REVIEW



Progress and challenges in achieving noncommunicable diseases targets for the sustainable development goals

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Abstract

The 2030 Agenda for Sustainable Development adopted by the United Nations in 2015 recognizes noncommunicable diseases (NCDs) as a major public health challenge. Sustainable Development Goal (SDG) 3 includes target 3.4 to reduce premature NCD mortality by one-third by 2030. This review article analyzes the progress towards the attainment of targets within 3.4, the gaps in meeting the targets, and implementation challenges correlated with those gaps. A literature review was performed in September 2020 to identify the published literature and data discussing the SDGs and NCDs, its progress since 2015, and the associated challenges. The analysis reveals SDG target 3.4 is interrelated to at least nine SDGs. There have been many positive SDG initiatives, but the progress has been slow. Data from various countries show that only two out of the ten NCD progress indicators are being met by at least half of the 176 countries who signed the SDGs. The ongoing COVID-19 pandemic is expected to further aggravate the prevalence and hinder the progress towards the achievement of goals and the targets of the SDGs. The next decade is critical to advance progress on reducing NCDs across countries. The article concludes with a commentary and recommended actions. A combination of prevention, early detection, and treatment are the key to achieve the SDG 3.4 targets. Increased funding and commitments at international and national levels are required to bring about the transformative changes.

KEYWORDS

chronic diseases, intergovernmental organizations, multi sectoral collaboration, NCD targets, noncommunicable diseases, SDG 3.4, sustainable development goals

1 | INTRODUCTION

Noncommunicable diseases (NCDs) are the leading causes of ill health in the world and account for seven of ten premature deaths worldwide. ^{1,2} Identified as one of the major challenges for sustainable development in the twenty-first century, NCDs

are the leading cause of premature death globally as nearly 15 million NCD deaths (38%, 15/40 million) are premature, i.e., in the ages of 30 and 69 years which are preventable and avoidable, and 85% of the premature deaths are in the low and middle income countries.^{3,4} Beginning with the first UN high-level meeting on NCDs in 2011, NCDs have received

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increasing attention within global governing bodies.⁵ In 2014, there was a second high-level meeting which validated the increasing importance to address the growing burden of NCDs.⁶ In September 2015, NCD commitments such as promotion of physical activity, mental health, and well-being and achieving universal health coverage were included within the 2030 Agenda for Sustainable Development. The agenda led to the Sustainable Development Goals (SDGs), which were adopted by 176 member countries.⁷ This review article examines the current burden of NCDs, the context and specific targets for NCDs within the SDGs, the progress, gaps, and challenges in meeting them. The article concludes with a commentary and recommended actions.

2 | METHODS

A literature review was performed in September 2020 to identify the existing literature discussing the SDGs and NCDs, its progress since 2015, its challenges, and the impact of COVID-19 on SDGs. Source websites included PubMed, Google Scholar, the World Health Organization (WHO), and the United Nations (UN). Types of articles included research papers, published reports, and policy documents on the current global status of the progress of SDGs and NCDs. The search combined various terms for NCDs, focused on English language, and included variations of the following terms: Sustainable Development Goals and targets, NCD progress and challenges. Sources were narrowed to publication dates between January 2015 through September 2020 to coincide with the development of the SDGs. Reference lists of the resulting documents were selected to identify additional sources.

3 | CURRENT STATUS OF NCDs

Every year, 41 million people die from heart attacks, stroke, cancer, chronic respiratory diseases, diabetes, or a mental disorder. This represents more than 70% of all deaths worldwide and bring with it a crippling economic impact as NCDs often affect working age people, leading to high healthcare costs, limited ability to work, and financial insecurity.8,9 Rapid epidemiological transitions and demographic changes have shifted the global disease burden from infectious diseases to NCDs. The mortality due to communicable diseases has lowered down because of socio-economic development, diagnostics, improved access to treatment and availability of vaccines, while the burden due to NCDs have increased. They have become of increasing concern in developing countries as they transition from low-income to middle-income status and the related the influence of globalization on consumption patterns and aging of populations.

Noncommunicable diseases have multifactorial and complex causes. The associated risk factors are categorized as modifiable behaviors and non-modifiable individual characteristics or circumstances. NCDs have been a longtime concern in developed countries. An important part of strategies to control NCDs is to reduce the associated behavioral risk factors like smoking, alcohol use, physical inactivity, and unhealthy diets. 10 These behavioral risk factors are closely linked with other social determinants like inequitable access to health care, poverty, gender, dietary factors, and education. The lack of physical exercise and lower intake of fruits and vegetables, coupled with unhealthy food habits is rapidly progressing even in urban poor populations. 11 Air pollution, increased global temperatures, food systems, and other environmental factors exacerbate NCD risks and directly contribute to the growing NCD burden. 12 Inequities in NCDs are common due to varied exposure, social stratification, and differential vulnerability.

4 | OVERVIEW OF THE SDGs

The Sustainable Development Goals (SDGs) are widely regarded as the representation of an inclusive and holistic model of development. SDGs are a result of various consultations led by the United Nations since 2012. ¹³ In September 2015, the 2030 Agenda for Sustainable Development was adopted at the United Nations (UN) Summit on Sustainable Development. As part of the SDG agenda, 176 UN member states committed to develop national implementation plans.

The SDGs have a more holistic and participatory approach compared to their predecessor, the Millennium Development Goals (MDGs) from 2000 to 2015, which focused primarily on poverty reduction, hunger, and infectious diseases. The SDG framework has expanded perspectives and implementation in global health. It is a significant shift from mono-disciplinary, vertical paradigms to a model of unified policies across sectors. The interconnected SDG goals have stimulated multisectoral coordination and more systematic and strategic partnerships with international organizations, local authorities, civil society, businesses, and the private sector for implementation, monitoring, and accountability. The SDGs consist of 17 goals and 169 associated targets.

5 | NCD TARGETS WITHIN THE SDGs

The transition from MDGs to SDGs recognizes that NCDs are interrelated with global development. The increasing importance of NCDs in the development agenda was validated by the three United Nations General Assembly high level meetings on noncommunicable disease prevention and

control in 2011, 2014, and 2018. 5,6,16 NCDs are included in SDG 3 to "ensure healthy lives and promote well-being for all at all ages." Specifically, SDG target 3.4 aims to "reduce by one-third premature mortality from NCDs through prevention and treatment and promote mental health and wellbeing." Additionally, three of the nine health targets focus on NCD-related issues. For the first time, the promotion of mental health and well-being, and the prevention and treatment of substance abuse have been recognized as priorities within the global development agenda. This inclusion of mental health and substance abuse in the SDGs aligns with the 5×5 approach (i.e., five major NCDs and their five associated risk factors in comparison to the earlier approach of addressing four major NCDs and their four risk factors) to address the major NCDs and will have a positive impact on countries where mental health and substance abuse is poorly resourced at present.18

Many SDGs intersect through NCDs. NCD targets likewise cut across most of the SDGs. ^{15,19} The SDG targets relevant to NCDs include ²⁰:

- Target 3.a focuses on improvements in tobacco control.
- Target 3.b focuses on supporting research and development of vaccines and medicines for NCDs that primarily affect developing countries, as well as providing access to affordable essential medicines and vaccines for NCDs.
- Target 3.4 aims reduce premature NCD mortality by one-third.
- Target 3.4.2 aims to reduce the global suicide mortality
- Target 3.5 addresses substance abuse, including harmful use of alcohol.
- Target 3.6 aims to reduce deaths related to road traffic injuries.
- Target 3.8 aims to achieve Universal Health Coverage, which has implications for a wide range of NCD-related promotion, prevention and treatment interventions.
- Target 3.9 is to reduce the number of deaths and illnesses related to hazardous chemicals, as well as air, water, and soil pollution and contamination.

6 | PROGRESS OF THE NCD TARGETS FOR THE SDGs

Progress is slow relative to previously mentioned targets under SDG3:

Relative to target 3.a, during the period 2015–16, only 14
of the 181 countries that ratified the WHO Framework
Convention on Tobacco Control improved their national
monitoring of tobacco use, in accordance with article 20 of
the Convention. However, tobacco use is steadily declining.¹

- Relative to target 3.b, vaccine coverage among infants has increased from 72% in 2000 to 86% in 2018.²¹
- Relative to target 3.4, based on the data from 2010 to 2016, the trends suggest that women in 17 countries and men in only 15 countries (out of the 176 countries who signed the SDG Agenda) are expected the year 2030 goals. The Sustainable Development Goals Report 2020 suggests that the probability of dying from one of the four major NCDs: cardiovascular disease, cancer, diabetes or chronic respiratory disease between 30 and 70 years of age decreased a mere 1%, from 19% in 2010 to 18% in 2016. The data from 2010 to 2016 also suggests that the probability of dying from one of the four NCDs for people between 30 and 70 years has in fact increased for women in 14 countries and men in 20 countries. The prevalence of obesity is also on the rise.
- Relative to target 3.4.2, progress has been made in reducing the global suicide rates from 12.9% per 100,000 in 2000 to 10.6% per 100,000 in 2016. However, suicide remains the second highest cause of death among people aged 15 to 29 years globally.²⁴
- Relative to target 3.5, the rise and reduction in harmful alcohol consumption has stagnated globally and is increasing in some regions.^{1,21}
- Relative to target 3.6 the number of road traffic deaths have increased from 1.31 million in 2013 to 1.35 million in 2016.²⁵
- Relative to target 3.8, only one third of the global population is covered by essential health services. Projections suggest that by 2030, only 39% to 63% of the global population will be covered by essential health services.²³
- Relative to target 3.9 in 2016 indoor and outdoor air pollution caused 7 million deaths worldwide.²¹

The SDG monitoring framework identifies ten progress indicators for NCDs with time-bound interim targets toward the 2030 goals (Table 1). 26,27 Data from various countries reveal that only two out of the ten NCD progress indicators are being met by half of the 176 countries who signed the SDG Agenda. Between 2014 and 2018, there was considerable progress globally in tax implementation for tobacco and alcohol demand reduction and setting of time-bound national targets. Progress stagnated in terms of unhealthy diet reduction and public awareness measures, and collecting mortality data. The progress has stagnated in terms of unhealthy diet reduction owing to the aggressive food industry campaigns which has led to nutritional transition and a shift to unhealthy diets. It is well known that the habits form young and the advertisements of the food industry target the young children and is leading to the increased consumption of unhealthy diets. Comprehensive health examination survey progress is behind schedule, which delays local guidelines for the management of NCDs. Box 1 gives

TABLE 1 Status of the achievement of progress monitoring indicators of noncommunicable diseases in the United Nations outcome document: Global, South East Asia Region (SEAR) and India

	Global (% countries) ^{24,25} (total 176 countries)		SEAR (% countries) ^{24,25} (total 11 countries)		India (level of achievement) ^{6,26}	
Indicator	2014	2018	2014	2018	2014	2019
Time-bound national targets based on WHO guidance	60	67	82	100	Fully achieved	Fully achieved
2. Mortality data on routine basis	88	88	80	90	Partially achieved	Partially achieved
3. Risk factor surveys (WHO STEPS/ comprehensive health examination survey every five years)	20	27	9	36	Partially achieved	Partially achieved
4. Operational Multisectoral national strategy/ action plan	62	72	38	100	Fully achieved	Fully achieved
5. Tobacco demand-reduction measures (tax implementation)	87	95	82	90	Not achieved	Partially achieved
6. Harmful use of alcohol reduction measures (tax implementation)	80	86	82	82	Partially achieved	Partially achieved
7. Unhealthy diet reduction measures	38	38	9	10	Fully achieved	Fully achieved
8. Public awareness on diet and/or physical activity (in past 2 years)	68	62	100	72	Fully achieved	Fully achieved
9. Guidelines for the management of major NCDs	37	48	35	81	Fully achieved	Fully achieved
10. Drug therapy/counselling to prevent heart attacks and strokes (risk stratification)	72	81	75	90	Not achieved	Fully achieved

an insight of India's National Action Plan to achieve the SDGs.

7 | CHALLENGES AFFECTING NCD TARGETS OF THE SDGs

The current rate of change is insufficient to reach the 2030 SDG targets. Challenges noted in the literature include lack of social inclusion, widespread regional disparities and urban-rural gaps, and gender inequality between men and women. Additionally, the disparities in the accessibility, availability, and affordability of the NCD services are also noted concerns that lead to lack of awareness among people regarding their risk or diagnosis of NCDs. 24,29

The ongoing coronavirus disease (COVID-19) pandemic has also brought to the forefront the global burden of NCDs. The pandemic has led to over one million deaths and disrupted livelihoods and well-being throughout the world. Based on the available data from multiple countries, it is evident that people with underlying NCD conditions such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease, and cancer are extremely vulnerable to COVID-19 with severe disease and complications resulting in death. A systematic review on the prevalence of comorbidities in the confirmed COVID-19 patients revealed that hypertension (21%), diabetes mellitus (11%), cardiovascular disease

(5.8%), chronic kidney disease (3.6%), malignancy (2.7%), cerebrovascular disease (2.4%), chronic pulmonary disease (2.0%) were considerable.³⁰ Those with NCDs are more susceptible to the virus and are also at risk due to diverted health provider attention and funding that have been diverted to caring for patients with COVID-19.^{31,32} Furthermore, prevention and clinical treatment of chronic diseases has been severely disrupted by the changes in lifestyles, decreases in incomes, and decreases in in-person clinical capacity. It has been reported that NCD services have been disrupted in 120 countries. The disruption services for hypertension management, treatment of diabetes and its complications, cancer, and cardiovascular emergencies occurred in 64%, 62%, 54%, and 46% of countries, respectively.³³

8 | COMMENTARY

The limited success in the past five years toward the SDG 2015–2030 goals raises strong concerns. The current COVID-19 pandemic makes addressing risk factors to prevent NCDs such as obesity and mental health conditions even more crucial. Taking action against NCDs is a moral and economic imperative. We must take stock of the lessons learned and progress made in improving population health, and most importantly, identify and address the gaps that persist where progress is not on track.³⁴ The COVID-19 crisis

BOX 1 Case Study: India's National Action Plan for SDGs

Since the adoption of the SDGs in September 2015, India has demonstrated strong commitment to achieving the goals. India adopted the WHO Global Action Plan for NCDs 2013-2020 and developed its own national action plan with indicators. India is the first country to develop specific national targets and indicators aimed at reducing the number of global premature deaths from NCDs by 25% by 2025. The global action plan lists 9 targets and 25 indicators for countries to set. But India has taken the unprecedented step of setting a tenth target to address household air pollution—a major health hazard in the South-East Asian Region due to burning of solid biomass fuel and secondhand smoke. Since 2015 India has gone step further and now require tobacco pictorial warnings to cover 85% of the package. This effort is an excellent example of a "best buy" or cost effective, high impact intervention for combating NCDs.

The localization of SDGs has been emphasized with the States and Union Territories assigned responsibility for implementing the country's ambitious development agenda. The National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) focuses on the convergence and integration of multiple stakeholders for effective implementation.

In 2018, the Government of India launched a health care scheme known as 'Ayushman Bharat' (long live India), the world's largest government funded health protection mission as a progressive step toward Universal Health Coverage in India. The launch of Ayushman Bharat began a shift of government initiatives to expand comprehensive primary health care through health and wellness centers and to strengthen secondary and tertiary care through National Health Protection Scheme (NHPS). These new programs brought with them increased funding and resourcing for NCDs, which has subsidized care and reduced out of pocket expenditures.

has underscored the limited capacity of most health systems. This next decade is critical to advance the work on the NCD agenda for SDG in all countries.

The 2030 Agenda is a powerful accountability mechanism for the world. Such ambitious goals require dedicated action from countries to ensure that adequate resources are allotted to NCDs, that NCD-related policies and legislation are

effectively implemented and enforced, and that surveillance and health care systems are sufficiently resourced for full implementation. Much more needs to be done—and quickly—to bring about the transformative changes that are required.

9 | KEY RECOMMENDATIONS TO ACHIEVE THE NCD TARGETS OF THE SDGs

- Continue the dialogue from the three UN high-level meetings within global governing bodies that directly and indirectly impact on health in the context of globalized trade, security, migration, and environment.
- Increase funding at national, regional, and international levels to invest in health systems, services, and workforce development. Funding should be guided by 'best buy' interventions to optimize the investment for improved health outcomes.
- Design and scale up solutions for high risk, resourcelimited, and marginalized populations.
- Create a unified national response to align and coordinate various stakeholders. Countries may vary from each other in their pathways to achieve the NCD targets, but considering the goals outsize the resources, there must be efforts to eliminate unnecessary duplicate efforts. Plans to achieve the SDG targets must be tailored to each country's socioeconomic context.
- Strengthen early detection and monitoring for NCDs with consistent follow-up.

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