Global Noncommunicable Diseases — Lessons from the HIV–AIDS Experience

K.M. Venkat Narayan, M.D., Mohammed K. Ali, M.B., Ch.B., Carlos del Rio, M.D., Jeffrey P. Koplan, M.D., and James Curran, M.D.

The ubiquity and impact of noncommunicable diseases such as cardiovascular diseases, type 2 diabetes, cancers, chronic obstructive pulmonary disease, and psychiatric disorders present major global health, development, and societal challenges. Acknowledging this fact, the United Nations (UN) General Assembly will hold a high-level meeting on global noncommunicable diseases on September 19 and 20, 2011, in New York. The movement to recognize and address the prevention and control of global noncommunicable diseases in this way undoubtedly drew some inspiration from a 2001 UN summit that produced a “Declaration of Commitment” on the human immunodeficiency virus (HIV) and AIDS, generating awareness and resources, and propelling collective global action to confront the HIV–AIDS pandemic. And indeed, the experience with HIV–AIDS offers lessons that may apply to the initiative for noncommunicable diseases.

In the early days of HIV–AIDS, the U.S. Centers for Disease Control and Prevention and the World Health Organization emphasized disease surveillance to draw attention to the problem and improve our understanding of the growing magnitude, demographics, and cost of the epidemic. At the same time, the U.S. National Institutes of Health and others sought to understand the biology of the disease and to find effective therapies and preventive approaches, often necessarily supporting research in geographic areas where the disease was highly prevalent. There was also pressure to deliver solutions expeditiously, to which the U.S. Food and Drug Administration responded by initiating a parallel-track approval process. Several powerful activist groups, motivated by the inevitable fatality of HIV–AIDS, launched influential advocacy campaigns, which drew active and vocal participation from physicians, medical societies, high-profile celebrities, and affected groups. These advocacy efforts garnered major resources in the form of the U.S. President’s Emergency Plan for AIDS Relief and the Global Fund to Fight AIDS, Tuberculosis, and Malaria, which committed billions of dollars from many high-income countries to fight these diseases globally (see graphs).

HIV is a transmissible infection with identifiable behavioral risk factors; it leads to a chronic debilitating disease that is fatal in the absence of early detection and effective treatment. Over the years, experts on HIV–AIDS have come to accept three realities: the search for cause and cure and the fight against the pandemic must be global rather than national; prevention must inevitably be linked to early diagnosis and treatment, which means that approaches must be developed that effectively connect community resources with organized health care systems; and although behavior plays a major role in risk for HIV, prevention efforts need to integrate both behavioral and biomedical approaches — for example, promoting condom use and advances in biomedical interventions (e.g., microbicides, pre-exposure prophylaxis, and treatment as prevention) are complementary in reducing incidence.

Taking lessons from the HIV–AIDS experience and applying them well could shorten the learning curve for noncommunicable disease prevention and control. Good surveillance systems for noncommunicable diseases and their risk factors are crucial for measuring the magnitude of the problem and its associated costs, identifying vulnerable subgroups, and evaluating the effects of policy and practice interventions, especially in low- and middle-income countries where such data are woefully lacking. Serious global commitments to basic and applied research are essential; research is currently overwhelmingly concentrated in high-income countries, but the burden of noncommunicable diseases is felt around the globe. Indeed, these diseases often disproportionately affect low- and middle-income countries and frequently strike young and middle-aged people who are at the peak of their economic productivity. Conducting research only in high-income countries neglects the possibilities of elucidating variability in the causes of and risk for noncommunicable diseases among populations worldwide.
enabling high- and low-income countries to learn from each other, and of leveraging global resources in the development of low-cost, contextually appropriate behavioral, diagnostic, and biomedical interventions. Although some effective interventions exist for preventing and controlling these diseases, implementation is often sadly inadequate worldwide; that’s where comparative applied and operational research conducted internationally and integrating both social and biomedical sciences can help by providing important data on metrics of real-life, population-level effectiveness, such as the reach, adoption, and sustainability of interventions.

Undoubtedly, combating non-communicable diseases will require concerted action to advance science-driven public health interventions (e.g., the reduction of tobacco and trans-fat use) and health-friendly international and national policies in areas ranging from trade and agriculture to transportation and urban planning. At the same time, the HIV–AIDS experience may guide the linking of detection, prevention, and treatment and the integration of behavioral and biomedical approaches that are just as applicable to noncommunicable diseases. For example, hypertension, type 2 diabetes, and prediabetes remain un-
detected in large proportions of people worldwide (in low-, middle-, and high-income countries alike), and low-cost detection approaches should be linked to wide implementation of proven cost-effective strategies for prevention and treatment that efficiently integrate public health, community, and health care resources.

As in HIV–AIDS, although behaviors (such as eating an unhealthy diet and being physically inactive) are potent risk factors for cardiovascular disease and type 2 diabetes, the best available lifestyle interventions are insufficient on their own and mainly affect the most motivated adopters, leaving large groups of people at risk who can benefit from proven biomedical interventions (e.g., generic statins, antihypertensive and antidiabetic medications, or aspirin). Therefore, although the rigorous pursuit of evidence-based behavioral interventions and societal policies that facilitate healthier lifestyles must continue, it is critical to welcome and integrate the use of low-cost biomedical interventions into prevention efforts for noncommunicable diseases, viewing them as complementary and part of a holistic approach.1

In the case of HIV–AIDS, there has been overwhelming demand from the public and clinicians worldwide for broad availability of treatments and effective chronic care; such demand will also grow in the area of noncommunicable diseases. Without accessible interventions for early treatment and control, societies end up paying far more for therapies for advanced disease — a challenge that will inevitably be posed by the epidemic of noncommunicable diseases. The window of opportunity for implementing effective care and preventive services will therefore simultaneously require prioritizing the development of delivery and financing models for integrated health systems and ensuring that supplies (of essential medicines, for example) meet the demand. Ironically, the lack of good health systems for noncommunicable diseases in many low- and middle-income countries may offer opportunities for testing innovative models in ways that cannot be done in high-income countries with mature systems. The Khayalitsa antiretroviral-drug program spearheaded by Médecins sans Frontières in South African townships and the experiences of the Aravind Eye Care Hospitals in India are good examples of what can be achieved through the innovative organization of low-cost human capital and technology in lower-income countries. HIV–AIDS has also taught us the value of societal engagement: successful programs have actively involved the affected communities, harnessed the goodwill and support of high-profile celebrities, and energized advocacy and political support and will.

Above all, we have learned that the fight against diseases such as HIV–AIDS is global and that solutions can emerge from anywhere. The importance of both HIV–AIDS and noncommunicable diseases was initially recognized in high-income countries, but these diseases affect all countries; they may therefore inspire increased global collaboration in research and public health action.

The UN summit offers a rare opportunity to generate momentum and resources for tackling global noncommunicable diseases. The challenges are daunting, but as the experience with HIV–AIDS has demonstrated, solutions are feasible.

The fight against diseases is global and . . . solutions can emerge from anywhere.