

# Global Indicators and Targets for Noncommunicable Diseases

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In September 2011, the United Nations (UN) convened a High Level Meeting (HLM) of member states to address a largely neglected, global reality: Noncommunicable diseases (NCDs)—including heart disease, stroke, cancer, diabetes, and chronic lung diseases—kill more people than other causes, health and non-health related, and the world is ill-prepared to respond. This was only the second such UN meeting of heads of state focused on a health issue, the first having been on HIV/AIDS in 2001. Without more effective and focused action, the growing burden of NCDs threatens to undermine increasingly interdependent development and economic agendas (1–3). The 2011 meeting ushered in the potential for an orchestrated response, facilitated by a mandate that the World Health Organization (WHO), in consultation with member states, develop a global monitoring framework with key indicators and targets to be achieved by 2025.

The task is to be completed by the end of 2012 (1). Only one global voluntary indicator with a target has received formal member-state endorsement thus far: reduce the probability of premature mortality from NCDs by 25% by 2025. Another 10 indicators with targets, and 9 indicators without targets, are proposed and under development (2), with the deadline just months away.

Although we focus on technical aspects, it is important to note that they are just one of the determining factors of the national and international processes of NCD indicator selection and target setting. Through member-state agreement, the WHO process is informed by a diversity of stakeholder interests, from public to private and civil society, as well as by foreign policy and economics. Sustainable changes in NCD outcomes will demand a whole-of-government and multisectoral engagement, and global targets have implications for foreign assistance. All of these factors make the process of goal setting both political and scientific.

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## Technical Criteria and Selection Process

The creation of indicators, measurable characteristics that describe an aspect of health, and targets, specific time-bound changes in indicators expected to be achieved, is not new to global health and development (4). In addition to providing an objective means to assess progress and impact, indicators and targets express a collective commitment to act, which can spark coordinated action and the mobilization of resources (4, 5). For example, a 1958 World Health Assembly (WHA) resolution to eradicate small pox globally was followed by a ratified plan and budget 10 years later, and eradication of the disease by 1979. The UN Millennium Development Goals (MDGs), adopted in 2000, are credited for increased funding (6) and likely contributed to the large observed reductions in under-5 child mortality (7).

Reflecting this experience, WHO has identified specific criteria to guide global NCD indicator and target development (8). They include that indicators have unambiguous measurement tools, epidemiologic and public health relevance, and relate to established priorities and strategies. Targets must be supported by evidence that they are achievable, with effective and feasible evidence-based interventions available (2). Proposed indicators and targets meet these criteria variably. For example, a clearly defined set of interventions with demonstrated effectiveness at the national level exists in support of the Framework Convention on Tobacco Control, yet evidence-based nationally scalable models to challenge upward trends in global obesity are yet to be determined.

The technical process of indicator selection has been guided by a focus on the four modifiable risk factors that lay claim to the majority of NCD-related morbidity and mortality: tobacco use, unhealthy diet, physical inactivity, and harmful use of alcohol. None of these risk factors can be fully addressed through work in a single sector. For example, diet is influenced by culture, geographic location, income, education, and available foods, which in turn are influenced by city planning and infrastructure, transportation, trade, agriculture, and energy, just to name a few.

Measurable, ambitious, and achievable indicators with targets are critical, but political commitment to achieve them is the main determinant of outcomes.

Determinants of NCDs go well beyond the traditional domains of public health. Yet the process of indicator and target setting is headed by the UN specialized health agency, WHO, with technical input largely from health experts and member state consultations dominated by ministries of health. It is thus no surprise that proposed indicators with targets seem to focus on health measures. Proposed indicators include tobacco use, raised blood pressure and serum cholesterol, physical inactivity, harmful use of alcohol, obesity, high salt and fat intake, treatment of those at risk for cardiovascular disease, and access to medications and technology. Where is the call for government multisector response and engagement from private industry and civil society? Is this a failure to capitalize upon the UN HLM, which transcended boundaries of health by engaging heads of state?

A comprehensive set of global indicators and targets specific to the multitude of relevant parties is not feasible. This would require years to negotiate and resources for monitoring well beyond those that exist. A technical solution is to select indicators proximate to NCDs and risk that will capture the aggregate of contributions from a multitude of sectors. Experience from implementing the MDGs also favors selection of indicators that capture multiple interventions (6) rather than singly focused measures. For example, an indicator that measures the prevalence of raised blood pressure, one of the leading global contributors to death, would reflect the combined impact of medical treatment for hypertension, as well as initiatives to improve diet (e.g., to reduce dietary salt), increase physical activity, and decrease alcohol intake. These actions will require contribution from the private sector, such as the food and beverage industry, agriculture, and pharmaceuticals, and from multiple government sectors, such as transit and energy, and others. Bringing these stakeholders to the table will be no easy task and is the subject of two related UN HLM mandated processes: an update of the *WHO Action Plan on the Global Strategy for the Prevention and Control of NCDs* (9), which is expected to include a road map for implementation of the commitments from the UN HLM, and a report on strengthening multisectoral action.

### Marrying Measurability, Form, and Function

If an indicator does not include a feasible and valid mechanism of measurement, analysis of resulting data may indicate success where there was none or report failure in the face of achievement. This may support inappropriate use of resources and missed opportunities to prevent disease or death. For example, although there are some objective measures of NCD risk factors, such as direct measurement of weight or analysis of 24-hour urine collection for salt intake, measurement of many behavioral risk factors will depend on surveys where respondents self-report their actions. These data may be less reliable, as responses are influenced by culture, environment (such as rural versus urban), ethnicity, race, and gender, among other variables. The adopted indicator for mortality relies on vital registration systems, which only exist at the level of completeness needed to determine all-cause death in about two-thirds of the world's countries (2) and cannot be reliably disaggregated to estimate specific cause of death in most. To increase reliability, the global mortality indicator and target were created as an aggregate, capturing all major causes of NCD mortality, rather than a separate target for each individual cause of NCD death.

Data limitations are expected, as data collection and reporting, especially in the setting of nascent surveillance systems, require resource investment. For these reasons, careful consideration of the capacity of the tool to measure the variable of interest consistently across populations, within countries, as well as between countries over time, should be central. Additional resource investment will be needed for surveillance and vital registration systems capturing risk and cause-specific morbidity and mortality.

For many NCD risk factors, such as blood pressure and serum cholesterol, risk varies over a continuum. Within a normal range, lower is generally better, but no specific level indicates “no risk.” Rather than focusing on just those at the high end of the distribution, interventions that shift the mean risk of an entire population may result in greater reductions in events. Indeed, a large proportion of heart attacks and strokes occur in people without “raised blood pressure,” that is blood pressure below 140/90 mmHg, the level at which hypertension is defined for most. Yet, for many conditions, interventions targeting populations and high-risk individuals are conducted concomitantly (10). How should the spectrum of interventions for a specific condition and the continuum of population risk influence the design of indicator development? When a condi-



Port-au-Prince, Haiti, January 2010. A nurse takes a woman's blood pressure at a makeshift camp soon after the earthquake.

tion is common globally—for example, raised blood pressure, which affects 40% of the world's adults—the discussion may be largely academic. The impact of interventions targeting populations and high-risk individuals will both be captured by an indicator defined by mean population blood pressure or by percentage of the population with blood pressure below 140/90 mmHg.

In this case, a key function of indicators—to communicate information on the status of a health condition to the broader community—should guide the decision. Our experience suggests that, compared with a mean reduction in population risk, an indicator that reports the percent of people at risk is more easily understood by the lay community and policy- and opinion-makers and should be used as the form of indicator.

The better we are at preventing death from communicable diseases, the more likely we are to die from NCDs. The opportunity is not to eliminate NCDs, but rather to limit early disease by reducing modifiable risk factors. To translate this goal into an indicator and target, the population measured should be limited to those whose risk can be modified. For example, the approved mortality target for NCDs is a measure of premature mortality: reduce the probability of death in the population ages 30 to 70 years by 25% by 2025 (2).

### The Technical Process

Scientific consensus takes time to be achieved and is uncommon in new and evolving areas, such as NCDs. Tobacco use may be the best example of global scientific consensus with respect to risk and evidence for action, and this took decades to achieve. The technical process of developing indicators and targets provides a means to make recommendations based on the best evidence, but it cannot be a forum to reconcile all related scientific debates. Further, the direction of the technical process is

ultimately defined by member-state decisions, as part of the political process. For example, at the WHA in May 2012, indicators and targets that would require further development by WHO were specified by member-state agreement. The recent set of proposed indicators and voluntary targets, including those for obesity, fat intake, harmful use of alcohol, serum cholesterol, and the availability of essential medicines for NCDs, reflect this demand. Regional WHO meetings will discuss the proposed indicators

and targets. WHO will hold a final member-state consultation in November 2012, before final revision.

Although ultimately this process should strive to produce indicators and targets of scientific excellence, as Voltaire wrote, “the best is the enemy of good.” The best technical set of measurable, ambitious, and achievable indicators with targets is the ideal, but in the end, it is not the indicators or targets, rather the political commitment to achieve them, that is the main determinant of outcomes. Final endorsement by member-states, and interventions to prevent and control NCDs, are the real prize.

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