid). Some statistics in this area have been collected by individuals.

The most often-quoted measure of the health resources a nation has is the "population per doctor". But is this any sort of indicator when doctors are only within reach of the urban rich, and when the vast majority of ill-health has causes which don't need a doctor to diagnose or cure them.

This article arose out of an attempt by the health group to find out what statistics were available in this country about such problems, and how useful they were.

### World Statistical Sources

Data are collected on a "world-wide" basis by global organisations such as the World Bank (WB), the United Nations (UN), and the World Health Organisation (WHO). There are a number of "alternative" sources of world figures.

The quotation marks around "world-wide" above are intended to indicate the fact that such coverage is not completely achieved. The statistics published by the world agencies are those made available to them by the governments of the individual countries, and in many countries the relevant figures are not collected.

The most immediately accessible figures are those published by the World Bank as an appendix to its World Development Report each year (not to be confused with its financial Annual Report). In a simple summary form this gives figures on aspects of the national economies, but also includes the following health indicators for each country: life expectancy, population (and projections), demographic and fertility indicators, infant mortality rate, child death rate, population per physician and per nurse, percentage with access to safe water, daily calorie supply. The figures in the WBWDR are in the main taken from other publications of the WB, UN and WHO, but are summarised in easily digestible and comparable form. The coverage is good, but no comment is made on the reliability of the figures except to indicate where the data relate to a year (undefined) other than that generally used. There is no breakdown at all of the figures within any country.

The main source of world demographic data is the United Nations Demographic Yearbook. This contains tables of population, births, marriages, divorces and deaths for each country, for larger regions, and for the whole world. All the distributions are generally broken down by age, sex, urban or rural, and other factors where applicable. Each year figures are provided on one special topic: in 1980 this was mortality, with details of foetal, perinatal (first week of life), infant (first five years), maternal, and general deaths.

The coverage of the UNDY is very variable, with huge gaps in some areas. In the 1980 edition data on population was given for only fourteen countries in Africa out of over 40, infant deaths are given for eleven countries in the same continent, and foetal deaths for only one. The UNDY contains about fifteen pages of technical notes on the statistical tables, with discussion of completeness and reliability (see section on reliability below).

The main source of health data is the World Health Statistics Annual, published by WHO. This contains tables of vital statistics, deaths classified by cause for both sexes and by age (but only given for two countries in Africa for 1980-81), data on health personnel and hospitals (including some data on admissions) and on cases of infectious diseases (distributed by country, season, sex and age). Cause of death statistics are given for the 75 most common causes, and some idea of the accuracy of these figures can be gained by looking at the percentage of deaths by unknown cause, and the percentage of deaths which were medically certified.

The WHO also has other statistical publications: the Weekly Epidemiological Record contains up to date information on outbreaks of infectious diseases, and the World Health Statistics Quarterly contains articles on specific topics of epidemiological interest from all over the world, with occasional tables, but neither are compilations of official statistics. Every six years WHO produces its Report on the World Health Situation (sixth report, 1980) in two volumes. Volume I (global) is mainly a discussion of health from a global perspective, including tables of figures on population, labour force, life expectancy against gross national product, life expectancy against kilocalories per day, health manpower, and selected demographic, socioeconomic and health indicators by region (ie. continent). Volume II (by country) contains

about three pages (including one or two small tables) for each country individually. The range of topics discussed includes resources, progress in combating disease, and pharmaceutical production, but coverage is very variable between countries, and descriptive rather than systematically statistical.

Publications which may be useful for the background information they contain on non-health topics are the U.N. Statistical Yearbook, The State of Food and Agriculture (Food and Agriculture Organisation) and International Monetary Fund statistics.

The above list of publications covers only the most important and most accessible. The Index to International Statistics (Congressional Information Services Inc., Washington D.C.) provides a comprehensive catalogue and index to all economic, demographic, social and industrial statistics published by intergovernmental bodies. However, it is new, and costs over 600 per year, so may be difficult to find.

There are two alternative compilations of figures, both summaries at about the level of the WBWDR, but with a radical perspective. These are World Military and Social Expenditure (R. Sivard, pub: World Priorities, Leesburg, Virginia, USA) and World View (Pluto Books). The former refers to more sources than the WBWDR, and with more qualifications about the figures. The latter is a handy reference book arranged by country, and hence presenting some very quotable statistics. Both are annual publications, and also contain articles of current interest.

#### National Statistical Sources

Our experience is that the information available in this country is for many countries scanty, irregular (often not in series), not broken down into any sort of detail, and lacking any guide to reliability. But you may be luckier.

#### How Reliable Are They?

A simple answer to this is "not very reliable". The main source of bias is incomplete and unequal coverage of the population. Registration systems for births and deaths that reach only part of the country, or only certain ethnic groups, which many of the population may consider to be irrelevant, or treat with suspicion. Statistics of illness which only count those cases presented to hospitals or health centres, and completely ignore the large numbers of people who cannot afford such treatment, or who prefer more traditional medicine. Another major source of bias, but beyond our consideration, is misdiagnosis by untrained staff with insufficient time and inadequate resources.

A very useful and critical article on the subject of bias and reliability has been written by Jose Escudero (Int. J. Health Services, 10, p421, 1980). He clearly demonstrates the underestimation of mortality by registration sources (due to under-registration of deaths being worse than that of births), and shows how the new "indirect" methods using survey and census data can lead to much higher estimates. Causes of death are also subject to a bias: the system of selection of "basic cause of death" of the WHO's International Classification of Diseases ensures that a child who dies with infection and undernutrition will always be recorded as dying due to the infection. This leads to a huge underestimation of malnutrition as a cause of death.

The estimation of morbidity (sickness) is no better. Escudero quotes official estimates that 37% of the population of Latin America receive no health care of any kind, and so their illnesses do not appear in any statistics. The under-reporting is worse than that for deaths: in Mexico in 1967-74 there were 14,725 deaths from tetanus, but only 5,522 notified cases.

A discussion of reliability is given in the Technical Notes of the UN Demographic Yearbook. Following some discussion of the difficulties of measuring the general population (eg. errors in recording age, definitions of urban and rural areas), population totals are classified as 'reliable' or 'unreliable' on the basis of the methods used to collect and update the data. The number of events in a year (births, deaths, etc.) is classified as complete if coverage is at least 90% and incomplete otherwise. Rates derived from these counts are classified respectively as 'reliable' or 'unreliable'. The reliability of the population totals used in the denominator is not taken into account in assessing the reliability of vital rates.

Finally, difficulties in categorising cause of death are considered. The International Classification of Diseases is revised every ten years or so and this inevitably leads to problems in making comparisons over time. If more than 25% of deaths in a country are coded as ill-defined, the data on cause of death are considered unreliable by UN and not published.

#### To Sum Up

During the course of this work, we have had sufficient encouraging responses and unsolicited enquiries to make us believe that there are quite a number of individuals and campaigning organisations who use, or would like to use, the available statistics to present "radical" arguments. The aim of this article is not to put people off using the published official statistics, but to make them aware of the drawbacks. If you can find the results of a once-off survey on the topic you're interested in, then they're probably more accurate than any official figures.

It is easy to criticise the standard of official statistics collected, but most underdeveloped countries have more pressing problems to face than the setting up of an efficient statistical organisation. Having said that, even with limited resources there is the matter of will. It is in the interest of repressive regimes to undercount sickness and death among the populace, and present the situation as being better than it actually is. Conversely, one would hope that progressive governments would see complete and accurate statistics as an essential to planning a health service which is truly committed to improving the health of the people.

Health Group