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EDITORIAL VIEWPOINT

Exploring Country-Level Decision Making for the Control of Chronic Diseases

Reflections from an Institute of Medicine Workshop

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As highlighted by the recent United Nations High-Level Meeting on Noncommunicable Diseases in September 2011, chronic diseases are increasingly recognized as a major health problem in low- and middle-income countries, where they are also accompanied by significant economic repercussions [1,2]. Low- and middle-income countries face many competing demands on their available resources, from basic development priorities to a range of important health needs. These countries currently have limited internal resources devoted to chronic diseases and receive little external funding to address this issue [3]. Nonetheless, despite the many challenges, it is increasingly recognized that reducing the burden of chronic diseases in developing countries is not only achievable, but it is also critical to meeting global health and development goals. The Institute of Medicine (IOM) report, *Promoting Cardiovascular Health in the Developing World* [4], concluded that to accomplish this reduction in chronic disease burden would require:

- Aligning disease control efforts with local needs based on local disease burden, priorities, capacity, and resources.
- Recognizing and working within the realities of resource constraints and competing priorities that require difficult choices.
- Building knowledge of how to successfully and sustainably adapt and implement effective, affordable, and feasible interventions and programs in the settings where they are needed.
- Improving local data and local mechanisms for monitoring and evaluation.
- Integrating efforts across chronic diseases with common risk factors.
- Building successful collaborations within and beyond the health sector.
- Integrating efforts with existing health and development priorities.

The report recognized the need to identify practical ways to assist low- and middle-income countries in taking actions that are most appropriate for each country's particular disease burden, priorities, and resource availability. These vary greatly across countries, and thus a one-size-fits-all approach to the control of chronic diseases will not succeed. Rather, the overarching aim should be to support countries in navigating the many, sometimes overwhelming, options for chronic disease interventions and programs, rather than prescribing externally determined priorities. Thus, real progress will come through approaches that are driven by a country's circumstances and led by a country's key decision makers and stakeholders.

As a follow-up to this key message articulated in the 2010 report, in July 2011, the IOM convened a workshop to advance the global conversation about how to support chronic disease control through locally driven approaches that are aligned with local realities [5]. The workshop was designed to explore how countries can assess resource needs and planresource allocation for effective, efficient, and equitable chronic disease control as part of the broader

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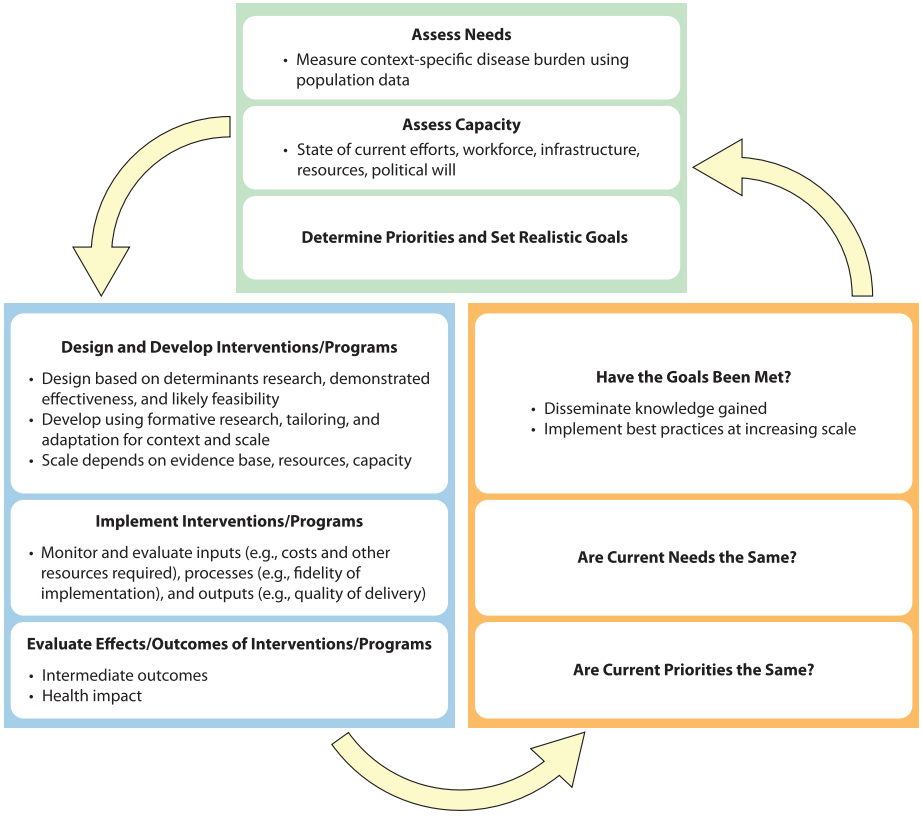

Figure 1. Measurement-based decision-making cycle. Adapted with permission from the National Academies Press [4].

process of planning, priority setting, and decision making. To achieve this, it is critical for countries to use evidence and ongoing measurement and monitoring to inform a cycle of decision making and implementation (Fig. 1). For this, countries need evidence based on local circumstances, as well as the ability to define resource requirements that reflect real local costs.

At the workshop, representatives from a range of economically, demographically, and geographically diverse countries described experiences, progress, and lessons learned in planning and implementing chronic disease control efforts at the country level. This included a discussion about how decisions are made in the health sector of each country. Country representatives also described the availability and gaps in useful, country-level data to inform the decision-making processes. These countries included four extensive studies from Grenada, Kenya, Rwanda, and Bangladesh, as well as presentations from Chile and the state of Kerala in India.

In addition to these country experiences, the workshop session presented examples of tools, models, and methods that could support countries in their decision making related to chronic diseases, with discussion about the appropriateness of models and tools for different purposes and different settings and about the best way for developing countries to apply these tools each in their own context. The key message that emerged was that tools to support the decision-making process need to be flexible.

The workshop was attended by policymakers; clinical, public health, and policy experts; economists; and public and private sector leaders, all from a range of countries and institutions. Time for discussion was a focus of the workshop, and those in attendance participated in a robust series of conversations along with the workshop presenters and panelists. The presentations and discussions reflected that priority setting is not simply a technical matter of assessing intervention effectiveness and costs and, thereby, focused on the full range of elements and considerations that need to be incorporated in a broader process of decision making, planning, prioritization, and resource allocation. These elements include:

- Assessment of baseline status and progress over time related to chronic disease control.

- Synthesis and analysis of the best available global and country-specific intervention effectiveness evidence and costing information to guide priorities and choices for resource investment.
- Priority-setting process that incorporates country-specific objectives and values.
- Communications strategies aimed at informing policymakers and other key stakeholders involved in the decision-making process.

A more extensive summary of the workshop is available elsewhere [5], and full reports of the country experiences presented at the workshop are currently in preparation for publication. Therefore, the following reflections focus on some of the themes that emerged across the presentations and discussions, expanding on the elements described, as well as some of the key characteristics of tools and methods to support countries as they undertake the process of planning and implementing a response to chronic disease. One overarching message that applies throughout the following is that the aim should be to support and guide a process of setting priorities for investment that uses and strengthens a country's existing institutions and mechanisms for information gathering and for decision making for health, a topic that is explored in depth in this issue by Glassman et al. [6]

ASSESSMENT OF CURRENT STATUS AND PROGRESS

An important first step in designing strategies for chronic disease control is to assess, at the country level, the current profile of disease and risk-factor burden; the existing policies and programs to address that burden; and the key impeding factors that are specific to the country. Readiness to implement different choices of interventions or programs must be established, including increasing technical and managerial capacity, as well as infrastructure capacity. This assessment of current status is critical to inform what the priority targets for intervention should be, what the most appropriate and feasible interventions are, and what intermediate steps may be necessary to achieve implementation of control efforts.

The level of awareness and recognition of the growing burden of chronic diseases is variable across countries; for example, in some countries this may still be a key first step in any control effort, whereas in others, there may be a high level of awareness already among policymakers to serve as a starting point for the planning process. Similarly, in some countries there is currently little technical expertise for chronic diseases, with very few health or policy professionals working in this area. In others, by contrast, specialty institutions and expertise for chronic diseases have been part of the national fabric for some time, and the next step is to translate this into making chronic disease control a public health and policy priority and scaling up capacity and implementation of policies and programs.

Understanding the realities of the current status in a country is key to successful planning, which must take into account not only what interventions should be implemented but also what will be required to build the human resources and infrastructural capacity to successfully implement them. This capacity building may be needed at the national, regional, and local levels and in both government and nongovernmental sectors. For chronic diseases, which are widely recognized as requiring a multisectoral response, there is also a need to assess and plan for capacity not just in the health services and public health arena, but also in other related fields such as transportation and urban planning, agriculture, sustainable development, and education.

Finally, the advantage of a baseline assessment is that once a method or framework has been established for assessing the key components of the response to chronic disease, this can also be used as an ongoing tool to assess progress over time.

DATA AND INFORMATION NEEDS

The goal of evidence-based decision making and planning is to assess the evidence to help determine which interventions are likely to be not only effective but also feasible and affordable in a given country context. However, the quality of the output for any information-driven process depends on the quality of the data and the assumptions that underlie the inputs. No country has all of the data that would ideally be needed to inform the decision-making process, whether as formal input into a model or as information and analysis to be communicated to decision makers. For chronic diseases, some countries have some data, for example from employing the World Health Organization's WHO-STEPS (STEPwise Approach to Surveillance), from large-scale international research studies, or from the addition of chronic disease information to demographic and health surveillance, as is being done in Bangladesh. In general, however, there are severe limitations in most low-

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and middle-income countries on the availability of basic epidemiological data, basic vital statistics, data on program monitoring and evaluation, data on costs and the economic burden, and also data about other criteria for decision making, such as values and preferences. Some of the barriers to data collection that emerged in the discussions spanned a range of issues, including the lack of attention and resources applied to data collection for chronic diseases; the limited number of experts in chronic disease surveillance, research, and evaluation; a lack of capacity in other aspects of data collection such as field workers with the skills to assess factors related to chronic disease; and limitations on data collection design and approach, such as one example of a household survey in which women were not asked about tobacco use.

On the other hand, a theme that arose from the country experiences presented at the workshop is that whereas the ideal data might be lacking, there is a surprising amount of data that, although it may not be representative at the population level, can be reasonably used (if interpreted appropriately) to inform decision making in lieu of the ideal. Some of the examples of data sources that emerged include hospital admission, discharge, and mortality data; small-scale surveys; research studies; and regional data from countries with similar demographics, epidemiological profiles, and current status in terms of control efforts as well as capacity, infrastructure, and resources. Therefore, an important message was to not wait until there are better data but rather to make use of the best available data now. And then to simultaneously plan for improvements in data collection as a part of disease control efforts, so that future iterations of planning and decision making will have ever better information as inputs.

COSTS AND ECONOMIC ANALYSIS

A fundamental aspect of decision making in every country is financing. Therefore, any tool or process to support decision making for chronic disease control needs to capture information that can help convince government and other stakeholders to increase funding, and to this end, policymakers need evidence from economic analyses.

Increased resources for chronic disease may include adding funding; however, total government and other expenditures are unlikely to increase greatly. As a result, alternatives to consider include reallocating resources or finding ways in which current expenditures can be applied to include chronic disease control, such as opportunities for services to be added on to existing programs and infrastructure with minimal additional marginal costs.

Where funds are limited, cost-effectiveness is a critical concern. If data that is as specific as possible to a country can be used, tools for economic analysis could guide countries in a process of reviewing services and actual costs and identifying inefficiencies in their specific systems that could be corrected. Tools of this kind could also guide countries in identifying what the most cost-effective policies will be in the context of their political and economic environment and then to develop incentives and advocacy to promote those policies.

For credible and realistic budgeting, it is also important to consider the true total cost of implementing chronic disease control efforts. This means the costs of necessary intermediate steps, such as training new workforce or adding new infrastructure or equipment or the effort required to successfully pass new legislation. In addition, costs based on the current known disease or risk factor may be an underestimate of true costs. As the experience of the response to the human immunodeficiency virus demonstrates, successful control efforts that include increasing awareness and screening and improved disease management will also lead to identification of increasing numbers of people in need of services and interventions, and there will be an ethical imperative to provide those services. This expansion of services and infrastructure needs to be a part of the planning process and the estimation of costs.

Another important pragmatic issue in resource allocation is opportunity costs. Prioritizing investment to address one disease may divert money from other disease-control efforts, and prioritizing investment in health may take money away from other development efforts. Decisions of this kind are routinely made implicitly, but using planning tools to make them explicit may have mixed results. Whereas instituting a rational process for priority setting and resource allocation may increase transparency in the decision-making process and partly insulate policymakers, the explicit tradeoffs may also open the door to even greater political and societal pressures that are placed on decision makers.

Opportunity costs are a way that decisions about health expenditures and investments in an area can affect other areas. The converse of this is opportunities for synergistic investments that benefit multiple health issues, such as strengthening health services including primary care, improving health insurance and other financing mechanisms, and providing more well-trained and motivated health-

care workers. Information and analysis that identify such opportunities will help focus the planning process on ways to maximize these kinds of synergistic investments, which is especially important when total resources are limited.

Finally, the ability to demonstrate future savings that can be expected as a return on current investments is an important tool to inform decisions. This will require providing not only estimates for costs for chronic disease prevention and control, but also estimates of impact on health and resulting potential for savings through reduced future health costs, as well as potential positive economic impact at household and national levels.

The workshop included a few examples of costing approaches, including 2 described in this issue by Stenberg and Chisholm [7] and by Mirelman et al. [8]. One theme that emerged across the country representatives at the workshop was an emphasis on the urgent need for health economists who understand the country context and the issues around chronic disease planning and implementation and have the skills to use these kinds of costing and economic analysis tools.

PLANNING FOR IMPLEMENTATION

An important part of gathering, analyzing, and applying information to decision making is the need to take into account the feasibility of both initiating and sustaining planned efforts. This needs to be factored into what interventions are selected as well as into realistically determining costs. Ideally, support for the planning process would take into account a long-term timeframe that incorporates a time horizon for developing capacity in human resources and infrastructure, anticipates an evolving disease burden, and allows sufficient time to see a return on investment in the form of health and economic benefits. Therefore, as with the approach to use the best available data while improving data collection, the approach to prioritizing interventions needs to highlight choices that build on current strengths in the existing system to develop chronic disease control efforts and that while implemented will also increase capacity. Thus, short-term efforts can also form a basis for successfully scaling up or expanding the scope of interventions in the future. Another important feature of supporting a long-term time horizon is to plan in the flexibility to adapt priorities and strategies based on the realities of implementation, changes in the resource environment, and adoption of emerging innovations.

PREFERENCES AND VALUES

In addition to intervention effectiveness and economic data, other inputs are incorporated in the policy decision-making process, either implicitly or explicitly. There are a wide range of factors that can contribute to one health issue or one population being privileged over others, and it is important to acknowledge that the resulting preferences and values are a key part of priority setting and, therefore, to incorporate them in the process. It is not just government leadership but also other sectors of society that have a stake in the priorities for health care and for government investment, including nongovernment sectors, professional societies, academic communities, advocacy groups, civil society organizations, and even external donors. Decisions about investment in health must also be responsive to the concerns of the public and the community at large. Successful support for decision making for resource allocation cannot be done solely with tools or models that privilege empirical evidence. These tools need to be part of a broader process that takes into account other factors such as ethical issues, public interest, political will, and negotiation of the interests of competing priorities.

COMMUNICATION

Part of a successful evidence-based decision-making process lies in establishing a stronger link between evidence and policy by packaging and communicating research findings and evidence in a way that is accessible and easy to interpret for politicians and policymakers. This may include facilitating access to information and resources as well as using communication tools that streamline and organize information in a way that is targeted to specific audiences and purposes, such as at-a-glance publications, fact sheets, 1-pagers, dashboards, or scorecards, including electronic means of communication that can be easily accessed and readily updated. These communication tools can also serve as mechanisms to allow basic information to be tracked over time as an indication of progress in the implementation of chronic disease control efforts.

An area of discussion that emerged at the workshop is that to truly support evidence-based decision making, this communication needs to work in both directions: There needs to be not only evidence-based policy making, but also "policy-based evidence making." In other words, in one direction,

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policymakers need to use evidence, and therefore, there is a need to find ways of effectively communicating that evidence to them. In the other direction, to ensure that appropriately useful information for policymakers will be available, those who generate the evidence also need to consider the needs of policymakers in designing data collection and evaluation and in setting their research priorities.

CONCLUSIONS

The workshop challenged participants to think about how the world would change after the UN meeting in September 2011. There are currently lost opportunities and challenges at three levels: (1) the service and program provision level; (2) the policy level across sectors; and (3) the institutionalization and accountability of government decision making and resource allocation. How will we overcome these challenges and take advantage of these opportunities? What will country-level stakeholders do next? What will the global community do to support them? The workshop initiated a conversation about these questions, a dialog that continues in this special issue of *Global Heart* and will hopefully be taken up and expanded at the global and country levels to help advance chronic disease control worldwide.

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