



Health: Both a prerequisite and an outcome of sustainable development.

[BRIEF]

Non-Communicable Diseases

Non-communicable diseases (NCDs), mainly diabetes, cardiovascular diseases, cancers and chronic respiratory diseases are the largest killers accounting for 68% of deaths worldwide. Nearly 80% of NCD deaths – 30 million – occur in low-, middle- and non-OECD high-income countries, where NCDs are fast replacing infectious diseases and malnutrition as the leading causes of disease and premature death¹. Apart from their obvious threat to the health of individuals, NCDs result in loss of productivity and income. NCDs are a serious threat to the global development agenda.

Traditionally, diseases characterised as non-infectious and of chronic nature are grouped together as NCDs.

NCDs include diseases such as diabetes, cardiovascular diseases, mental disorders, neuro-degenerative disorders and injuries. However, some cancers have an infectious aetiology and many infectious diseases such as tuberculosis and HIV have a chronic nature.

In September 2011, the United Nations (UN) held a high-level meeting of the General Assembly on the prevention and control of NCDs, which focused global attention on some selected NCDs. Hence, in the current global health context, 'NCDs' mainly refer to four diseases – **diabetes, cardiovascular diseases, cancers and chronic respiratory diseases** – and four common risk factors – tobacco use, unhealthy diet, physical inactivity and unhealthy use of alcohol.² Shared risk factors make it possible to address NCDs through common preventive

strategies. This has been the rationale behind the choice and the reason for excluding diseases like mental disorders. This brief will concentrate on the four diseases mentioned above, not diminishing the burden of mental ill-health and injuries on individuals and health care systems.

Major NCD risk factors

Tobacco use

Tobacco kills both users and those exposed to second-hand smoke. Alarming global trends include early initiation of smoking, increased smoking among women and shift to other forms like e-cigarettes as a potential fashion accessory or harm reduction strategy.

Unhealthy diet

Convincing evidence links NCDs with specific dietary components: salt, free sugars (especially through use of sugar-sweetened beverages), fats, mainly trans-fats and saturated fats and low fruit and vegetable consumption.

Salt, sugar and fat consumption in high-income countries is mainly from processed food, requiring strong policy measures. In many LMICS, the source is still home-cooked food, requiring an understanding of food decision processes and multi-level contextualized interventions.

Physical inactivity

Current recommendations advocate moderate intensity physical activity of 150 minutes per week or 30 minutes per day for five days. In addition, sitting time should be restricted to less than 2 hours at a stretch.

Unhealthy use of alcohol

The harmful use of alcohol includes the volume of alcohol drunk over time; the pattern of drinking that includes occasional or regular drinking to intoxication; the drinking context and its public health risks; and the quality or contamination of alcoholic beverages.

¹ World Health Organization: Health in 2015: From MDGs to SDGs.

NCDs AND THE GLOBAL DEVELOPMENT AGENDA

Over-nutrition and related NCDs have been viewed as the result of an unhealthy lifestyle, putting the responsibility mainly on the affected individuals. As a result, NCDs did not feature explicitly in the Millennium Development Goals (MDGs).² However, there is a growing awareness about the role of obesity and the lack of policies to safeguard citizens from harmful effects of processed foods, food advertising and marketing, as well as the lack of safe physical environment that promotes an active lifestyle. Individuals have very little control over their local environment and of the factors that determine exposure to the major NCD risk factors. A shift in terminology from ‘lifestyle’ related factors to ‘life-condition’ related factors has been proposed³; thereby shifting responsibility from the individual level to a policy level. Obesity is nowadays also often recognized as related to poverty in many settings. Many low- and middle-income countries face a “double burden” of disease, dealing with the problems of infectious disease and under-nutrition, and at the same time experiencing a rapid increase in non-communicable disease and risk factors such as obesity and overweight, particularly in urban settings. It is not uncommon to find under-nutrition and obesity existing side-by-side within the same country, the same community and even in the same household.

Children in low- and middle-income countries are more vulnerable to inadequate pre-natal, infant and young child nutrition. At the same time, they are exposed to high-fat, high-sugar, high-salt, energy-dense, micro-nutrient-poor foods, which tend to be lower in cost but also lower in nutrient quality. These dietary patterns in conjunction with lower levels of physical activity result in sharp increases in childhood obesity while under-nutrition issues remain unsolved.⁴

NCDs are better addressed in the Sustainable Development Goals (SDGs), mainly through goal 3 which deals with health and well-being. The specific SDG-target for NCDs is expressed as “reducing premature mortality from NCDs by one third”. NCDs are also relevant for goal 2: food security and nutrition; goal 7: sustainable energy; and goal 11: safe and sustainable human settlements.⁵

2 Alleyne G, Binagwaho A, Haines A, Jahan S, Nugent R, Rojhani A, Stuckler D; Lancet NCD Action Group. Embedding non-communicable diseases in the post-2015 development agenda. *Lancet*. 2013 Feb 16;381(9866):566-74.

3 van Olmen J, Schellevis F, Van Damme W, et al. Management of Chronic Diseases in Sub-Saharan Africa: Cross-Fertilisation between HIV/AIDS and Diabetes Care. *J Trop Med*. 2012;2012:349312.

4 <http://www.who.int/mediacentre/factsheets/fs311/en/>

5 Umberto Pisano, Lisa Lange, Gerald Berger and Markus Hametner. ESDN Quarterly Report 35 – January 2015. The Sustainable Development Goals (SDGs) and their impact on the European SD governance framework: Preparing for the post-2015 agenda. European Sustainable Development Network, Vienna, Austria. 2015

Examples of interactions between NCDs and infectious disease

Diabetes, TB and maternal health

People with diabetes are three times more likely to develop active tuberculosis (TB).

Gestational diabetes (GDM), maternal under-nutrition and obesity can lead to retarded intra-uterine growth and small babies.

HIV and metabolic syndrome

Chronic inflammatory state in HIV adversely affects body fat composition.

Anti-retroviral therapy increases the risk of metabolic syndrome and related NCDs.

Childhood malnutrition and later obesity

Preterm, large & small babies: independent risk factors for diabetes in adult life (due to epigenetic changes that are potentially reversible).

Nutritional stunting (childhood under-nutrition) is a risk factor for obesity in later life

Cancer and infectious disease

Hepatitis B (HBV), hepatitis C virus (HCV) and some types of Human Papilloma Virus (HPV) increase the risk for liver and cervical cancer respectively. HIV-infection substantially increases the risk of cancer such as cervical cancer.

Key guiding documents:

- Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases (2012)
- WHO Global action plan for the prevention and control of NCDs 2013–2020. Two overarching targets: reduce premature mortality from NCDs, and halt the rise in diabetes and obesity.

KEY CHALLENGES AND ENTRY POINTS FOR SIDA

The social determinants that affects NCDs and the care processes involved in managing disease and preventing complications calls for integrated and inter-sectorial approaches that includes the health sector as well as other sectors. A strong policy framework is required to minimise and mitigate risk factors. Although the health sector bears the brunt of NCDs, it has very little control over their root causes. Economic development, trade liberalization and foreign direct investments in food industry leads to energy dense foods and sweetened beverages even to the poorest countries, as well as increased use of tobacco and unhealthy use of alcohol.

INVESTING IN PREVENTION

Investing in prevention can have a major impact on reducing the mortality and the morbidity as well as the costs associated with NCDs.^{6,7} WHO has highlighted a set of ‘best buys’, defined as “interventions with compelling evidence for cost-effectiveness that is also feasible, low-cost and appropriate to implement within the constraints of the local health system”. ‘Best buy’ interventions for the prevention and control of NCDs include raising tax on tobacco and alcohol products, reducing salt consumption, eliminating trans-fat in the food supply chain, promoting physical activity and detecting and treating NCDs at an early stage. The cost of implementing such a package is rather low, amounting to 4% of current health spending in low-income countries, 2% in lower middle-income countries and less than 1% in upper middle-income countries. While ‘best buys’ are a good place to start, countries have to be aware that there are major gaps in the list. ‘Best buys’ in relation to unhealthy diet focus only on salt and trans-fats and do not mention free sugars or sugar-sweetened beverages, to give an example.

Entry point(s) for Sida:

- Promote identification of ‘best-buys’ relevant to the country context.

STANDARDIZED CONTEXTUALIZED CLINICAL GUIDELINES

Health professionals and medical regulatory bodies in many countries have recognised the importance of symptom-based diagnostic and clinical management guidelines using standard procedures to tackle NCDs.^{8,9} However, this is not the norm in most settings and guidelines often ignore health behaviours, which is a key component of NCD management. Health behaviours are highly context specific and an understanding of the facilitators, barriers and motivators of the target population, keeping in mind the differing needs of women, children and socio-economically disadvantaged groups, would be relevant. Moreover, as many NCDs share common risk factors and management approaches, an integrated approach is more practical. Implementation of such guidelines would

require re-training and capacity building of healthcare practitioners, contextualization of healthcare practices, and to some extent reorganization of primary health care.

Entry point(s) for Sida:

- Encourage development of integrated chronic disease management guidelines.
- Support the implementation of integrated chronic disease management guidelines in primary healthcare.

POTENTIAL FOR INTEGRATED APPROACHES

Health systems in many LMICs are geared for short-term care of acute conditions related to infectious diseases, maternal and child health conditions. Malnutrition is often tackled through vertically run state or donor funded programmes. With the current situation, when countries increasingly face a double burden of disease, there is a need to develop innovative and integrated system-wide approaches to prevention and disease management. Infectious diseases, maternal and child health conditions and under-nutrition often have clear causal link with NCDs, and health care systems need to address them simultaneously. Sometimes the interactions are complex. For example, there is a growing understanding of alcohol as an underlying risk factor for unsafe sex and intimate partner violence, contributing to the spread of hiv and other sexually transmitted infections. Integrating policies to reduce harmful drinking, gender-based violence and HIV will probably give better results on all three areas compared to addressing them in isolation.¹⁰

The global NCD epidemic and climate change are two current critical challenges in the new development agenda. Inter-sectorial and integrated approaches that include energy, agriculture, retail, nutrition, transport and urban planning to promote local and small scale farming; retail practices that reduce carbon footprint and promote healthy choices for consumers; reliable public transport; and green spaces that are safe and promote physical activity will impact both the environment as well as NCD patterns positively.

6 WHO. Global recommendations on physical activity for health. Geneva: World Health Organization, 2010.

7 Dall TM, Fulgoni VL 3rd, Zhang Y, et al. Potential health benefits and medical cost savings from calorie, sodium, and saturated fat reductions in the American diet. *Am J Health Promot* 2009; 23: 412–22.

8 World Economic Forum and WHO 2011: From Burden to “Best Buys”: Reducing the Economic Impact of Non-Communicable Diseases in Low- and Middle-Income Countries. World Economic Forum: Geneva; WHO 2011.

9 Socialstyrelsen, Sweden. National guidelines for Diabetes Care – summary. Available at: <http://www.socialstyrelsen.se/nationalguidelines>

10 <http://www.na.undp.org/content/namibia/en/home/presscenter/articles/2014/06/16/africa-regional-meeting-on-integrating-gender-based-violence-and-hiv-prevention-treatment-and-care-into-national-alcohol-policies.html>

Entry point(s) for Sida:

- Improve the understanding of critical interactions between NCDs and infectious disease to enable the development of integrated approaches.
- Promote innovative and integrated solutions with infectious diseases, maternal and child health and nutrition programs.
- Incorporate innovative incentives and policies that nudge consumers towards healthier food choices and healthy behaviours in the food retail sector policies.

EXPANDING BEYOND THE FORMAL HEALTHCARE SYSTEM

Interventions targeting life-conditions and behaviours can prevent or delay the onset of NCDs and its complications.¹¹ Multi-disciplinary approaches that include community and culture-sensitive components addressing health behaviours and their determinants would be very appropriate. Many countries in Sub-Saharan Africa have successfully developed community-directed or community-empowerment approaches that establish 'care structures' at grass root level where no routine health systems exist, e.g., the Integrated Community Case Management of childhood illnesses.¹² Lessons from HIV-related experiences using integrated care, task shifting all the way to the primary care level and use of expert patients and peer support groups can also be incorporated.¹³

Entry point(s) for Sida:

- Promote integrated community-based solutions for tackling NCDs.
- Promote capacity building of clinical and research personnel as well as programme managers and policy makers.

MITIGATING COSTS ASSOCIATED WITH NCDs

The World Economic Forum and Harvard School of Public Health have estimated the anticipated economic burden (cumulative output loss) of the major NCDs to be around USD 30 trillion for the period 2011–2030.¹⁴ The poor and the disadvantaged face the brunt of NCDs, both

- 11 Tuomilehto J, Lindstrom J, Eriksson JG, Valle TT, Hamalainen H, Ilanne-Parikka P, et al. Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. *N Engl J Med.* 2001;344:1343-50.
- 12 Nalwadda CK, Waiswa P, Kiguli J, et al. High compliance with newborn community-to-facility referral in eastern Uganda: an opportunity to improve newborn survival. *PLoS One.* 2013;8:e81610.
- 13 Decroo T, Rasschaert F, Telfer B, et al. Community-based antiretroviral therapy programs can overcome barriers to retention of patients and decongest health services in sub-Saharan Africa: a systematic review. *Int Health.* 2013;5:169-79.
- 14 Bloom, D.E., Cafiero, E.T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L.R., Fathima, S., Feigl, A.B., Gaziano, T., Mowafi, M., Pandya, A., Prettner, K., Rosenberg, L., Seligman, B., Stein, A.Z., & Weinstein, C. (2011). *The Global Economic Burden of Non-communicable Diseases.* Geneva: World Economic Forum. <http://www.weforum.org/EconomicsOfNCD>

in terms of its health effects as well as impoverishment. As health-related expenses, including medicines are procured out-of-pocket in many LMICs, households are constantly exposed to the impoverishing effects of treating their illness, constituting catastrophic health expenditure.

Entry point(s) for Sida:

- Encourage identification of best combination of start-up packages for Universal Health Coverage (UHC) in LMICs.
- Promote innovative local and private partnerships to facilitate UHC.

EQUITABLE ACCESS TO MEDICINES

Generic forms of medicines to prevent and treat many NCDs are available. However they are still unaffordable and inaccessible to the most vulnerable populations in many LMICs, including socioeconomically disadvantaged groups. The majority of essential medicines to treat NCDs are extremely low cost and off patent. However, patients often tend to pay higher prices due to taxes or other charges and failure to use generic medicines.¹⁵ Medicines for NCDs are often unavailable in public facilities, due to underfunding or under-budgeting, inaccurate demand forecasting, and inefficient public sector procurement and distribution of medicines. This compels patients to go to the private sector, where medicines are relatively more available but costlier. Generic medicines are often two to three times more expensive in the private sector outlets.¹⁶ In many countries NCD medicines are also largely excluded from insurance cover and reimbursements. Ensuring the availability of generic medicines in the public sector is one of the most cost-effective options.

Entry point(s) for Sida:

- Promote context-specific solutions to improve equitable access to drugs and vaccines, including women and socioeconomically disadvantaged groups.

ADDRESSING VULNERABILITY

Risk and vulnerability to NCDs differ based on genetic constitution; living in stressful conditions such as natural disasters and conflicts; migration and acculturation stress and delays; and gender. Migration is stressful in any condition, more so when people flee violent situations or natural disasters. In addition, adapting to new foods, habits and environments adds to the stress. Contextualization

- 15 Mendis S, Fukino K, Cameron A, Laing R, Filipe Jr. A, Khatib O, et al. The availability and affordability of selected essential medicines for chronic diseases in six low- and middle-income countries. *Bull World Health Organ.* 2007;85(4):279-87.
- 16 World Health Organization., *The world health report: health systems financing: the path to universal coverage.* 2010, Geneva: World Health Organization. xxii, 106 p.

of healthcare practices and interventions is a key factor when addressing migrant health.

Women are adversely affected by NCDs in multiple ways. Globally, NCDs kill about 18 million women each year.¹⁷ Breast cancer is the most common cancer among women worldwide and represents 12% of all new cancer cases. About 15% of pregnancies worldwide are complicated by diabetes.¹⁸ As health of a woman before and during pregnancy can affect both her future health and the health of her children and increase their risk for adult onset NCDs; the health of two successive generations are affected. Moreover, social and political vulnerability in many settings increase women's risk to NCDs by exposing or predisposing her to NCD risk factors. Focusing on women's health using the narrow window of sexual and reproductive health is no longer sufficient.

Entry point(s) for Sida:

- Prioritize the needs of differential risk and vulnerable groups into the agenda for different ethnicities, migrants, relief and aid for conflict situations or natural disasters.
- Mainstream gender and NCDs into the development agenda at all levels.
- Encourage equitable solutions to address differential risk of women to NCDs.

Country case study South Africa

Integrated approaches to NCD management

- The Knowledge Translation Unit at the University of Cape Town Lung Institute, South Africa originally adapted the WHO's original Practical Approach to Lung Health guidelines for South Africa (PALSA) and integrated HIV and AIDS to form PALSA PLUS in 2006. It is mainly used by primary care nurses for the management of priority respiratory diseases including TB and HIV co-infection.
- At the request of clinicians, managers and other end-users, the Primary Care 101 was developed to include common chronic conditions like diabetes and hypertension, so that nurses and other clinicians could diagnose and manage common adult conditions at the primary level.
- Primary Care 101 was introduced in 2011 and has since been adopted by the South African Department of Health as a key component of their Integrated Chronic Disease Management Model as part of the re-engineering of the Primary Health Care strategy.

Country case study Brazil

Political leadership and commitment for multi-sectorial action

- The Brazilian Government launched a national plan of actions spanning 2011–2022 to tackle NCDs in response to the UN political declaration on NCDs, led by the ministries of health and treasury. It set out multi-sectorial actions involving more than 20 sectors and stake-holder groups at both government and non-government levels and used a multi-focal approach tackling prevention, treatment, financing and monitoring.
- Accelerated implementation of the Framework Convention on Tobacco Control; signed agreements with food industry for reduction of salt and elimination of trans-fats in processed foods; and initiated physical activity interventions in cities.
- Integrated healthcare services at primary, secondary and tertiary levels; and provided access to free drugs to reduce cardiovascular risk.
- Identified additional budgetary resources to the Ministry of Health, such as the Health Academy Program to finance the construction and functioning of spaces to promote physical activity.
- Set up a technical advisory committee for NCDs that includes civil society to monitor the goals of prevention and treatment through an NCD surveillance system.

17 World Health Organization (2005) Preventing Chronic Disease: A Vital Investment, WHO Global Report Geneva.

18 International Diabetes Federation (2011), Policy Briefing – Diabetes in Pregnancy: Protecting Maternal Health, Brussels.

KEY READING

Embedding non-communicable diseases in the post-2015 development agenda. Alleyne G, et al. *Lancet*. 2013;381:566-74. <http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2812%2961806-6/abstract>

WHO Global Action Plan 2013-2020 for the prevention and control of NCDs: <http://www.who.int/global-coordination-mechanism/publications/global-action-plan-ncds-eng.pdf>

From Burden to “Best-Buys”: Reducing the economic impact of non-communicable diseases in low- and middle-income countries: <http://apps.who.int/medicinedocs/documents/s18804en/s18804en.pdf>

The Global Economic Burden of Non-communicable diseases: http://www3.weforum.org/docs/WEF_Harvard_HE_GlobalEconomicBurdenNonCommunicableDiseases_2011.pdf

Building healthy communities at the intersection of chronic disease prevention and climate change: <http://bchealthycommunities.ca/res/download.php?id=442>

Non-communicable diseases and development: Future pathways: <http://www.ids.ac.uk/publication/non-communicable-disease-and-development-future-pathways>

Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases (2012).

A leading risk factor for many types of cancer, the World Health Assembly endorsed the Global Strategy to Reduce Harmful Use of Alcohol in May 2010.