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Addressing the Global Burden of Noncommunicable Diseases; Challenges of Achieving Global Targets

Shanthi Mendis* and Oleg Chestnov

World Health Organization, Geneva, Switzerland

Abstract

Noncommunicable diseases (NCD) caused an estimated 36 million deaths in 2008. Recognizing that NCD are a global health and development priority, Heads of State and Government adopted the Political Declaration on NCD at the United Nations General Assembly in September 2011. The six objectives focus on international cooperation and advocacy, country led multisectoral response, risk factors and determinants, health systems and universal health coverage, research development and innovation and surveillance and monitoring. The overall aim of the action plan is to operationalize the commitments of the UN Political Declaration on Noncommunicable Diseases, building on what has already been initiated and achieved.

Keywords: Noncommunicable diseases; Global targets

Background

Noncommunicable diseases (NCD) caused an estimated 36 million deaths in 2008. Recognizing that NCD are a global health and development priority, Heads of State and Government adopted the Political Declaration on NCD at the United Nations General Assembly in September 2011 [1]. The Political Declaration recognized the need for an urgent global health response to address the growing threat NCD pose to health and social and economic development. An estimated 36 million deaths, or 63% of the 57 million deaths that occurred globally in 2008, were due to NCD, comprising mainly cardiovascular diseases (48%), cancers (21%), chronic respiratory diseases (12%) and diabetes (3.5%). An estimated 14.2 million NCD deaths are premature and 86% of these deaths occur in low and middle income countries [2,3].

On the 27th of May 2013, the Global Plan for the prevention and control of NCD for the period 2013-2020, including a comprehensive monitoring framework was adopted by 194 Member States of the World Health Organization [4]. The Action Plan is underpinned by six interconnected and mutually reinforcing objectives and proposes multilevel actions for Member States, international partners and WHO. The six objectives focus on international cooperation and advocacy, country led multisectoral response, risk factors and determinants, health systems and universal health coverage, research development and innovation and surveillance and monitoring. The overall aim of the action plan is to operationalize the commitments of the UN Political Declaration on Noncommunicable Diseases, building on what has already been initiated and achieved.

The Global Monitoring Framework

The UN political declaration assigned WHO to develop a global monitoring framework to track the NCD epidemic. The global monitoring framework that WHO Member States have endorsed comprise nine voluntary global targets and twenty five indicators (Table 1). The monitoring framework is based on epidemiological and public health relevance, feasibility, current availability of data collection instruments, best available knowledge, evidence on effective interventions and recognition of the reporting burden on countries. In addition to the indicators outlined in the framework, countries may include other indicators to monitor progress of national strategies taking into account country specific situations.

The nine targets focus on premature mortality from major NCD, tobacco use, harmful use of alcohol, physical inactivity, salt intake, hypertension, diabetes, obesity, heart attacks and strokes and essential medicines and technologies. In arriving at the targets the level of achievement considered feasible, has been assessed based on the

Framework element	Target
Premature mortality from noncommunicable disease	(1) A 25% relative reduction in the overall mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases
Behavioural risk factors	
Harmful use of alcohol	(2) At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context
Physical inactivity	(3) A 10% relative reduction in prevalence of insufficient physical activity
Salt/sodium intake	(4) A 30% relative reduction in mean population intake of salt/sodium
Tobacco use	(5) A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years
Biological risk factors	
Raised blood pressure	(6) A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances
Diabetes and obesity	(7) Halt the rise in diabetes and obesity
Drug therapy to prevent heart attacks and strokes	(8) At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes
Essential noncommunicable disease medicines and basic technologies to treat major noncommunicable diseases	(9) An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major NCD in both public and private facilities

Table 1: The nine voluntary global targets for prevention and control of noncommunicable diseases to be achieved by 2025.

***Corresponding author:** Dr. Shanthi Mendis, Director a.i, Department of Management of Noncommunicable Diseases, World Health Organization, Geneva 1211, Switzerland, Tel: 0041 22 791 3441; E-mail: mendis@who.int

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historical performance of the top ranked 10th percentile of countries. Several countries have already initiated the process of setting national targets based on country contexts and situations. The nine voluntary global targets are to be achieved by 2025. Currently, work is ongoing to develop a small set of process indicators which will help to monitor the process of implementation of the action plan.

Public Health Approaches to Achieving the NCD Targets

A combination of population wide strategies and individual interventions are essential for achieving the global voluntary targets. The global action plan 2013-2020 presents countries with a menu of policies, population- wide strategies and individual interventions targeting high risk individuals. Implementation of strategies that reduce exposure of populations to modifiable risk factors through creation of healthy environments will prevent the burden of NCD. Implementation of strategies that promote early detection and care of high risk groups will contain the burden of NCD. Together, these complimentary strategies can, improve health outcomes and result in cost savings due to a lesser need for high technology costly interventions such as bypass surgery and dialysis.

Actions to address NCDs need to go well beyond the confines of a narrow medical model. Reducing exposure of populations to tobacco use, unhealthy diet , physical inactivity and harmful use of alcohol require health to be a consideration of all government policies and multisectoral approaches across sectors such as health, agriculture, communication, education, employment, energy, environment, finance, food, foreign affairs, housing, justice and security, legislature, social welfare, economic development, sports, revenue, trade, industry, transport, urban planning and youth affairs [1,3-5]. Further, since a host of factors that determine social positions such as income, education, occupation, gender and ethnicity influence exposure to risk factors, multisectoral national plans that addresses social determinants needs to be adopted for reduction of exposure to risk factors of NCD [4,6,7].

To implement individual interventions equitably, key components of the health system need to be made robust including governance, finance, service delivery, health workforce, health information and access to medical products and technologies [8,9]. In addition, priority NCD interventions need to be incorporated within essential primary care packages, while reinforcing primary health care and accelerate transition towards universal health coverage [9-12].

Further, fostering a strong civil society, particularly grass-roots' organizations representing people with NCD and carers, can help to empower society and create more effective and accountable public health policies, regulations and services that are acceptable and responsive to the needs of people [4]. Such an outcome presumes, however, the existence of an enabling socioeconomic, political and legal climate that respects freedom of speech and association and where civil society organizations can make positive and constructive contributions in partnership with the government and other stakeholders. In many low and middle income countries lack of such a conducive political and legal climate will be a serious limitation to progress in prevention and control of NCDs.

Challenges of Attaining the Global Targets

Much of the action to attain the global voluntary targets, will need to take place at the country level. In 2008, around 80% of all deaths (29 million) from NCD occurred in low-income and middle-income countries, and a higher proportion (48%) of the deaths in the latter countries are premature (under the age of 70) compared to high-income countries (26%). The probability of dying from a NCD between the ages of 30 and 70 years is highest in sub-Saharan Africa, eastern Europe and parts of Asia [12]. As such, it would not be possible to attain the targets globally unless there is progress in implementing the action plan in low and middle income countries. Yet, these countries struggle with civil unrest, political instability, inadequate capacity, an unfinished agenda on communicable diseases, maternal and child health and many other implementation barriers.

Barriers that need to be overcome include: (i) shortage of human and financial resources; (ii) lack of reliable data; (iii) market forces driving risk factors; (iv) under-resourced and inefficient health systems; (v) unaddressed social determinants of health and (vi) limited country capacity for multisectoral action. These need to be systematically addressed through high level political commitment, long-term investments and sustainable action.

The capacity of countries to collect data, analyze and communicate them is vital for global monitoring. Only about 66% of countries have vital registration systems which record deaths with sufficient completeness to allow estimation of all-cause death rates. Countries need to increase investment in vital registration systems and improve the quality of mortality data as a matter of priority. Medical personnel need to trained on the importance of completing death certificates accurately. In countries where many deaths are not attended by doctors, alternate methods, such as verbal autopsy, could be used to validate and complement data collected from death certificates. Setting baselines and operationalizing the monitoring framework over the long-term require continuity of systems and programs. Surveillance of risk factors and health information systems could be institutionalized so that they are less vulnerable to the effects of frequent regime change [13].

Shortage in the health workforce capacity in some parts of the world is a major barrier. For example, in the WHO regions of America and Europe, the densities of physician and nursing/midwifery personnel are 23, 33 and 55, 68 per 10, 000 population respectively (Figure 1). In the WHO regions of Africa and South East Asia the current densities of physician and nursing/midwifery personnel are 2, 5 and 11, 11 per 10, 000 population respectively [2,12]. Remedying this shortfall in the health workforce will require production, training and retention

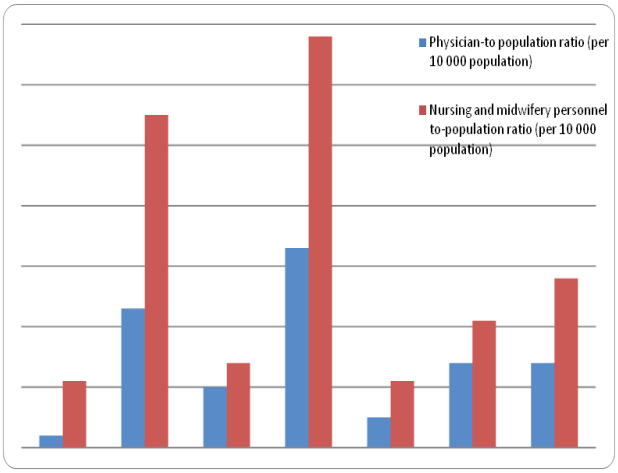

Figure 1: Density of physicians, nurses and midwives in different WHO regions.

of health workers with a view to facilitating deployment of a skilled health workforce within countries and regions in accordance with the WHO Global Code of Practice on the International Recruitment of Health Personnel [14]. Further, the scope of nurses' and allied health professionals' practice could be optimized to contribute to the NCD agenda in primary care, particularly in countries where there is a critical shortage of physicians.

Another major barrier is the insufficient political and financial commitment at a national level in many countries. The same is true for resources from many international development partners: overseas development funding for NCD has not maintained pace with the increasing global recognition of the need to respond to the NCD epidemic. In order to achieve the global voluntary targets, revenues need to be increased particularly for population wide prevention and early detection and care of high risk groups through a primary health care approach. At present, the total expenditure on health as a percentage of gross domestic product vary from 3.7% in the WHO region of South East Asia to 14.3% in the region of the Americas (Figure 2) [2]. The mean per capita total expenditure on health range from 137.7 pppint $ in the WHO region of South East Asia to 3585.9 pppint $ in the region of the Americas [2,12]. In many parts of the world the high out of pocket expenditure on health result in financial hardship and also act as a deterrent to seeking health care. Appropriate health financing policies are urgently needed to shift from reliance on user fees levied on ill people to the protection provided by pooling and prepayment, with inclusion of NCD services. Longterm aim of all countries should be to make progress towards universal health coverage through a combination of domestic revenues and traditional and innovative financing [9,11,12].

Specific Policies and Interventions to Attain the Voluntary Global Targets

The global Action Plan for prevention and control of NCD 2013-2020, provides a range of policy options and interventions to assist countries to achieve the global targets. As countries are at different levels of socioeconomic development and in different stages in the progression of the NCD epidemic certain policies and interventions may have to be prioritized to suit national circumstances. When prioritizing NCD interventions, consideration need to be given to cost–effectiveness, affordability, implementation capacity, feasibility, and impact on health equity.

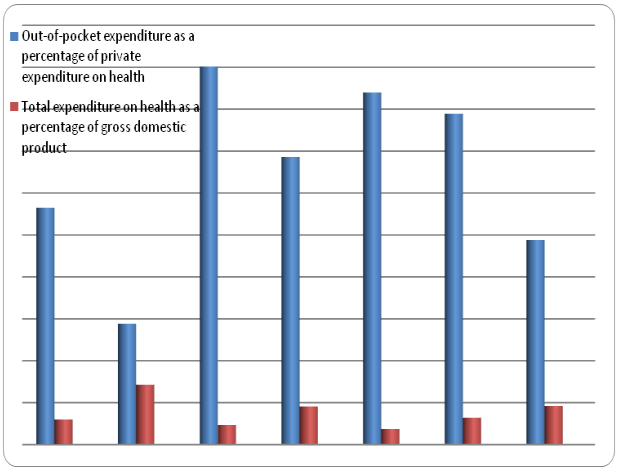

Figure 2: Total expenditure on health and out of pocket expenditure in different WHO regions.

Countries need to look to the WHO FCTC as the foundational instrument in global tobacco control [15]. Some countries have still not ratified the FCTC. Key policy actions that can reduce the prevalence of tobacco smoking to attain the target of a 30% relative reduction in prevalence of current tobacco use are listed in the global action plan. Among them very cost effective policies include increasing tobacco excise tax, creating smoke free environments, warning people of health risks and banning advertising (Table 2).

Similarly, WHO Global Strategy on reducing harmful use of alcohol endorsed by the World Health Assembly provides the foundation for reducing harmful use of alcohol [16]. The Global Action Plan for prevention and control of NCD provides a comprehensive set of policies that can reduce the harmful use of alcohol to attain a 10% relative reduction in the harmful use of alcohol. Most cost effective actions include regulating commercial and public availability of alcohol, restricting or banning alcohol advertising and using pricing policies such as excise tax increases on alcoholic beverages (Table 2).

The global action plan also provides a menu of policy options to advance the implementation of the global strategy on diet, physical activity and health [17] and WHOs set of recommendations on the marketing of foods and non-alcoholic beverages to children [18]. The proposed actions for attaining a 30% relative reduction in mean population intake of salt/sodium include engagement of food producers, processors, commercial operators and consumers to reduce the level of sodium added to food in preparation and processing; engagement of food retailers and caterers to improve the availability of healthy foods including in public institutions, schools and workplace; nutrition labeling according to international standards; public campaigns and social marketing initiatives to inform and encourage consumers about health dietary practices; creating nutrition promoting environments in public and private institutions. The food and beverage

Tobacco use
Reduce affordability of tobacco products by increasing tobacco excise taxes
Create by law completely smoke-free environments in all indoor workplaces, public places and public transport
Warn people of the dangers of tobacco and tobacco smoke through effective health warnings and mass media campaigns
Ban all forms of tobacco advertising, promotion and sponsorship
Harmful use of alcohol
Regulating commercial and public availability of alcohol
Restricting or banning alcohol advertising and promotions
Using pricing policies such as excise tax increases on alcoholic beverages
Unhealthy diet and physical inactivity
Reduce salt intake
Replace trans fats with unsaturated fats
Implement public awareness programmes on diet and physical activity
Cardiovascular disease and diabetes
Drug therapy (including glycaemic control for diabetes mellitus and control of hypertension using a total risk approach) and counselling to individuals who have had a heart attack or stroke and to persons with high risk (≥ 30%) of a fatal and nonfatal cardiovascular event in the next 10 years
Acetylsalicylic acid for acute myocardial infarction
Cancer
Prevention of liver cancer through hepatitis B immunization
Prevention of cervical cancer through screening (visual inspection with acetic acid [VIA] (or Pap smear (cervical cytology), if very cost-effective), *linked with timely treatment of pre-cancerous lesions

*Very cost-effective i.e. generate an extra year of healthy life for a cost that falls below the average annual income or gross domestic product per person

Table 2: Very cost effective* policy measures and interventions for prevention and control of noncommunicable diseases.

industries, have key roles to play in exercising their social responsibility to assist countries to realize the targets on salt, obesity, hypertension and diabetes [19].

The proposed policy options to attain a 10% relative reduction in prevalence of insufficient physical activity include cooperation with relevant sectors to promote physical activity through active transport, recreation, leisure and sport; urban planning and transport policies to improve the infrastructure for walking and cycling; provision of physical education in educational settings and creation and preservation of built and natural environments that support physical activity. As these environmental and policy measures are implemented in different parts of the world it will be essential to monitor and quantify the extent to which they bring about real change and impacts on population health [20].

The above actions that promote a healthy diet and physical inactivity, will shift the population distribution of blood pressure, blood glucose and body mass index and contribute to the targets on reducing the prevalence of raised blood pressure and halting the rise of diabetes and obesity.

All policy measures alluded to above, that reduce exposure to risk factors will contribute to reducing premature mortality in the long-term. In addition, implementing interventions that focus on high risk groups will be essential to attain the premature mortality target of a 25% relative reduction in overall mortality from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases. As almost 50% of deaths attributed to NCD are due to cardiovascular disease, the target related to prevention of heart attacks and strokes is of particular importance. The target is to cover at least 50% of eligible people with drug therapy and counselling (including glycaemic control). Eligible people are those 40 years and above with a 10-year cardiovascular risk ≥30%, including those with existing cardiovascular disease. This target cannot be achieved unless health system gaps in primary care are remedied [21]. Early detection and care of high risk groups could be accomplished very cost effectively using hypertension and diabetes as entry points through an integrated primary health care approach [22]. The success of achieving the target on prevention of heart attacks and strokes partly depends on access to basic technologies and essential medicines. The action plan outlines several policy measures to achieve the target of 80% availability basic technologies and essential medicines, including generics, required to treat major NCD in both public and private facilities. Countries should improve patient access to affordable medicines by including relevant medicines in national essential medicines lists, separating prescribing and dispensing, controlling wholesale and retail mark-ups through regressive mark-up schemes, and exempting medicines required for essential NCD interventions from tax, promoting procurement and use of safe, quality, efficacious and affordable generics and simplifying registration procedures.

Cost of Attaining Global Voluntary Targets

Giving priority to implementation of a core set of high impact policy measures and interventions (Table 2) is a powerful approach to making good progress in attaining the voluntary global targets. These interventions give a good return on investment, generating one year of healthy life for a cost that falls below the Gross Domestic Product per person and are affordable to all countries. The total cost of implementing these interventions, in terms of current health spending, amounts to 4 per cent in low-income countries, 2 per cent in lower middle-income countries and less than 1 per cent in upper middle-income and high income countries. The annual cost per head of population is under US$1 in low income countries, US$1.50 in lower middle-income countries and US$3.00 in upper middle –income countries [23].

Governments have the lead responsibility for ensuring that appropriate institutional, legal and financial arrangements are provided for implementing the action plan and operationalizing the monitoring framework. As the action plan is implemented to meet the targets unique opportunities will be created for answering critical research questions regarding best approaches to operationalize policy measures and interventions in different resource settings [24,25]. WHO will work with Ministries of Health, United Nations Agencies and with international and national partners, including the civil society, to implement the plan. The monitoring framework will be used to collect data from all countries to track national, regional, and global progress, to be reported back to the World Health Assembly in 2016, 2021, and 2026. The Global Action Plan (2013-2020) with agreed global targets and a framework for monitoring progress is a powerful tool that has set the world on a new course to address the NCD epidemic.

Disclaimer

Dr. Shanthi Mendis and Dr. Oleg Chestnov of the World Health Organization contributed this paper in their personal capacity. The contents of the paper do not necessarily represent the decisions or the policies of the World Health Organization.

References

1. United Nations General Assembly resolution 66/2 Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases.
2. Causes of death 2008: data sources and methods, Geneva, World Health Organization, Geneva.
3. World Health Organization (2010) Global Status Report on noncommunicable diseases, Geneva.
4. World Health Assembly (2013) Global Action Plan for the Prevention and Control of NCD, Geneva.
5. Leppo K, Ollila E, Pena S, Wismar M, Cook S (2013) Health in All Policies: Seizing opportunities implementing policies. Ministry of Social Affairs and Health, Finland.
6. Stuckler D, Basu S, McKee M (2010) Drivers of inequality in Millennium Development Goal progress: a statistical analysis. PLoS Med 7: e1000241.
7. http://www.who.int/sdhconference/declaration/Rio_political_declaration.pdf
8. World Health Report (2008) Primary health care - now more than ever. World Health Organization, Geneva.
9. World health Report (2010) Health Systems financing: the path to universal coverage. World Health Organization, Geneva.
10. World Health Organization (2011) Package of Essential Noncommunicable (PEN) Disease interventions for primary health care in low resource settings.
11. United Nations General Assembly Resolution (2013) Global health and foreign policy.
12. World Health Statistics (2012) Part II Highlighted Topics.
13. Koplan JP, Dusenbury C, Jousilahti P, Puska P (2007) The role of national public health institutes in health infrastructure development. BMJ 335: 834-835.
14. World Health Assembly (2010) WHO Global Code of Practice on the International Recruitment of Health Personnel.
15. http://apps.who.int/gb/fctc/PDF/cop2/FCTC_COP2_17P-en.pdf
16. World Health Assembly (2010) Global Strategy to reduce the harmful use of alcohol.
17. World Health Assembly (2004) Global Strategy on Diet, Physical Activity and Health.
18. World Health Organization (2004) Recommendations on the marketing of foods

and non-alcoholic beverages to children.

19. Alexander E, Yach D, Mensah GA (2011) Major multinational food and beverage companies and informal sector contributions to global food consumption: implications for nutrition policy. Global Health.
20. Chow CK, Lock K, Teo K, Subramanian SV, McKee M, et al. (2009) Environmental and societal influences acting on cardiovascular risk factors and disease at a population level: a review. Int J Epidemiol 38: 1580-1594.
21. Mendis S, Al Bashir I, Dissanayake L, Varghese C, Fadhil I, et al. (2012) Gaps in capacity in primary care in low-resource settings for implementation of essential noncommunicable disease interventions. Int J Hypertens 2012: 584041.
22. WHO Guidelines Approved by the Guidelines Review Committee (2012) Prevention and control of noncommunicable diseases: Guidelines for primary health care in low-resource settings. Geneva: World Health Organization.
23. World Health Organization (2011) Scaling up action against noncommunicable disease: how much will it cost?
24. Ebrahim S, Pearce N, Smeeth L, Casas JP, Jaffar S, et al. (2013) Tackling non-communicable diseases in low- and middle-income countries: is the evidence from high-income countries all we need? PLoS Med 10: e1001377.
25. World Health Organization (2010) A prioritized research agenda for the prevention and control of noncommunicable diseases.