

gOPINION

EDITORIAL

Potential for Global Progress in Control of Chronic Diseases A Turning Point in 2011

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With the September 2011 United Nations High Level Meeting on Noncommunicable Diseases, the world's attention is turning to the critically important issue of chronic diseases. The global community is on the threshold of what could be a major change leading to progress in the control of chronic diseases worldwide – progress that could be achieved as a contribution to improving global health overall, rather than as a competition with other diseases that persist as important health challenges in low and middle income countries. This inaugural issue of *Global Heart* brings together a series of articles and commentaries reflecting some of the key elements that are needed to successfully achieve the promise of progress that the U.N. meeting brings.

As a central frame for promoting health and achieving better control of chronic diseases, the issue presents the main messages and recommendations of the 2010 Institute of Medicine report, *Promoting Cardiovascular Health in the Developing World: A Critical Challenge to Achieve Global Health* [1]. In addition to a comprehensive summary of the report, this issue presents in more detail excerpts from the conceptual strategy articulated by the authoring committee and the report's proposed framework for action.¹

The messages of the report and the framework described are built from the perspective of global cardiovascular disease, a fitting entry point for the inaugural issue of *Global Heart*. However, in line with the approach to collaboration and partnership embraced by the World Heart Federation and described in this issue by Sidney Smith and Johanna Ralston, the authoring committee of the IOM report recognized

that the actions identified will be most likely to succeed if they are implemented not in isolation, but rather through strategies that encompass the shared needs and priorities of emerging and existing global health challenges. These include chronic diseases with common risk factors; cardiovascular and other chronic diseases of infectious origins, which persist as major health problems in many low and middle income countries; and chronic infectious diseases that require similar management approaches. Furthermore, because these health challenges or their antecedents begin early in life and persist throughout the lifecourse, chronic diseases should be considered when designing maternal and child health programs and efforts to strengthen health promotion and primary health care.

One theme that emerged in the IOM report is that a critical element for the success of chronic disease control will be the role of the global community of health professionals. The roles of the professional community are described in more detail in this issue as part of the *Summary, Conceptual Strategy*, and *Framework for Action* from the IOM report. Some of the key messages presented warrant specific comment here, along with a description of how the theme is given particular emphasis in the other articles gathered in this issue.

CHRONIC DISEASES AND GLOBAL HUMAN RESOURCES FOR HEALTH

There are currently over 1 billion people worldwide who lack access to medical care [2], caused in part

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¹ The statements and opinions in the original articles included in this issue are those of the individual authors and do not represent the position of the Institute of Medicine or the National Academies.

by a shortage of healthcare workers. The 2006 World Health Report estimated that there was a shortage of more than 4 million healthcare workers globally [3] and the repercussions of this shortage disproportionately affect those in low and middle income countries. Public health and health care delivery programs in low- and middle-income countries remain unsustainable, ultimately restricted by the absolute shortage of personnel in the health workforce [2,3].

The widespread and growing health and economic burden caused by chronic diseases is likely to exacerbate the effects of the global health care workforce shortage, yet most development assistance programs and healthcare capacity building initiatives do not include chronic diseases. The stark reality exhibited by the current state of global health is that there is insufficient capacity to meet chronic disease needs in low and middle income countries. If the broad health needs of the developing world are to be met, capacity building efforts and innovative solutions to the health workforce shortage must include a broader scope to better emphasize the importance of promoting health across the lifespan and to better prepare professionals to prevent and treat chronic diseases alongside the other health challenges faced by low and middle income countries.

An adaptation of workforce strengthening efforts to be more integrated across diseases can be guided by the same core objectives identified by the Joint Learning Initiative identified three core objectives for optimizing the health-care workforce: competence, coverage, and motivation [4]. Initiatives to meet these objectives may include providing continuous training at several professional levels of health care worker in clinical, public health, health communications, and behavioral disciplines, as well as health systems and program management; promoting task-shifting to less-specialized workers and other innovations in clinical practice; promoting motivation and retention by improving management and providing satisfactory remuneration, adequate resources, appropriate infrastructure, and career development opportunities; and cultivating leadership and innovation [5–8].

An independent commission on the Education of Health Professionals for the 21st Century Commission articulated the need to fundamentally transform the education of health professionals in order to meet the health needs of global community into the future [9]. In this issue, Patrick Kelley comments on how the recommendations of the

commission relate to the needs of a future global health workforce capable of addressing chronic diseases.

THE NEED FOR COMPREHENSIVE APPROACHES FOR TRAINING TO ADDRESS CHRONIC DISEASE

The ideal approach to chronic disease control would target a holistic set of risk determinants that includes behavioral, biological, psychosocial risk factors as well as factors related to the healthcare system and to health, agriculture, and other intersectoral policies. Health behaviors and health status are also affected by economic, political, cultural, and socioeconomic influences. Therefore, health care focusing solely on the individual that relies primarily on clinical treatment services provided by physicians can neither prevent chronic disease nor reach the entire population in need. Rather, the range of determinants calls for an integrated approach to chronic disease that incorporates health promotion, prevention, treatment, and disease management. Effective and comprehensive multi-sectoral programs are needed that incorporate a variety of approaches, including policy change, health promotion campaigns, novel utilization of modern communication technology, efficient use of medical technology, and integrated clinical programs. To fully reach those at high risk for chronic disease, programs must combine education, support, and incentives to address behavioral risk factors and improve adherence to clinical interventions.

Thus, the effort to appropriately and adequately train a local chronic disease workforce must include clinical science, public health, research, epidemiology, behavioral health, health promotion, health communications, health systems management, and economics. A health and public health workforce that is well equipped to address CVD and related chronic disease also needs to include training beyond technical competencies that will lead to an understanding of the broader systemic and social determinants of health and readiness to participate in the policy process as well as in partnerships across disciplines and sectors. Furthermore, there is a need to link the training of the health workforce to the training of professionals in related disciplines, such as information technology, management science, agriculture, environmental science, and transportation and urban planning.

Although control of chronic disease involves these broader skills and knowledge, there also remains a need for health professionals trained in disease-specific clinical assessment for the secondary prevention and treatment of individual conditions. This specific training is critical for the overall success of non-communicable disease programs globally. Indeed, there are gold standards for detection and treatment of disease that can be adopted into curricula for health care workers. However, it is also important to recognize that the use of advanced medical technology may not be possible in resource-constrained settings. For example, CVD screening in low and middle income countries may be most effective if limited to simple methods such as family history, medical history, and physical measurements including blood pressure, body mass index, and waist-to-hip ratio [10].

In addition to the knowledge and skills needed in the different disciplines that contribute to a comprehensive response to chronic diseases, there also needs to be readiness and capacity in low and middle income countries to implement synergistic approaches to care. However, the capacity to design, implement, enforce, and evaluate policy changes, health programs, and interventions is weak in many countries in both governments and non-governmental organizations. Thus, successful initiatives in capacity building require strengthening institutions and management capacity as well as lasting engagement by national governments. Active and committed national government involvement is critical in several realms, including development of healthcare policy, guidance and support for training institutions, provision of resources and incentives to support healthcare workers, monitoring and assessment of healthcare systems, and engagement of necessary stakeholders in nongovernmental sectors of the healthcare system [2,5,6].

GLOBAL SUPPORT FOR DEVELOPING A WORKFORCE PREPARED TO ADDRESS CHRONIC DISEASES

The need to strengthen workforce development and other aspects of the health systems in low and middle income countries is of course not specific to chronic diseases. Indeed there are many ongoing and emerging efforts in health systems strengthening. To achieve a workforce that possesses the capabilities necessary to address chronic diseases, current leaders in the chronic disease community must actively engage in ongoing and

future health systems strengthening efforts in low and middle income countries—not only to improve training for prevention and treatment, but also to contribute chronic care expertise to control efforts for infectious diseases that require chronic management, such as HIV/AIDS and tuberculosis.

Although the predominant focus of capacity building to date has been on traditional global health focus areas such as infectious disease and maternal and child health, there is the potential to find synergy and avoid duplication of efforts by convincing some of the leading organizations in this field to broaden the approach of their existing efforts. Indeed, in some cases, existing health and development agencies are already starting to include chronic diseases as they implement programs to contribute to workforce development.

For example, global HIV/AIDS and TB global health programs present an important opportunity to incorporate synergistic care for chronic disease into current and future models for training to meet their workforce needs. Furthermore, a more comprehensive approach to training for the care of these chronic infectious diseases would also improve the management of increased CVD risk that is associated with HIV/AIDS and TB. PEPFAR, the United States' global HIV/AIDS program, is dedicated to building workforce capacity and training leaders in healthcare [11]. The Medical Education Partnership Initiative (MEPI), jointly sponsored by PEPFAR and the NIH, was designed specifically for this purpose. In this issue, James Hakim and colleagues provide an account of a newly initiated MEPI project that includes a component to address CVD in Zimbabwe. Synergistic approaches of this kind are a step in the right direction to ensure that new leaders in healthcare will be fully equipped to treat both communicable and non-communicable diseases, and that the gaps in health workforce training are no longer perpetuated.

In another example, the US Centers for Disease Control and Prevention (CDC) is already a global leader in capacity building for chronic disease surveillance, specifically concerning tobacco use. Through its programs, the CDC is responsible for training workforce on survey design, sample selection, procedure development, implementation of the survey, tabulation of data, and data management. Further expanding the scope of this training platform to include other related risk factors could be an opportunity to build needed capacity for chronic disease surveillance [12]. The CDC's Field Epidemiology and Lab Training Program (FELTP)

is another training program model with excellent potential to be modified to incorporate issues related to chronic disease in developing countries [13,14]. The CDC also supports the African Field Epidemiology Network (AFENET), a networking and support alliance of FELTPs in Africa. In May 2010 leaders from the AFENET FELTPs met with Ministers of Health from several African countries in Kampala, Uganda to explore strategies for implementing a comprehensive program of chronic disease surveillance and an associated capacity development initiative in the African Region [15].

There has also been leadership within the US National Institutes of Health to expand its global health efforts, including a growing contribution to chronic disease efforts. The National Heart, Lung, and Blood Institute's (NHLBI's) leadership and commitment within NIH to global chronic diseases has been demonstrated by its recent partnership with UnitedHealth to develop centers of excellence for chronic diseases in developing countries and by its leadership in creating the six-research-institution Global Alliance for Chronic Disease with Canadian, British, Indian, Chinese, and Australian research support agencies [16]. The Fogarty International Center, which supports basic, clinical and applied research and training for U.S. and foreign investigators working in low and middle income countries, has increased its support for chronic non-communicable diseases as part of its current strategic plan [17]. The Center is also working with other NIH divisions and private partners to develop further chronic disease initiatives.

The recent commitment from the WHO Global Health Workforce Alliance to develop qualified, multi-faceted healthcare workers versed in prevention and treatment of non-communicable diseases as part of their effort to address needs in global healthcare workforce shortages is another example of progress [18]. This commitment at the level of a leading global stakeholders has the potential to encourage other capacity building initiatives to focus programs more broadly, and will discourage the perpetuation of narrowly focused, disease specific training programs.

ROLE OF ACADEMIC INSTITUTIONS AND COMMUNITIES

Academic institutions and communities in developed and developing countries also have an important role to play in chronic disease control through

investment in country relevant research and workforce training. Indeed, it is these institutions that will train the future leaders in the chronic disease movement. One major contribution to building healthcare capacity and expertise in the developing world is partnering and exchange between institutions in developed and developing countries. These partnerships enhance the function of all the institutions involved by sharing knowledge and skills among professionals and trainees. Because many of the global health centers that participate in these partnerships are interdisciplinary, they provide an opportunity for collaboration among experts from a wide range of academic and professional specialties, which will be critical to accomplishing comprehensive approaches to chronic disease control. The program described by James Hakim in this issue is one example of this kind of partnership, but only a small number of existing partnerships include any focus on curricula related to chronic disease prevention and treatment. Chronic disease training and ultimately chronic disease control programs can also be increased through regional partnerships and the sharing of knowledge and technical capacity among institutions in low and middle income countries with similar epidemics and cultural and societal contexts. In this issue, Sandeep Kishore, Karen Siegel and colleagues examine the evolving role of the university community in the response to changing public health needs. This is complemented by a statement from the perspective of members of the Young Professionals' Chronic Disease Network, as well as an in-depth commentary on training and education needs in India.

RESEARCH AS THE FOUNDATION FOR PROGRESS IN GLOBAL HEALTH

Research serves as the foundation for all actions toward progress in global chronic disease efforts, and building research capacity warrants particular emphasis in the development of the workforce. Not enough is known about which intervention strategies will be most effective and applicable in resource constrained settings. In addition to resource constraints, other local realities related to infrastructure, culture and variations in priorities affect the planning, implementation, effectiveness, and sustainability of approaches to prevent and manage chronic diseases. High-quality evaluations of programs in low and middle income countries are needed in order to inform how to best implement future programs in similar settings. There-

fore, research, training, and support should be directed toward projects that identify how to translate the existing body of chronic disease knowledge into implementation, thus closing the knowledge-action gap. This includes developing research approaches that cross disciplines beyond the health sciences and advance intersectoral research and evaluation methodologies.

Tying together workforce needs and research needs, one important future area of investigation is to assess approaches to improve clinical, public health, and research training programs in both developed and developing countries. There is also a need to gather more information about the current status and gaps in curricula for schools of nursing, medicine, and public health. These areas of inquiry will inform systematic plans for developing a fully equipped public health workforce prepared to competently prevent and treat the full range of diseases.

Finally, another critical component of capacity building and a key part of advancing a research agenda is the dissemination of knowledge. To help countries build a relevant knowledge base, there is a need to develop more systematic mechanisms for disseminating information about strategies that have worked in one context and are therefore more likely to work in similar contexts. Dissemination of research and program evaluation data supports innovation through shared knowledge and technical capacity among countries with similar epidemics, resources, and cultural conditions. It also helps build international support for country-based solutions.

ENGAGEMENT AND ADVOCACY FROM HEALTH PROFESSIONALS IN SUPPORT OF THE RESPONSE TO CHRONIC DISEASES

In closing, a key message about health professionals in fields related to chronic diseases is the impor-

tant role they can play in actively advancing a global response to chronic diseases through engagement and advocacy at the global, regional, national, and local levels. International advocacy efforts to raise awareness of the growing burden of chronic diseases in low and middle income countries have continued to grow with increasing intensity over the past several decades. The challenge for advocacy efforts, moving forward, will be to convince ministries of health and finance in low and middle income countries, development assistance agencies, and other donors that investment in prevention and control is critical despite their highly constrained health budgets and many competing health and development priorities. A key challenge will be to target advocacy efforts at existing global health programs to better communicate the reasons and opportunities to promote the integration of basic chronic disease prevention and management into their existing programs.

Examples of leadership in this effort are described in the commentaries in this issue from the World Heart Federation and leaders from the health professional communities in South Africa and the Caribbean. In addition, remarkable leadership among those who represent the future of the professional workforce is exhibited in the formation and active engagement of the Young Professional Chronic Disease Network, who articulate their history and mission in a commentary in this issue. These are illustrations of the important role of health professionals, both as individual leaders and through professional organizations, in raising awareness about the growing burden of chronic disease in low and middle income countries and in marshalling the commitment and resources needed to turn the promise of progress brought by the U.N. High Level Meeting into concrete action and progress in the control of chronic diseases.

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