In 2015, the global health and development community will collectively assess the progress of nations towards achieving the Millennium Development Goals (MDGs), an ambitious framework for human development based on broad principles of equity, solidarity and poverty reduction. Of the 12 goals established to measure social and economic progress, three (MDG4, MDG5 and MDG6) relate directly to health development; reduction of child mortality, reduction of maternal mortality; and progress against the global epidemics of HIV/AIDS, malaria and tuberculosis, respectively. There has been much debate about whether global goals with explicit targets are useful or not in stimulating action by countries and donors to improve health. Whereas broad development goals are likely to receive strong endorsement by countries, the addition of specific targets might well be unwelcome, particularly if they are perceived as being too ambitious. Worse, the global focus on targets for the MDGs has driven a culture of accountability with an almost singular focus on whether a country is likely to achieve the specified targets or not, to the detriment of other important measures of progress.

The political imperative that countries have no doubt felt to accelerate progress with health development because of the existence of the MDGs is laudable, and real, but it has not necessarily been the ideal policy environment to do so, for five principal reasons.

First, recent global assessments have suggested that only about one-quarter of all countries, and less than one in five developing countries, will achieve MDGs 4 and 5, obscuring the very substantial progress in reducing child mortality, for example, that has occurred in sub-Saharan Africa, India and much of eastern Europe since 2000. In many countries, these accelerated declines have been due to the success of bold public policies, and financing, to scale-up and ensure delivery of bed nets and effective treatments to control diarrhoea and vaccine-preventable diseases, to manage HIV infection through antiretroviral therapy (ART) and prevent mother-to-child transmission of the virus. Yet, there is comparatively little awareness or focus on these impressive gains in reducing child mortality since they are, in most cases, unlikely to lead to countries achieving the global target. Arguably, the policy intelligence that can be gleaned from the success stories of the past 12–15 years ought to be the principal concern of the global health development community, and not whether a country might, or might not achieve some arbitrary target.

The arbitrariness of global target-setting is the second major concern. In order to achieve MDG4, for example, child mortality would need to have declined by an annual average of 4.4% from its baseline (1990) value. Very few countries have experienced declines in child mortality of this magnitude over any given 5-year period and indeed, there was little evidence to suggest such optimism in the period leading up to the formulation of the MDG targets. From 1970 to 1985, child mortality rates worldwide fell on average by about 2.6% per year, with more modest declines over the next decade, and then accelerated again from 1995 to 2005 when the global average rate of decline reached 4%. Around the time that the MDG targets were established (2000), the rate of decline was about 3%, or only about two-thirds of what was prescribed. Whereas setting challenging and aspirational targets in global health may well be motivational and lead to increased performance in controlling major diseases and injuries, the experience with the MDGs suggests that that is not always, nor indeed often, the case. A more comprehensive review of the epidemiological and demographic evidence over the two decades or so preceding the establishment of the targets would have suggested a more conservative global target that was within the reach of most countries.

Third, the MDG health-related targets make no explicit mention of the need to hold countries, and the global development community more generally, accountable for what should have been a primary focus of their collective action, namely to reduce inequalities in health. It is hard to imagine an informed global strategy to reduce poverty not
leading causes of injury worldwide, particularly road traffic injuries, which are estimated to have killed 1.4 million people in 2013 (many of them at young ages), one-third more than in 1990 when the MDG era began. The median percentage decline worldwide in age-standardized mortality rates from communicable, maternal, neonatal and nutritional conditions between 1990 and 2013 was estimated to be 40.6%, twice as great as for non-communicable diseases (18.6%) and injuries (21.0%). Including targets for reducing mortality from these diseases and injuries may not have led to sufficient policy action to bring rates down faster, but it almost certainly would have contributed to raising awareness among key global health stakeholders about the urgent need to accelerate the implementation of known, effective interventions against major NCDs and injuries. The same applies to leading causes of disability, which are absent from the MDG framework. Successive Global Burden of Disease studies have suggested that about one-third of health loss worldwide arises from largely non-fatal conditions, particularly mental health disorders. Societies collectively invest substantial resources in keeping people healthy, not just on keeping them alive; the inclusion of a measure of population mental health, for example, among the MDG targets would have provided key intelligence about how well we are doing in treating and preventing disability.

If the incorporation of epidemiological evidence and measurement science into setting goals and targets for the MDGs was less than optimal, how might a more careful consideration of epidemiological research and findings be better used to influence current debates and proposals for inclusion of a health goal and targets for the Sustainable Development Goals (SDGs) which will replace them? Five broad principles are proposed to guide such debates:

i. Targets should be based on epidemiological evidence about observed rates of change in epidemiological parameters most relevant to describing a population’s health today, and how it is likely to evolve given current trends.

ii. While acknowledging that human development is multifactorial, the role of the health sector in ensuring healthy populations is central to development. Any indicator or target intended to capture health development should therefore focus on measuring health loss in populations, not on vague and poorly defined notions of well-being.

iii. Targets should explicitly take into account epidemiological evidence and research about the relationships between exposure to health hazards and disease and injury outcomes, and the dynamics of how population dependencies change in response to those exposures.
exposure to these risks is changing, when setting future targets for mortality and disability.

iv. Indicators proposed to assess progress towards health targets should focus on what is measureable, with reasonable confidence, and be accompanied by explicit strategies to improve health information systems to more reliably generate these essential data, drawing on the potential of new, cost-effective data collection technologies and diagnostic methods.17–20

v. Goals and targets ought to explicitly reflect the moral obligation to improve health among the less well off as a priority. We all ought to be accountable for doing so. Explicitly including measures of population exposure to key health hazards, and access to essential health services, among the poor will be as important in predicting transitions out of poverty as current, often poorly based, estimates of mortality inequalities.

Adherence to these principles will greatly strengthen the scientific basis for proposing and monitoring development goals and targets, and assessing how well we collectively have done in meeting them. Global development partners and countries alike need to be more cognizant of the critical role that epidemiological research, both descriptive and analytical, can play in the formulation and implementation of health development strategies. Equally, epidemiologists have a responsibility to more effectively communicate to the global development community what are the leading causes of death in populations, how certain we are about them, and what our research suggests are important and feasible interventions to address them.

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