

## Making deaths count

Kenneth Hill<sup>a</sup>

Death has always been an overriding concern: two of the Millennium Development Goals express targets in terms of mortality and one out of three components of the Human Development Index is a mortality measure. It is therefore surprising that the systematic measurement of mortality is relatively recent: rudimentary life tables to summarize mortality from the 17th century, the use of systematically collected data on vital events to examine mortality differentials and cause of death from the 19th century, and systematic explorations of behavioural risk factors only in the 20th. Today, routinely collected data on vital events provide complete and representative information for only about 40% of the world's countries and a quarter of its population.<sup>1</sup>

The planning, implementation and evaluation of health programmes at national and international levels require valid, comparable and timely information on the nature and magnitude of health problems. Information on deaths by cause is the key: the Global Burden of Disease 2000<sup>2</sup> estimates that 63% of healthy life lost in 2000 resulted from premature deaths. Yet Mathers et al.,<sup>3</sup> reviewing cause of death recording among Member States supplying data to WHO for 1990 or later, conclude that quality is "high" for countries with only 12% of the world's population, "medium" for 17% and "poor" for 5%; no data are supplied for the remaining 66%. Only two countries from sub-Saharan Africa, the region with the highest mortality, report causes for 50% or more of their deaths.

Global health progress requires action to improve the availability of valid statistics: broader collection and timely dissemination of health statistics, and new methodologies that make better use of existing data or that can collect substitutes for vital statistics records quickly

and inexpensively. The articles in this issue address both.

Information on child mortality in the 1990s is now available for a large majority of countries. Coordinated programmes such as the Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys have provided information on patterns, levels and trends of child mortality in many developing countries. Population censuses have added indirect observations and small area estimates for local health authorities. The major international agencies have coordinated their efforts, developing a common database and working on methodological improvements, but there is still much we do not know. Existing estimates are not timely: relatively few developing countries provide estimates of child mortality for 2000 or later. Information on cause of death is weak, and existing verbal autopsy approaches identify few causes well. Countries affected by civil strife, with perhaps the greatest problems of elevated child mortality, rarely have recent indicators of child mortality.

The situation is worse for adult mortality. No equivalent to estimating child mortality from mothers' reports has yet been found for adults. Some progress has been made with methods for evaluating and adjusting incomplete death records,<sup>4</sup> though issues remain with disentangling the effects of migration. Verbal autopsies have not yet been effective for identifying deaths from chronic diseases.

A major step forward, at almost no cost, consists of making data widely available. The DHS programme is a shining example of what easy access to data can do: summary measures are rapidly available on the Internet and survey microdata are available for relevant research. Others should follow the DHS lead. National census offices should make public-use microdata

samples available on the web as a matter of routine, and civil registration offices should treat cause-specific mortality data similarly. Demographic surveillance systems have proliferated in recent years, collecting prospective data of value to health researchers, yet all too often the data are closely held; donors supporting such sites have an obligation to insist on the production of public-use data sets. It is essential to remember that the value of data lies in their use, not their collection.

In the medium term, the collection of mortality information through household surveys and censuses in countries lacking adequate registration remains a priority, as does the development of new and improved survey methods for measuring (particularly) adult mortality and identifying causes of death. The Gates Grand Challenge 13 for population health metrics provides a new impetus for systematic methodological research. In the longer term, however, the development of valid and timely routine data systems is essential. The work of the Health Metrics Network, with its emphasis on capacity-building in health information systems, needs to be reinforced by other international agencies and embraced by national governments. ■

1. Lopez AD, Ahmad OB, Guillot M, Ferguson BD, Salomon JA, Murray CJL, et al. *World mortality in 2000: life tables for 191 countries*. Geneva: World Health Organization; 2002.
2. Mathers CD, Stein C, Ma Fat D, Rao C, Inoue M, Tomijima N, et al. *Global burden of disease 2000: version 2 methods and results*. Geneva: World Health Organization; 2002.
3. Mathers CD, Ma Fat D, Inoue M, Rao C, Lopez AD. Counting the dead and what they died from: an assessment of the global status of cause of death data. *Bull World Health Organ* 2005; 83:171-7.
4. *Methods for estimating adult mortality*. New York: United Nations; 2002. Department of Economic and Social Affairs ESA/P/WP.175.

<sup>a</sup> Harvard Institute for Global Health, 104 Mount Auburn Street, Cambridge, MA 02138, USA (email: khill@camail.harvard.edu). Ref. No. 06-030627