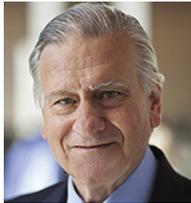


EDITOR'S PAGE



## Global Burden of Cardiovascular Disease

### Time to Implement Feasible Strategies and to Monitor Results



Valentin Fuster, MD, PhD

The length of time for physicians to incorporate into their daily clinical care routines new practice guidelines from such organizations as the American College of Cardiology and the American Heart Association has been widely publicized. However, what receives far less attention—and may be far more damaging—is the lack of follow-up for global health recommendations, of which there have been approximately 30 in the past 20 years. One of the problems is that each of these well-intentioned global health organizations produces different recommendations, often with ambitious goals but with no plans to evaluate the results of whether the strategies were implemented properly—or implemented at all.

The global burden of disease has dramatically shifted from communicable, maternal, perinatal, and nutritional causes to noncommunicable diseases (NCDs) (Fig. 1). In India alone, rapid changes in the country's society and lifestyles have caused NCDs to become responsible for two-thirds of the total morbidity burden and about 53% of total deaths (up from 40.4% in 1990, and expected to increase to 59% by 2015) (1). This change is an example of the widespread urbanization that has occurred during the last century. Thus, as societies shift from rural to urban settings, major changes occur in the types of food consumed, which often runs in parallel with an increased sedentary lifestyle.

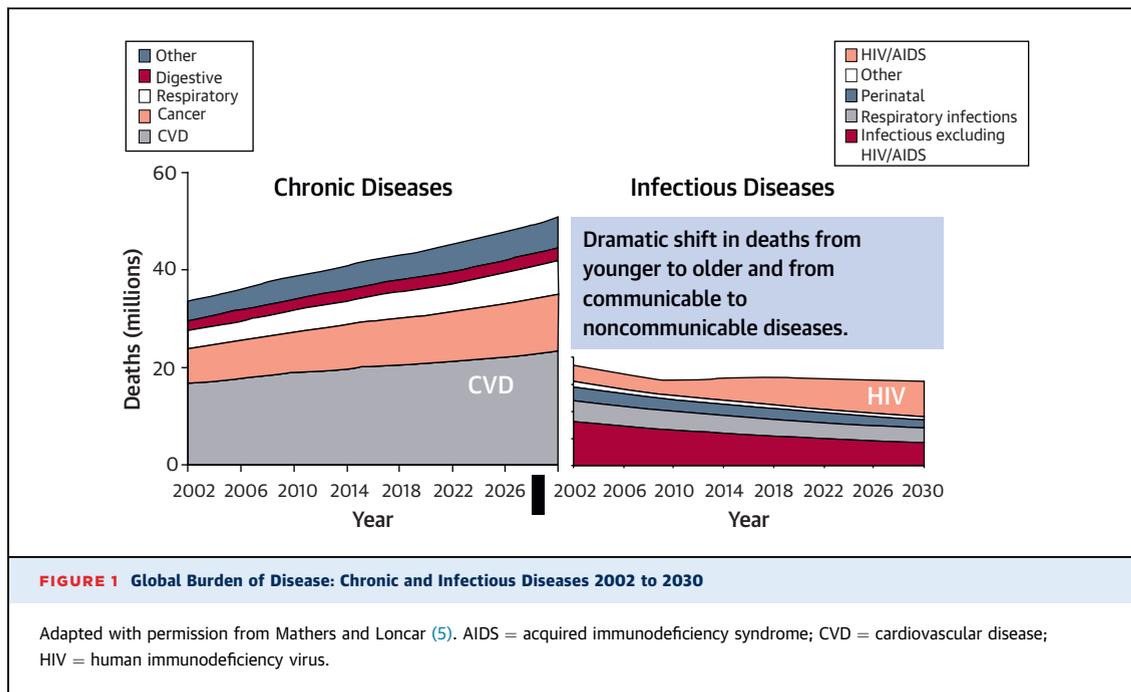
By 2020, heart disease and stroke will become the leading causes of death and disability worldwide, with the number of fatalities projected to increase to

more than 24 million by 2030 (2). These deadly killers no longer just affect privileged individuals and nations, because more than 80% of deaths related to cardiovascular disease worldwide now occur in low- and middle-income countries. These diseases already affect people from villages in India and Africa; small towns in Chile; major cities in the United States, China, and Europe; and everywhere in between. As physicians, we always consider the human toll; yet, the economic impact can be equally damaging, not only in developed countries, but especially in developing countries that desperately need a healthy workforce. Like many of my fellow cardiologists, I feel a tremendous responsibility to address this burgeoning global epidemic in an impactful, meaningful, and strategic manner.

As a result, the U.S. Institute of Medicine (IOM) formed a committee, of which I assumed the directorship, to create a set of tangible recommendations that would catalyze and focus action around this important global health problem. The resulting report, "Promoting Cardiovascular Health in the Developing World," was released in 2010 (3). Funded by the U.S. National Heart, Lung, and Blood Institute, it detailed the reasons behind the exponential growth in cardiovascular-related illnesses, detailed the behaviors that contribute to them, and outlined ways to reduce the global burden of these diseases. We produced 12 recommendations, highlighting a need for new tools, national policies, and results-oriented programs. We also emphasized collaborations among governments, global health organizations, development agencies, and the international business community.

To me and to the other members of our committee, this was a call to the responsibility in all of us as

From the Zena and Michael A. Wiener Cardiovascular Institute, Icahn School of Medicine at Mount Sinai, New York, New York.



individuals, as physicians, and as members of the various societies—governmental, public, or private. Thus, to counteract the global burden of cardiovascular disease, we proposed 12 feasible strategies, including a strict monitoring plan for each strategy and a follow-up of the results. For instance, public groups and representatives from private industry, led by the International Food and Beverage Association, should collaborate in a responsible manner on strategies to reduce people’s consumption of salt, sugar, saturated fats, and trans fats—all contributors to risk factors for developing cardiovascular disease. Success will require finding the responsible balance of regulatory policies from national governments and voluntary actions from industry, taking into account that agricultural practices, food distribution, marketing systems, and cultural preferences vary across nations. In addition, we emphasized the need for global access to appropriate care. Thus, pharmaceutical and medical technology firms, insurance companies, and public health and aid groups should work together to make therapies, diagnostic tools, and preventive techniques for these diseases affordable and available in all nations. But many developing countries do not have the resources or infrastructure to take advantage of certain innovations and technologies. Given the toll that cardiovascular disease takes on each nation’s health and productivity, nongovernmental groups and professional health societies should advocate

for charities, private foundations, and government aid agencies to earmark funding and other resources for initiatives to control the epidemic worldwide.

When we formed the IOM committee, we recognized the need for follow-up on our recommendations; in fact, our 12th recommendation actually prescribed a model to report on global progress using the World Health Organization (WHO) Monitoring Model. Charting progress in a consistent, standardized way is integral to moving ahead. It will help the global community define goals, coordinate efforts, communicate shared messages, take decisive action, and know whether these efforts are effectively reducing the burden of chronic disease. On a local level, ideally, it will help governments identify shortfalls in resources and recognize necessary policy changes. Specifically, to appropriately follow-up with our IOM 12 recommendations from 2010, we just published a comprehensive evaluation as a special issue of *Scientific American* (4). This series of chapters, authored by some of the world’s foremost authorities on global health and cardiovascular disease, elaborate on the IOM’s 12 recommendations, highlighting 12 key examples of successful programs having a true impact on improving cardiovascular health in communities around the world. In other words, the authors provide concrete examples of programs that are working effectively on the ground, reflecting global progress made since 2010, and seek

to prescribe a way forward. I see this as a significant step toward making a true difference, as I have watched many global health recommendations fade away from memory soon after their issuance because no group was tracking their implementation or effectiveness in practice. In order to move the dial on this powerful problem, we need to hold ourselves accountable through appropriate follow-up.

Last year, the world reached 2 significant milestones in the global response to the massive and growing problem of NCDs. On May 27, 2013, ministers from 194 WHO member states adopted the Global Action Plan for the Prevention and Control of NCDs 2013 to 2020 at the 66th World Health Assembly. Two months later, the United Nations (U.N.) Economic and Social Council adopted a resolution requesting that the U.N. secretary general establish an inter-agency task force on the prevention and control of NCDs. The task force, convened and led by WHO, would help coordinate U.N. organization activities to implement the initiative. The action plan outlined 9 voluntary global targets to lower the incidence of

cardiovascular disease, cancer, diabetes, and chronic respiratory diseases and lower the rate of the premature deaths they cause by 25% within 12 years. In our view, at the end, success of these 2 ambitious programs will be based on how feasible the strategies of action were, how strict their implementation was monitored, and how accurately the follow-up was recorded.

There is true momentum to address this problem, which cannot be lost to distraction or apathy. This fight against the burden of cardiovascular disease, affecting all countries and local corners of the world, requires many physicians, specialists, and sub-specialists. I ask you to join me in this battle by contributing to the implementation of feasible strategies and/or monitoring results and follow-up.

---

**ADDRESS CORRESPONDENCE TO:** Dr. Valentin Fuster, Zena and Michael A. Wiener Cardiovascular Institute, Icahn School of Medicine at Mount Sinai, One Gustave L. Levy Place, New York, New York 10029. E-mail: [valentin.fuster@mountsinai.org](mailto:valentin.fuster@mountsinai.org).

---

## REFERENCES

1. World Health Organization. Country cooperation strategy brief: India. May 2013. Available at: [http://www.who.int/countryfocus/cooperation\\_strategy/ccsbrief\\_ind\\_en.pdf?ua=1](http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_ind_en.pdf?ua=1). Accessed June 24, 2014.
2. Fuster V, Kelly BB, Vedanthan R. Promoting global cardiovascular health: moving forward. *Circulation* 2011;123:1671-8.
3. Institute of Medicine. Promoting Cardiovascular Health in the Developing World: A Critical Challenge to Achieve Global Health. Washington, DC: The National Academies Press, 2010.
4. Fuster V, Narula J, Vedantahan R, Kelly BB. Promoting cardiovascular health worldwide. *Scientific American*. June 18, 2014.
5. Mathers CD, Loncar D. Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Med* 2006;3:e442.