

## Combating chronic disease in developing countries



Globalisation has affected every aspect of modern life, and health and disease are no different. The global health landscape is rapidly shifting away from one dominated by infectious diseases to one characterised by various chronic conditions. These diseases—cardiovascular disease, cancer, type 2 diabetes, and chronic respiratory diseases—now cause more than half of all deaths worldwide, 80% of which occur in low-income and middle-income countries.<sup>1-3</sup> If present trends continue unabated, annual deaths from chronic diseases will reach 41 million by 2015, and almost half of these will be in people younger than 70 years.<sup>4</sup> Since the major causes of chronic diseases are known, half of these deaths are preventable.<sup>2</sup> The health catastrophe provoked by this global surge of chronic disease is also an underappreciated cause of poverty that impedes the economic development of many countries.<sup>5,6</sup> Thus, we believe it is vital that the international public health community makes chronic disease prevention a worldwide priority.

We believe that a coordinated effort by national leaders will strengthen chronic disease prevention and control efforts.<sup>2,3,5,7-10</sup> To address the globalisation of non-communicable chronic cardiovascular and pulmonary diseases, the National Heart, Lung, and Blood Institute (NHLBI), a component of the US National Institutes of Health, has increased its commitment to reducing the global burden of chronic diseases by fostering collaborations with partners in the public and private sectors. Most recently, the NHLBI and UnitedHealth Group, one of the world's largest health and wellbeing companies, have forged a collaboration to counter chronic disease by supporting a collaborative global network of centres of excellence (COEs) in low-income and middle-income countries throughout the world. Our goal is to support research that will generate the evidence needed to inform policy decisions. Rigorous research undertaken at diverse sites will also enrich our basic understanding of disease causation and of the interplay between biological, environmental, and sociocultural contributors to public health.

Our strategic, complementary effort grew from the common interests of the NHLBI and the UnitedHealth Group. We recognise that combating chronic disease requires crossing geographical, governmental, and

organisational boundaries, and thus collaboration between public and private partners.

In September, 2006, the UnitedHealth Group established a strategic priority to raise public and political consciousness about chronic disease in the developing world and to use its competencies to prevent and control chronic disease in those regions.<sup>11</sup> From the beginning, the UnitedHealth Group partnered with the Oxford Health Alliance to fulfil that group's communication objective with the 3four50 website (so named to highlight the three factors of poor diet, physical inactivity, and tobacco that cause the four conditions—cardiovascular disease, diabetes, chronic respiratory disease, some cancers—that account for more than 50% of global mortality).<sup>12</sup> This website is a rich online resource for those interested in raising awareness about chronic diseases and in devising strategies to counter their growing global emergence. In May, 2007, the UnitedHealth Group issued a solicitation for COEs that would develop innovative, equitable, transferable programmes to prevent and control chronic diseases and build sustainable individual, institutional, and community capacity to achieve this goal.

In parallel, in November, 2007, the NHLBI convened a meeting to develop a strategic approach to global health research. Recommendations that emerged from this meeting emphasised the unique and essential part the institute could and should play in undertaking

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For the 3four50 website see  
<http://www.3four50.com/v2/>

For the NHLBI website see  
[www.globalhealth.nhlbi.nih.gov](http://www.globalhealth.nhlbi.nih.gov)



global cardiovascular health implementation research and in disseminating the results. In September, 2008, the NHLBI issued a solicitation to create COEs that would undertake research into new or improved approaches and measures to prevent or treat chronic disease and to develop clinical research infrastructure and research training programmes. The NHLBI is also establishing a global health office, commissioning a report from the Institute of Medicine on global cardiopulmonary health, and joining with other government funders of research to create the Global Alliance for Chronic Diseases.<sup>9</sup>

The UnitedHealth Group/NHLBI collaborative effort now consists of a consortium of COEs in Argentina, Bangladesh, China, Guatemala, India-Bangalore, India-New Delhi (including Pakistan), Kenya, Peru, South Africa-Tanzania, Tunisia, and along the US/Mexico border). Each COE includes a research institution in a developing country paired with at least one partner academic institution in a developed country. The research goals span a range of activities tailored to regional needs and disease effect. Projects include health surveillance to garner baseline data on risk prevalence and burden of disease; implementation research to develop and communicate new knowledge into workable, culturally appropriate policies and practices; decisional modelling to compare intervention strategies; and community engagement efforts to raise awareness and enlist the support of local and national leadership. Clearly, not only do chronic diseases know no boundaries, they also travel together. Thus, the consortium aims to broaden study beyond individual diseases, in keeping with WHO's recommendation to address chronic diseases as they group in a real-world setting.<sup>2,12</sup>

COE consortium research will focus primarily on development of chronic disease prevention programmes, and early results are encouraging. For example, the South Africa-Tanzania and China sites are developing portable tools that can be used in the field to measure risk of chronic disease, and the South Africa site is near completion on simple, yet comprehensive, chronic disease management guidelines that can be used by nurses and community health workers. Some COEs, such as those in India-Bangalore, Guatemala, Tunisia, and along the US/Mexico border, are working with whole communities, including schools and workplaces, to

redesign communities so that healthy choices are also simple and practical choices. NHLBI and the UnitedHealth Group encourage collaboration between and among the COEs, as well as with other organisations. Importantly, the COE consortium members are each developing infrastructures for research and training to enhance local capacity, with the goal of long-term sustainability of our seed investment.

We are dually committed to identification of workable and effective approaches for implementation and integration of research results, and we will share best practices as appropriate and relevant. To maintain momentum from our effort and that of other organisations, continued strong leadership and coordination is vital. WHO has developed an action plan that encompasses surveillance, research, and implementation to counter chronic disease.<sup>12</sup> The Pepsico Foundation is supporting programmes to make communities healthier in China, India, Mexico, and the UK, and the World Economic Forum and the World Bank also have projects underway. The NHLBI and the UnitedHealth Group will work in partnership with these other entities to enhance synergy and to avoid duplication. To that end, the NHLBI is a founding member of the Global Alliance for Chronic Disease, a new alliance of six initial national biomedical research funders to address research needs in the chronic non-communicable diseases.

Now is the time for sustained and coordinated scientific leadership to focus global efforts on combating the social, economic, and political toll of chronic disease. The NHLBI and UnitedHealth Group collaboration is an important piece of this public health initiative that is so vital for our global citizenry.

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