The U.S. Government and Global Non-Communicable Disease Efforts

Key Facts

- Non-communicable diseases (NCDs) are the leading causes of death and disability globally, killing more than three in five people worldwide and responsible for more than half of the global burden of disease.
- NCDs cause and perpetuate poverty while hindering economic development in low- and middle-income countries. If they continue their upward trend, NCDs are estimated to cause a cumulative loss of output of $47 trillion between 2011 and 2030.
- NCDs have received greater attention worldwide and within the United States in recent years, such as when the U.N. General Assembly met to discuss NCDs in 2011 (only the second time it met to discuss a specific health issue, with the first being HIV) and ultimately called for new global targets and an action plan for addressing NCDs. After reviewing progress in 2014, it again convened a high-level meeting on NCDs in 2018.
- The U.S. government (U.S.) is increasingly engaged in addressing the challenge of NCDs in low- and middle-income countries, as several U.S. agencies and departments have begun to integrate activities targeting NCDs into other global health efforts, particularly through technical assistance and research activities.
- To date, however, the U.S. response to NCDs is much smaller in scale and approach than its other global health efforts, such as its responses to global HIV and malaria.

Global Situation

Non-communicable diseases (NCDs) are not a new problem, having long been of concern in developed countries; they are, however, of increasing concern in developing countries because of their transition from low-income to middle-income status, the influence of globalization on consumption patterns, and the aging of populations.¹ Identified as “one of the major challenges for sustainable development in the twenty-first century,”² NCDs have received greater attention worldwide and within the United States in recent years, as global efforts to tackle this growing health challenge have become more organized and prominent.

Non-Communicable Diseases (NCDs): non-infectious and non-transmissible diseases that may be caused by genetic or behavioral factors and generally have a slow progression and long duration.³ These include cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes.
Impact

NCDs cause more than two-thirds (71%, around 41 million) of all annual deaths and are among the leading causes of preventable illness and related disability. Cardiovascular diseases, cancer, chronic respiratory diseases, and diabetes (see Table 1) account for more than 80% of these deaths. Other NCDs include: diseases causing blindness or deafness, birth defects, mental and neurological disorders (including Alzheimer’s disease), and renal and autoimmune diseases.

Table 1: NCDs Accounting for Most Global Deaths from NCDs

<table>
<thead>
<tr>
<th>NCD</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Cardiovascular diseases</strong></td>
<td>CVDs, the number one cause of death globally (mainly from coronary heart disease and stroke), can be mostly prevented by addressing risk factors; these include tobacco use, unhealthy diet and obesity, physical inactivity, and diabetes.</td>
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<tr>
<td><strong>Cancer</strong></td>
<td>With lung, stomach, liver, colon, and breast cancer causing most cancer deaths, behavioral and dietary risks include high body mass index, lack of physical activity, low fruit/vegetable intake, and tobacco and alcohol use. Viral infections (e.g., Hepatitis B and C viruses; Human papillomavirus) are also causes of cancer.</td>
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<tr>
<td><strong>Chronic respiratory diseases</strong></td>
<td>These are chronic diseases of the airways and other structures of the lung; among the most common are asthma and chronic obstructive pulmonary disease (COPD, an incurable, life-threatening lung disease that interferes with normal breathing). COPD is caused primarily by tobacco smoke (firsthand use or secondhand smoke).</td>
</tr>
<tr>
<td><strong>Diabetes</strong></td>
<td>A chronic disease that occurs when the body cannot effectively regulate blood sugar, uncontrolled diabetes can lead to death as a consequence of high fasting blood sugar. Addressing risk factors (e.g., healthy diet, physical activity, normal body weight) can help prevent or delay onset of adult-onset diabetes (type 2).</td>
</tr>
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AFFECTED GROUPS AND REGIONS

The impact of NCDs is growing rapidly, affecting people of all ages and income levels in all regions of the world. The problem is expanding most in developing countries, where more than three quarters (32 million) of all NCD deaths occur (see Table 2). Though NCDs are often associated with older people, 15 million deaths caused by NCDs each year occur before the age of 70 (“premature deaths”); nearly all (over 85%) of these premature deaths occur in developing countries. For all regions except Africa, NCDs are now the leading causes of death; it is projected that by 2030, this will also be the case in Africa. With the growing incidence of NCDs and the ongoing challenge of tackling infectious diseases, some regions like Africa are facing a “double burden” of disease.
ECONOMIC COST
The growing burden of NCDs also exacts an economic cost, as people are less productive, work for fewer years, and die prematurely. If they continue their upward trend, NCDs are estimated to cause a cumulative loss of output of $47 trillion between 2011 and 2030.13

Risk Factors
Risk factors for NCDs include behavioral, environmental, economic, and other social determinants of health.14 Behavioral risk factors are associated with higher health costs and reduced productivity; they include:

- tobacco use,
- unhealthy diets,
- physical inactivity, and
- harmful use of alcohol.

Other risk factors include growing urbanization, which contributes to changing physical activity and dietary patterns as well as pollution; poverty and growing inequalities in wealth (particularly in low- and middle-income countries), which affects access to affordable, nutritious food; and indoor air pollution, which is a more frequent problem in developing countries where inefficient cooking stoves are often used for indoor cooking/heating and result in smoke exposure. Risk for NCDs also varies by age, sex, and genetics.
Interventions
A range of interventions exist for addressing NCDs, including:\(^\text{15}\)

- prevention interventions that target modifiable risk factors and promote healthy living, such as education about NCDs and their risk factors, efforts to prevent and reduce the use of tobacco and the harmful use of alcohol, and creating environments that support increased consumption of fruit and vegetables, reduced salt intake, and increased physical activity;
- measures to support effective treatment and quality care (with particular attention to the needs of the poor and most vulnerable, including those with major chronic diseases\(^\text{16}\)), such as building the capacity of health systems and health workers to respond effectively to NCDs and ensuring the availability and affordability of medicines and basic technologies; and
- efforts to raise the priority accorded to NCDs at the global and national levels (i.e., leadership and country ownership), to integrate NCD prevention and control into governments and multilateral institutions' policies, plans, and programs, and to promote legislative, regulatory, and fiscal measures that discourage the use of tobacco and support health living.

Additionally, multisectoral and other partnerships for the prevention and control of NCDs support more holistic efforts by involving public health implementers as well as education, business, and other stakeholders in efforts.

U.N. High-Level Meetings
In 2011, the United Nations (U.N.) held a High-level Meeting on the Prevention and Control of NCDs. As only the second time that the U.N. General Assembly had met to discuss a specific health issue (the first being HIV), the High-Level Meeting led to greater global attention to NCDs and called for new global targets and an action plan for addressing NCDs.\(^\text{17}\) In 2014, the U.N. held a second High-level Meeting on the topic in order to review progress, and most recently, in September 2018, it again convened a comprehensive review of progress at a third High-level Meeting on NCDs.\(^\text{18}\)

Global Goals
In recent years, major global NCD goals have been set through:

**WHO GLOBAL ACTION PLAN FOR NCDS**
The *WHO Global Action Plan for the Prevention and Control of NCDs, 2013–2020*\(^\text{19}\) was endorsed by the World Health Assembly in 2013.\(^\text{20}\) Among its targets are:

- **reducing deaths from NCDs by 25 percent by 2025.**\(^\text{21}\) Achieving this target, which is often referred to as the “25 by 25” goal, is the focus of the roadmap laid out in the WHO Global Action Plan.
• reducing the prevalence of current tobacco use in persons aged 15+ years by 30 percent. This target builds upon the goals of the 2003 Framework Convention on Tobacco Control (FCTC): reducing demand for and supply of tobacco.\textsuperscript{22}

• reducing the harmful use of alcohol by at least 10% (as appropriate, within the national context). Adopted in 2010, the \textit{WHO Global Strategy to Reduce the Harmful Use of Alcohol} describes relevant policy options and interventions.\textsuperscript{23}

• reducing the prevalence of insufficient physical activity by 10%. Though more than a decade old now, the 2004 \textit{WHO Global Strategy on Diet, Physical Inactivity, and Health} assigns responsibilities and sets objectives for improving physical health.\textsuperscript{24}

• achieving an 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private facilities.

Additionally, the WHO Global Action Plan stresses that other NCDs are “often associated with mental disorders and other conditions and that mental disorders often coexist with other medical and social factors;” consequently, the plan should be implemented “in close coordination with the \textit{WHO Global Mental Health Action Plan, 2013–2020}.”\textsuperscript{25}

\textbf{SDG 3: REDUCE PREMATURE MORTALITY FROM NCDS}

Adopted in 2015 by all member-states of the United Nations, the Sustainable Development Goals (SDGs) include an NCD target and several risk-factor-related targets for achievement by 2030 under SDG 3 (“ensure healthy lives and promote well-being for all at all ages”), including reducing by one third premature mortality from NCDs through prevention and treatment and promoting mental health and well-being.\textsuperscript{26}

\textbf{U.S. Government Efforts}

Though not an area of major focus historically, U.S. government attention to NCDs has grown recently. U.S. engagement in global NCDs has largely included health diplomacy, scientific research, and technical assistance, often drawing on the U.S. government’s experience with NCDs domestically, as well as some funding. For example, the U.S. has played an important role in international efforts to outline global priorities for and monitor country efforts to reduce the impact of NCDs.

\textbf{Organization}

Although there is no U.S. program that specifically focuses on NCDs in low- and middle-income countries, NCDs and their risk factors have been addressed as part of other U.S. global health activities, such as maternal and child health (MCH), HIV, and nutrition efforts.\textsuperscript{27} Such efforts are supported through the Department of Health and Human Services (HHS) and its operating divisions, including the Centers for Disease Control and Prevention (CDC) and the National Institutes for Health (NIH), as well as other agencies and departments:
HHS

CDC reports working on global NCDs for over 20 years through disease surveillance and epidemiology, risk factor identification, development of evidence-based prevention strategies, and efforts to increase country capacity to address NCDs. Efforts address issues like cervical cancer, clean cookstoves, epidemiology and training focused specifically on NCDs, hypertension, promoting physical activity, and tobacco control.28

Several NIH Institutes conduct NCD research, including globally-focused research as members of the Global Alliance for Chronic Diseases29 (an international public-private partnership that facilitates research collaborations focused on NCDs), as well as support NCD surveillance and training programs, strengthening local capacity and informing countries’ NCD policies.

The HHS Office of Global Affairs (OGA) leads the department’s engagement with multilateral partners and coordinates HHS operating divisions’ contributions to achieving the department’s NCD objectives.30

OTHER U.S. NCD EFFORTS

The efforts of the Department of State emphasize public-private partnerships with a focus on cancer and exposure to smoke from cookstoves.31

The approach of the U.S. Agency for International Development (USAID) to NCDs emphasizes investments in health systems strengthening, with existing global health efforts “building the foundation upon which future NCD efforts can be based.”32 In a few cases, the agency has identified cost-effective interventions to address NCDs, such as integrating tobacco screening and counseling into antenatal care programs.

The Millennium Challenge Corporation (MCC), a U.S. government corporation focused on promoting economic growth and reducing poverty in low- and middle-income countries, supports health projects addressing NCDs in certain countries.33

The U.S. also uses a collaborative approach across agencies and departments to address global NCDs. For instance, the President’s Emergency Plan for AIDS Relief (PEPFAR) in collaboration with NIH’s Fogarty International Center launched an HIV/NCD Integration Project that explores how existing HIV health system platforms could be used to address NCDs, particularly cardiovascular disease, cervical cancer, depression, and diabetes (NCDs that are more likely to cause health issues for people living with HIV).34

Funding

Currently, funding to specifically address NCDs in low- and middle-income countries is not designated by Congress, nor is such funding easily identifiable at the agency level. Where NCD funding is identifiable, it remains relatively small. For example: In 2012, NIH’s Fogarty International Center awarded $14 million to
15 research institutions to fund training in research areas related to NCDs in developing countries, and in recent years, it has made additional announcements of funding availability along similar lines.\textsuperscript{35} From FY 2002 through FY 2012, NIH and CDC awarded nearly $41 million to investigators to fund research related to tobacco’s use and impact globally.\textsuperscript{36} In 2014, USAID announced its intention to support, through partial credit loan guarantees offered by its Development Credit Authority, making $125 million in private financing available for manufacturers and distributors of clean cookstoves and cooking fuels.\textsuperscript{37} From 2008 through 2013, MCC provided about $42 million to address NCDs in Mongolia over the five-year life of this country’s MCC compact.\textsuperscript{38}

**Key Issues for the U.S.**

Without significant efforts to address the key risk factors and underlying social determinants driving NCDs, the economic and social toll of burgeoning numbers of people affected by NCDs in developing countries will continue to grow. Many public health experts stress the importance of early intervention in efforts to reduce NCDs, as they generally develop over time and are more difficult – and costly – to address later. Some have called for dedicated U.S. government funding for NCDs, while others say there is a need to prioritize funding for existing global health programs during a time of constrained budgets, particularly in light of the current Administration’s proposal to significantly reduce global health funding.

Going forward, an overarching question is whether the current Administration will support global NCD efforts. Other opportunities and challenges facing policymakers include:

- balancing the need to address a growing NCD problem with the need to finish the infectious diseases agenda (e.g., ending the HIV epidemic, eradicating polio);
- deciding how the U.S. may best contribute to global NCD efforts (in light of its experience in addressing NCDs domestically);
- supporting further research into the risk factors and drivers behind NCDs and accelerating research into and implementation of innovative solutions that address these risk factors and strengthen the capacity of health systems to respond to NCDs; and
- addressing trade and intellectual property concerns in order to buttress continuing NCD research and development efforts while expanding the availability of and affordable access to NCD medicines, diagnostics, and treatments in developing countries.

**Endnotes**

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8 The 2008 WHO 2008-2013 action plan for the global strategy for the prevention and control of noncommunicable diseases: prevent and control cardiovascular diseases, cancers, chronic respiratory diseases and diabetes stated, “There are many other noncommunicable conditions of public-health importance. They include osteoporosis, renal diseases, oral diseases, genetic diseases, neurological diseases, and diseases causing blindness and deafness. Many of these conditions are the subjects of other WHO strategies, action plans and technical guidance and are therefore not considered directly by this plan. Similarly, mental health disorders are not included here despite the heavy burden of disease that they impose, as they do not share the same risk factors (other than the harmful use of alcohol), and because they require different intervention strategies.” Likewise, the 2013 WHO Global action plan for the prevention and control of NCDs, 2013-2020 acknowledged other NCDs of importance.


11 According to WHO, “In African nations, deaths from NCDs are projected to exceed the combined deaths of communicable and nutritional diseases and maternal and perinatal deaths as the most common causes of death by 2030;” see WHO, “Noncommunicable diseases,” fact sheet, March 2013. See also WHO, “Projections of mortality and causes of death, 2015 and 2030,” Global Health Estimates 2012 Summary Tables, July 2013.


19 The plan includes a comprehensive monitoring framework for prevention and control of NCDs that outlines nine voluntary global targets for 2025 and 25 indicators for monitoring progress toward them. WHO, Global action plan for the prevention and control of NCDs, 2013-2020, 2013.


21 Specifically, the 25% relative reduction in overall mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases concerns premature mortality from noncommunicable diseases between ages 30 and 70. 66th WHA, “Follow-up to the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases,” WHA66.10, May 27, 2013.

22 Adopted by the World Health Assembly in 2003 and entered into force in 2005, the FCTC is the first international treaty negotiated under the auspices of WHO and addresses a number of areas related to tobacco, including “protection of public health policies with respect to tobacco control from the interests of the tobacco industry.”


25 Mental health disorders are themselves NCDs, but they are addressed separately by WHO through WHO, Mental health action plan, 2013-2020, 2013.
The risk-factor and other related targets of the SDGs include: Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol; By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination; Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate; and Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all. UN, Transforming our world: the 2030 Agenda for Sustainable Development, 2015.


FIC, “$14M awarded for chronic disease research training through NCD-Lifespan program,” Global Health Matters, newsletter, Sept./Oct. 2012. For example, it currently has a funding announcement for the same program, the NCDs and Injury Across the Lifespan program, at FIC, “Global Noncommunicable Diseases and Injury Research,” webpage, https://www.fic.nih.gov/Programs/Pages/global-nccds-research.aspx.

