

Non-Communicable Diseases (NCDs): A Key Barrier to Achieving the Millennium Development Goals (MDGs)

Executive Summary

The Millennium Development Goals (MDGs) are the most broadly supported, comprehensive and specific development goals agreed upon by the global community and endorsed by the United Nations. Adopted in the year 2000 and set to be achieved by 2015, these goals if achieved, will cut world poverty by half, save tens of millions of lives, and give billions more the opportunity to benefit from the global economy¹.

“Taken together, the eight Millennium Development Goals represent the most ambitious attack on human misery in history.”

-Margaret Chan

Director-General of the World Health Organization

It is however becoming clear to many in the global health field, that Non-Communicable Diseases (NCDs) form a deterring undercurrent to all the MDGs, and thereby are a key barrier to achievement of these goals. From extreme poverty and lack of primary education especially among girls, to maternal and child mortality, NCDs are now being identified as a leading cause of many of these global issues. NCDs are both a consequence and cause of poverty; 80% of those with NCDs live in low- and middle-income countries. NCDs affect women disproportionately, immobilizing the primary caretakers and driving their families further into poverty. NCDs among parents can force children to be withdrawn from school to assist in care giving or to join the workforce, increasing school dropout rates and reducing child literacy. Limited access to pre-natal and post-natal healthcare for mothers can cause NCDs such as gestational diabetes, heart failure and Peri-Partum Cardiomyopathy, leading to maternal deaths in underserved settings. NCD-related risks in the mother can also cause complications in

“...[NCDs] hamper the people and the economies of the poorest populations even more than infectious diseases. This represents a public health emergency in slow motion.”

Ban Ki-Moon,

UN Secretary-General.

(Source: Forum on Global Health, 15 June 2009)

the child. Where there is no trained medical professional to tend to the infant, these complications often lead to death within the first month of birth. Many more direct connections exist between NCDs and all eight of the MDGs.

The increase in and prevalence of NCDs represents a global health crisis. One third of the poorest two quintiles in the developing world die prematurely from preventable NCDs, affecting all aspects of society from children to the elderly and often holding them back from achieving their potential or

¹ <http://www.un.org/millenniumgoals/>

fulfilling essential roles in their communities. Despite this, NCDs are perceived to primarily afflict the wealthy. This misconception, has led to the virtual absence of investment into NCDs . The prevention and control of NCDs, is critical to improving the quality of life and life expectancy of people around the world. Adequate investment toward NCDs through strengthening health systems, training more medical professionals and through the integration of NCDs into primary care systems of countries will enable countries to make bigger strides toward achieving the MDGs.

Introduction

Non-Communicable Diseases (NCDs) have been identified as a key barrier to achieving the Millennium Development Goals (MDGs). In light of the high-level plenary meeting at the UN General Assembly to review progress toward the MDGs and the first-ever UN Summit on NCDs, there is an increasing need to understand how NCDs have deterred progress of the MDGs, and how elevating awareness of NCDs will enable countries to make bigger strides toward achieving the MDGs.

The aim of this document is to introduce the Millennium Development Goals, elaborate on the burden of Non-Communicable Diseases, and to highlight some of the reasons why NCDs are considered a key barrier to achieving the MDGs.

Millennium Development Goals (MDGs)

The Millennium Development Goals (MDGs) are the most broadly supported, comprehensive and specific development goals agreed upon by the global community and endorsed by the United Nations. The eight time-bound goals provide concrete, numerical benchmarks for tackling extreme poverty in its many dimensions, and are as follows:

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental sustainability
8. Develop a global partnership for development

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Adopted by world leaders in the year 2000 and set to be achieved by 2015, the MDGs are both global and local, tailored by each country to suit specific development needs.

They provide a framework for the entire international community to work together towards a common end – making sure that human development reaches everyone, everywhere. If these goals are achieved, world poverty will be cut by half, tens of millions of lives will be saved, and billions more people will have the opportunity to benefit from the global economy².

MDG Review Summit

In September, 2010, a special review summit on the MDGs will convene in New York. With just five years left to achieve the MDGs, the summit is an opportunity to re-energize the global MDG effort and to agree on a concrete action plan to accelerate progress towards meeting the Goals by their target date of 2015. The Summit, officially called the **High-level Plenary Meeting of the General Assembly**, will take place during **20 – 22 September** and will be hosted by the Secretary-General. The objective is to take stock of proven initiatives that have enabled progress toward the Goals and for governments to commit to a concrete action agenda to achieve the MDGs, as well as other internationally agreed development goals. The Summit will comprise six plenary meetings and six closed roundtable sessions over the course of three days³. The Non-Communicable Disease (NCD) community is hopeful that NCDs will be identified as a key arena to focus on, if we are to achieve the MDGs by 2015.

Non-Communicable Diseases (NCDs)

Non-communicable diseases are chronic conditions that do not result from an acute infectious process. They shrink the quality of life in patients, cause premature death, and continue over the lifetime of the patient. The “big four,” as named by the WHO, include Heart Disease, Diabetes, Cancer and Respiratory Diseases. These diseases have become the leading cause of mortality worldwide and were estimated to account for 60 per cent of global deaths—35 million—in 2005. Contrary to popular perception, the poor are the worst affected by NCDs. NCDs are now rapidly emerging as major health burdens in low- and middle-income countries, where 80 per cent of global NCD deaths occur⁴.

The following facts about NCD's highlight why they need to be elevated on the Global Agenda.

- **Chronic Disease or Non-Communicable Diseases (NCDs) are a Growing Burden –**
 - Chronic or non-communicable diseases (NCDs) including diabetes, cardiovascular disease, cancer and chronic respiratory disease account for

2 <http://www.un.org/millenniumgoals/>

3 <http://www.un.org/en/mdg/summit2010/>

4 WHO, Preventing chronic diseases: a vital investment (Geneva: 2005).

60% of all deaths globally today and 46% of the total global burden of disease. (WHO projection)

- If not addressed effectively, chronic disease will account for 75% of all deaths globally by 2020. The African region is expected to see the highest relative increase (27%) (NCD Alliance Report).
 - Most elderly patients have at least one chronic condition and many have multiple.
 - 80% of those with chronic disease are in low- and middle income countries (LMCs) (WHO projection).
 - Approximately **8 million people die prematurely in low and middle income countries from NCDs every year (WHO projection).**
- **NCDs have Global Economic Impact –**
 - Nearly 50% of those who die from chronic disease are in their productive years, with associated productivity losses up to 400% greater than the cost of treatment.
 - NCDs are a major cause of poverty, a barrier to economic development, and a neglected global emergency.
 - NCDs cause significant economic losses in both advanced and developing economies, accounting for roughly 75% of healthcare costs.
 - National income losses from 2005 to 2015 due to NCDs could reach \$558 billion in China, \$237 billion in India and \$303 billion in Russia (WHO estimate).
 - **NCDs are Not Yet a Global Priority –**
 - NCDs are not a priority with policymakers and payers, particularly in developing countries. As a result, countries have inadequate prevention initiatives, training of HC professionals, guidelines on prevention and control of NCDs and infrastructure (facilities, equipment).
 - **Less than 1% of the US\$22 billion spent on health by international aid agencies in LMC is spent on NCDs, despite NCDs forming 60% of the burden of disease** in those countries. (Source: Centre for Global Development in Washington).
 - NCDs are not currently mentioned in The Millennium Development Goals despite being the largest burden of disease in LMCs.
 - Governments in LMCs need both financial and technical assistance to turn around the NCD epidemic that threatens to undo development gains made over the last decade.

Omission of NCDs from the MDGs

Despite all of the above facts, NCDs are currently not included in the MDGs. Their omission from the MDGs has distorted patterns of health expenditure in low and

middle-income countries, as governments orient their health strategies towards the Millennium Development Goals to receive external funding, which can constitute 50 per cent or more of the health budget. This has left the growing epidemic of NCDs in those countries seriously under resourced.

It is however becoming clear to many in the global health field, that NCDs form a deterring undercurrent to all the MDG goals, and thereby a key barrier to achievement of the goals by 2015. To make the case even further, experts in many areas have highlighted specifically, the connections between NCDs and each of the MDGs. What follows is a summary of how NCDs are impeding progress of the MDGs, with specific emphasis on Diabetes and Heart Disease:



MDG #1: ERADICATE EXTREME POVERTY AND HUNGER

NCDs are a cause of poverty: Poverty plays a role both as a risk factor and as a consequence of NCDs.

Supporting Facts:

- The high cost of treatment can lead to lost employment opportunities, a key cause of poverty.
- The poorest households experience the highest burden of NCDs.
- In China, out of pocket expenses from stroke pushed 37% of patients and their families below the poverty line; 62% without insurance went into poverty.
- NCDs cause significant economic losses in both advanced and developing economies, accounting for roughly 75% of healthcare costs.
- Nearly 50% of those who die from NCDs are in their productive years, with associated productivity losses up to 400% greater than the cost of treatment.

NCDs are becoming diseases of the poor:

- NCDs increase global health inequalities and place increased strain on already overburdened families.
- Studies in Brazil have shown that the prevalence of hypertension was 30 to 130% higher among the less educated, those with the lowest income and Afro-Brazilians.
- Malnutrition among children and women is a key result of poverty. Malnutrition-induced diabetes is on the rise in countries in Sub-Saharan Africa.
- 47 per cent of women and 44 per cent of men in Peru have hypertension - Pan American Health Organization (PAHO) Report.

- 11 per cent of men and almost 10 per cent of women living in urban slums in India have diabetes – All India Institute of Medical Sciences Report

NCDs affect women disproportionately: In many parts of the developing world, women are the key caretakers of the home. Through the development of micro credit institutions, women have proven to be very capable of bringing a family out of poverty. These efforts are thwarted when disease strikes and can serve to drive a family further into poverty:

- Cardiovascular diseases comprise more than 40 percent of total deaths among women older than 45 in low-, lower-middle and high-income countries.
- About 3 million women ages 15 and older die each year of cardiovascular diseases in low-income countries, making these diseases the leading cause of death among women in low-income countries and the world⁵.
- 55% of all diabetes deaths are in women⁶.
- Nearly 80% of all cervical cancer cases occur in low-income and developing countries⁷.



MDG # 2: ACHIEVE UNIVERSAL PRIMARY EDUCATION

NCDs increase school dropout rates:

- Management and treatment of NCDs can result in alarming health costs forcing families to cut down on expenses such as education, and forcing young children into the workforce.
- NCDs among parents or caregivers can force children to be withdrawn from school to assist in care giving.
- Untreated Strep Throat can lead to Rheumatic Fever (RF) and over time to Rheumatic Heart Disease⁸ (RHD) in children as young as 5 years of age. In many parts of Africa where RHD is rampant, RF is a main reason for children dropping out of school.

⁵ Ibid.

⁶ Ibid.

⁷ GlaxoSmithKline (GSK). 22 Oct 2007 <http://www.gsk.com/infocus/cervical-cancer.htm>

⁸ In most Global Health circles, RHD is not considered an NCD as it is acquired through an infection. It does however lead to heart failure and for the purposes of this document is categorized as an NCD. One third to half of all cardiac hospital admissions in developing countries are due to RHD.

- Uncontrolled (and often undiagnosed) Type 1 Diabetes can be a significant obstacle to education or school enrollment at a young age.



MDG # 3: PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

- When NCD affects the mother of a household, the daughters become the main caregivers, taking over the mother's responsibilities in the home, or entering the labor market for additional income. This will interrupt their education and minimize chances of empowerment.
- Investing in girls achieves a range of health and socio-economic development goals, thereby improving the prospects and health of the whole family.
- Poor health caused due to NCDs prevent women from proactively seeking entrepreneurial opportunities that will both empower them and also help bring their families out of poverty.

Education is the key to empowerment: See Goal 2 above.

Women & girls are key agents of prevention: Women, as mothers, educators, healthcare providers and gatekeepers of household nutrition and lifestyle patterns, need to be at the forefront of the fight against NCDs.



MDG # 4: REDUCE CHILD MORTALITY

Limited access to healthcare and lifestyle choices:

- Poor pre-natal health in the mother can lead to compromised health in the newborn at birth. In underserved settings, where there is no trained medical professional to tend to the infant, these complications often lead to death within the first month of birth. Some of these pre-natal conditions include:
 - Heart disease
 - Diabetes
 - Gestational Diabetes
 - Hypertension
 - Gestational Hypertension

- Excessive Bleeding if the mother is on blood thinners for heart disease
- One in three children born with congenital heart disease in sub-Saharan Africa will die within the first month of life⁹.
- About 400,000 child deaths occur each year due to non-communicable diseases, such as digestive, respiratory (including asthma), and cardiovascular diseases¹⁰. Neonatal deaths comprise 38 percent of all child deaths¹¹.



MDG # 5: IMPROVE MATERNAL HEALTH

- Women with diabetes have a higher risk of spontaneous abortions and delivery complications such as obstructed and prolonged labor and increased need for assisted delivery or caesarean section – a main cause of death in underserved settings where most women give birth at home, without the supervision of a trained health professional.
- Following childbirth, women with diabetes during pregnancy, have a higher risk of infections, which if not treated, can cause sepsis and eventual death.
- Pregnancy can aggravate hidden pre-existing conditions such as congenital heart defects, ischemic heart disease, hypertension and even arrhythmias, in the mother. Unfortunately, public health statistics will often count these deaths as maternal deaths rather than deaths caused due to NCDs.
- Myocardial infarction, aortic dissection and cardiomyopathy and rheumatic heart disease are re-emerging as a cause of maternal death, particularly in immigrants in developed countries such as the UK.

The death of a mother not only affects the survival of the immediate maternal period, but also has an effect throughout the life cycle of the child, and the next generation

“In Africa, the lifetime risk of dying in pregnancy and childbirth is 1 in 22, in Asia it is 1 in 120 and in developed countries it is 1 in 7,300.”

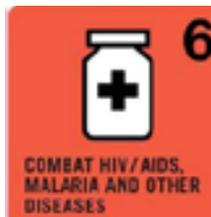
- United Nations Population Fund

⁹ Thakur JS, Negi PC, Ahluwalia SK, et al. Integrated community-based screening for Cardiovascular diseases of childhood. World Health Forum. 1997; 18(1):24-7

¹⁰ World Health Organization. WHO global burden of disease (GBD) 2002 estimates (revised); 2004. www.who.int/healthinfo/bodestimates/en

¹¹ Lawn JE, Cousens S, Darmstadt GL, Bhutta Z, Martines J, Paul V, et al. 1 year after The Lancet Neonatal Survival Series--was the call for action heard? Lancet 2006;367:1541-7

- Approximately 10% of maternal deaths in Africa are due to Rheumatic Heart Disease¹².
- Peri-partum Cardiomyopathy (PPCM), a form of cardiac disease that develops in previously healthy women, typically between the last month of pregnancy to five months postpartum. It often goes undiagnosed in many parts of the world. If not treated, the deterioration of the heart continues postpartum eventually leading to death in about 15% of those that develop the disease. Prevalence of PPCM is high in mothers of African descent (as high as 1 in 1000 births in South Africa and 1 in 300 births in Haiti).
- NCDs are rampant among women of child-bearing age in low-income countries
 - For women in low-income countries, NCDs account for 52 percent of the total disease burden among women age 15 and older¹³.
 - 2% to 10% of pregnancies in the U.S. result in Gestational Diabetes Mellitus (GDM). As more than 80% of women around the world will deliver an infant in their lifetime, GDM is a global issue¹⁴.



MDG # 6: COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES

CVD and respiratory failure are major causes of death among patients with HIV infection:

- HIV infection can double or triple the risk of a major cardiovascular event.
- Treating an HIV patient for the NCDs can prolong their life.
- HIV infection has become a chronic illness requiring surveillance and monitoring.



MDG # 7: ENSURE ENVIRONMENTAL SUSTAINABILITY

¹² World Heart Federation estimate

¹³ World Health Organization. 2004. WHO global burden of disease (GBD) 2002 estimates (revised). Available from: www.who.int/healthinfo/global_burden_disease/en/index.html

¹⁴ Centers for Disease Control. "Maternal and Infant Health Research: Pregnancy Complications."

- **NCDs are a cause of unemployment;** this causes many families in rural areas to tap into and exhaust natural resources to make a living.
- NCDs are highly prevalent among populations living in urban slum areas.



MDG # 8: A GLOBAL PARTNERSHIP FOR DEVELOPMENT

- Global health and the global economy are intricately linked. If NCDs are a major cause of poverty in many populations (see MDG # 1), they pose a threat to sustainable development.
- **NCDs hit underserved settings especially hard:** Low-income countries struggle to afford the treatment and care for the high rate of NCDs and its complications, leading to increasing government deficits and an inability to repay debt.
- NCDs are a cause of poverty and therefore a barrier to economic development.

Conclusions

The increase in and prevalence of NCDs represents a global health crisis. One third of the poorest two quintiles in the developing world die prematurely from preventable NCDs, affecting all aspects of society from children to the elderly and often holding them back from achieving their potential or fulfilling essential roles in their communities. Despite this, NCDs are perceived to primarily afflict the wealthy. This misconception, has led to the virtual absence of investment into NCDs . The prevention and control of NCDs, is critical to improving the quality of life and life expectancy of people around the world.

It is estimated that less than 3 per cent of total donor funding goes to addressing NCDs, and a Lancet study found that, in 2005, chronic disease funding from the four largest donors in health was estimated at \$3 per death annually, compared to \$1,030 for HIV/AIDS.

“All the cash, commitment, and caring in the world will not improve health in the absence of well-functioning systems for service delivery. As a platform for strengthening health systems, primary health care makes fairness in access to quality health care an explicit policy objective.”

*-Margaret Chan
Director-General of the World Health Organization*

Adequate investment toward NCDs will enable countries to make bigger strides toward achieving the MDGs. This requires a global response to health systems strengthening, by training more medical professionals and through the integration of NCDs into the primary healthcare system of countries.

Inclusion of NCDs in the revised MDGs in 2015 will ensure that the governments are held accountable for prevention and control of the NCDs.

In the days leading up to the MDG Review Summit, the global health community is hopeful that NCDs will find their rightful place on the global agenda.

Additional Sources:

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