

# Noncommunicable diseases in the Americas: a review of the Pan American Health Organization's 25-year program of work

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## ABSTRACT

This article describes progress in tackling noncommunicable diseases (NCDs) in the Americas since the Pan American Health Organization (PAHO) started its NCD program 25 years ago. Changes in the epidemiology of NCDs, NCD policies, health service capacity, and surveillance are discussed. PAHO's NCD program is guided by regional plans of action on specific NCDs and risk factors, as well as a comprehensive NCD plan. Its work involves implementing evidence-based World Health Organization technical packages on NCDs and their risk factors with the aim of achieving the Sustainable Development Goal target of a one third reduction in premature mortality caused by NCDs by 2030. Important advances have been made in the past 25 years in implementation of: policies on NCD risk factors; interventions to improve NCD diagnosis and treatment; and NCD surveillance. Premature mortality from NCDs decreased by 1.7% a year between 2000 and 2011 and 0.77% a year between 2011 and 2019. However, policies on risk factor prevention and health promotion need to be strengthened to ensure more countries are on track to achieving the NCD-related health goals of the Sustainable Development Goals by 2030. Actions are recommended for governments to raise the priority of NCDs by: making NCDs a core pillar of primary care services, using revenues from health taxes to invest more in NCD prevention and control; and implementing policies, laws, and regulations to reduce the demand for and availability of tobacco, alcohol, and ultra-processed food products.

## Keywords

Noncommunicable diseases; risk factors; health promotion; Pan American Health Organization; Americas.

While the coronavirus disease 2019 (COVID-19) pandemic is presently the main public health priority, noncommunicable diseases (NCDs) continue to be the leading causes of ill health, disability and death in the Americas (1). These diseases include cardiovascular disease, diabetes, cancer, and chronic respiratory diseases and their related risk factors of tobacco use, harmful use of alcohol, unhealthy diet, and physical inactivity. Furthermore, people with NCDs are at greater risk of

developing and dying of severe COVID-19, highlighting the urgent need for greater attention to, investment in, and strengthened policies, programs and services on NCD prevention and control.

The Pan American Health Organization (PAHO) started work on NCDs with the release of the 1997 World Health Report by the World Health Organization (WHO), which highlighted NCDs as the cause of half of all global deaths (2). PAHO's NCD program began with regional epidemiological analyses, followed by advocacy and technical assistance on NCD prevention, control, and surveillance. During this early period, the public health agenda was dominated by infectious diseases and

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maternal and child mortality, and HIV/AIDS was emerging as a key public health challenge (3).

This year, as PAHO is celebrating its 120th anniversary, the PAHO NCD program celebrates 25 years since it began its work. During this time the program has evolved and made significant contributions to health. Now, while countries are focusing on responding to the COVID-19 pandemic and building stronger health systems, it is imperative to prioritize prevention and control of NCDs if we are to achieve the targets of the 2030 Sustainable Development Goals (SDGs). In this article, we describe progress in NCDs in the Americas in the 25 years of PAHO's NCD program through the perspective of PAHO's technical cooperation with ministries of health in the Americas, including: the epidemiological changes in NCDs; related changes in NCD policies; the evolution of health service capacity; and NCD surveillance. We also draw important conclusions on the progress on NCDs and propose key recommendations to scale up the responses to NCDs as the region works towards recovering from the COVID-19 pandemic.

## EVOLUTION OF NCD COMMITMENTS

The political commitments to NCDs were originally established in 1998 through a World Health Assembly resolution calling for the development of a global strategy for NCD prevention and control (4). This resolution was approved by the World Health Assembly in 2000, and was later followed by the WHO Framework Convention on Tobacco Control (FCTC) in 2003 (5) and the WHO Global Strategy on Diet and Physical Activity and Health in 2004 (6), which emphasized the considerable role played by these risk factors in the development of NCDs. Regional commitments to NCDs emerged in 2000, with the PAHO Directing Council adopting a strategy for cardiovascular diseases, followed by a plan on chronic diseases (2002); over time, commitments have expanded to cover a range of NCD topics (Table 1).

Recognition has grown that NCDs are not only a health issue, but also adversely affect socioeconomic development, particularly in low- and middle-income countries (21, 22). In fact, in 2006 the World Economic Forum identified NCDs as among the global risks for poor economic and social development, given their significant effects on health and economies (23). Recognition of the serious risks posed by NCDs led to an international call for multisectoral action beyond the health sector to tackle NCDs. The heads of government of the Caribbean Community, conscious of the significant burden of ill health and mortality from NCDs in this subregion, held a summit and issued the *Declaration of Port of Spain: uniting to stop the epidemic of chronic NCDs* in 2007 (24). This unprecedented declaration spurred the first-ever high-level meeting on NCDs in 2011 at the United Nations General Assembly, where governments agreed to place NCDs at the center of development efforts (25). In 2013, the World Health Assembly adopted the *Global action plan for the prevention and control of noncommunicable diseases 2013–2020* (26) with clear strategic lines, as well as the NCD best buys (27) and a global monitoring framework. Two subsequent UN high-level meetings on NCDs, in 2014 and 2018, have continued to solidify the national, intersectoral, multisectoral, and development responses. The importance of tackling NCDs was also emphasized in the SDGs, under target 3.4, which calls for a reduction in

premature NCD mortality by one third by 2030, and this was supported by the recently adopted roadmap for implementation of the Global NCD action plan.

## PAHO'S COMPREHENSIVE APPROACH TO NCD PREVENTION AND CONTROL

PAHO has developed regional plans of action on specific diseases and risk factors, as well as a comprehensive NCD approach (Table 1). With the COVID-19 pandemic, the NCD program expanded its cooperation to provide scientific evidence on the links between NCDs and COVID-19, analyses on the disruption to NCD services, and promotion of best practices on adaptations and innovations to ensure continuity of care for people with NCDs. PAHO has been working closely with ministries of health, other government sectors, and non-governmental organizations to implement and monitor these regional strategies. The strategies include cost-effective policies to: reduce tobacco use and harmful use of alcohol; promote physical activity and healthy diets; improve NCD diagnosis and treatment; and strengthen surveillance including monitoring NCD indicators (Table 2). A summary of this work is outlined in the following sections.

### Progress in tobacco control

Thirty of the 35 PAHO Member States have ratified the FCTC, while 10 countries have achieved the highest level of implementation of at least three of the four related NCD best buys for tobacco control, notably increasing prices on tobacco products, creating smoke-free public places, and including health warnings on tobacco packages (28). Furthermore, 24 PAHO Member States have implemented smoke-free environments, with some countries also including new and emerging nicotine and tobacco products within the scope of the smoke-free measure (28). South America was the first multination continent worldwide to become 100% smoke-free in public places in 2020. The MPOWER package (Table 3) has been used in several countries and has contributed to achieving these gains.

PAHO provides guidance to protect public health policies from interference by the tobacco industry or those who work to further the interests of this industry. Partnerships are key to tobacco control efforts and collaborators include the Bloomberg Initiative to Reduce Tobacco Use, the Healthy Caribbean Coalition, the Latin America and Caribbean Health Coalition (CLAS), other UN agencies, the World Bank, and the Inter-American Development Bank, among others.

### Promoting healthy diets

Improving diets is a crucial factor in preventing and controlling NCDs, reducing musculoskeletal diseases, and improving quality of life. Unhealthy eating has been driven by the widespread availability, affordability, and promotion of ultra-processed food products. A core component of PAHO's work has been designing, implementing, and monitoring food and nutrition policies to reduce the demand for and promotion of such products, while supporting the strengthening of food and nutrition systems that support healthy diets. These efforts include: implementation of breastfeeding policies and promotion of breastfeeding; promotion of the use of the REPLACE

**TABLE 1. Regional strategies on prevention and control of NCDs, Pan American Health Organization, 2000–2020**

Public health issue	Year	Title/goal
<b>Specific diseases and risk factors</b>		
Cardiovascular diseases	2000	<b>Cardiovascular disease, especially hypertension</b> Develop or strengthen national plans for hypertension, and surveillance (7).
Diabetes and obesity	2008	<b>Population-based and individual approaches to the prevention and management of diabetes and obesity</b> Address the challenges of obesity and diabetes (8).
Cervical cancer	2008	<b>Regional strategy and plan of action for cervical cancer prevention and control in Latin America and the Caribbean</b> Improve effectiveness of cervical cancer programs (9).
	2018	<b>Plan of action for cervical cancer prevention and control 2018–2030</b> Accelerate progress toward the elimination of cervical cancer as a public health problem (10).
Tobacco control	2001	<b>Framework Convention on Tobacco Control (FCTC)</b> Implement the FCTC to achieve smoke-free Americas.
	2008	<b>WHO FCTC: opportunities and challenges for its implementation in the Americas</b> Consider FCTC ratification and implementation (11).
	2010	<b>Strengthening the capacity of Member States to implement the provisions and guidelines of the WHO FCTC</b> Counter tobacco industry interference (12).
	2018	<b>Strategy and plan of action to strengthen tobacco control in the Region of the Americas 2018–2022</b> Accelerate implementation of the FCTC in the Region (13).
Alcohol	2011	<b>Plan of action to reduce the harmful use of alcohol</b> Regional implementation of the WHO global strategy to reduce harmful use of alcohol (14).
Obesity in children and adolescents	2014	<b>Plan of action for the prevention of obesity in children and adolescents</b> Halt the rise of obesity in children and adolescents (15).
Elimination of trans fats	2020	<b>Plan of action for the elimination of industrially produced trans-fatty acids 2020–2025</b> Implementation of policies to eliminate industrially produced trans-fatty acids (16).
<b>Comprehensive NCDs</b>		
Chronic diseases	2002	<b>Public health response to chronic diseases</b> Integrated approach to cardiovascular diseases and improve diets and physical activity (17).
Prevention and control of chronic diseases	2006	<b>Regional strategy and plan of action on an integrated approach to the prevention and control of chronic diseases, including diet and physical activity</b> Strengthen public policy development, implementation and surveillance (18).
Strategy for NCD prevention and control	2012	<b>Strategy for the prevention and control of noncommunicable diseases (NCDs)</b> Prevent and control NCDs, and improve surveillance capacity (19).
Plan of action for NCD prevention and control	2013	<b>Plan of action for the prevention and control of noncommunicable diseases in the Americas 2013–2019</b> Reduce NCD premature mortality in the Americas, by at least a 25% by 2025 (20).

NCDs, noncommunicable diseases.  
**Source:** Prepared by authors.

technical package (Table 3) to eliminate trans fatty acids from the food supply; restriction of marketing of unhealthy products; regulation of school environments and other settings; and taxation. The PAHO nutrient profile model has been widely used in the Americas for use in front-of-package warning labels for products high in fats, sugars, and salt, which are harmful to health. These labels help consumers make informed and healthier food choices.

Coordination with UN agencies through the Regional Nutrition Group and the Interamerican Committee of Education of the Organization of American States has also helped to improve food and physical activity in schools. PAHO has also collaborated with the Caribbean Public Health Agency on nutrition surveillance and the Healthy Caribbean Coalition on advocacy.

### Reducing harmful use of alcohol

Alcohol consumption is a leading risk factor for ill health, including NCDs and mental health conditions. Following the WHO global alcohol strategy in 2010, a first-ever regional alcohol plan was developed in 2011, calling on governments to

consider alcohol as a public health priority and develop policies and plans to reduce its impact (14). PAHO has led the promotion of the most cost-effective measures to reduce the harmful use of alcohol. The Organization has worked with Member States, WHO, and partners to: provide tools such as SAFER (Table 3), which has been implemented in several countries of the region; build capacity; engage in advocacy; and undertake research. In 2021, the regional campaign “Live better, drink less” was launched and reached millions of people, as was Pahola, the first digital health worker specialized in alcohol literacy, screening, and brief interventions (29).

Alcohol per capita consumption, however, remains high in the region and will increase if no additional measures are taken (30). PAHO will continue to assist Member States by providing technical support and sharing evidence, best practices, and lessons learnt.

### Economics of NCDs

PAHO-led NCD investment cases have been conducted in Jamaica, Peru, and Suriname. These cases have demonstrated how the social and economic harms of NCDs can be successfully

TABLE 2. Progress in selected NCD indicators, by subregion in the Americas, 2001–2021

NCD indicator, subregion has:	2001	2006	2010	2013	2015	2017	2019	2021
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
<b>NCD unit or branch or department</b>								
Region of the Americas	17/35 (49)	20/35 (57)	27/35 (77)	29/35 (83)	29/35 (83)	30/35 (86)	31/35 (89)	31/35 (89)
North America	1/2 (50)	(...)	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)
Mesoamerica	5/9 (56)	6/9 (67)	8/9 (89)	9/9 (100)	8/9 (89)	7/9 (78)	7/9 (78)	8/9 (89)
South America	9/10 (90)	9/10 (90)	8/10 (80)	9/10 (90)	9/10 (90)	9/10 (90)	10/10 (100)	10/10 (100)
Non-Latin Caribbean	2/14 (14)	5/14 (36)	9/14 (64)	9/14 (64)	10/14 (71)	12/14 (86)	12/14 (86)	11/14 (79)
<b>Operational multisectoral NCD commission</b>								
Region of the Americas	NA	NA	NA	8/35 (23)	9/35 (26)	13/35 (37)	17/35 (49)	13/35 (37)
North America	NA	NA	NA	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)	1/2 (50)
Mesoamerica	NA	NA	NA	1/9 (11)	3/9 (33)	4/9 (44)	6/9 (67)	4/9 (44)
South America	NA	NA	NA	2/10 (20)	1/10 (10)	2/10 (20)	3/10 (30)	2/10 (20)
Non-Latin Caribbean	NA	NA	NA	3/14 (21)	3/14 (21)	5/14 (36)	6/14 (43)	6/14 (43)
<b>National operational NCD policy or strategy or action plan</b>								
Region of the Americas	NA	NA	12/35 (34)	15/35 (43)	20/35 (57)	25/35 (71)	24/35 (69)	19/35 (54)
North America	NA	NA	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)
Mesoamerica	NA	NA	2/9 (22)	3/9 (33)	5/9 (56)	5/9 (56)	5/9 (56)	6/9 (67)
South America	NA	NA	5/10 (50)	7/10 (70)	6/10 (60)	8/10 (80)	8/10 (80)	4/10 (40)
Non-Latin Caribbean	NA	NA	3/14 (21)	3/14 (21)	7/14 (50)	10/14 (71)	9/14 (64)	7/14 (50)
<b>NCD guidelines</b>								
Region of the Americas	NA	NA	NA	13/35 (37)	7/35 (20)	13/35 (37)	17/35 (49)	20/35 (57)
North America	NA	NA	NA	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)	2/2 (100)
Mesoamerica	NA	NA	NA	4/9 (44)	4/9 (44)	7/9 (78)	7/9 (78)	7/9 (78)
South America	NA	NA	NA	3/10 (30)	2/10 (20)	3/10 (30)	6/10 (60)	7/10 (70)
Non-Latin Caribbean	NA	NA	NA	4/14 (29)	0/14 (0)	3/14 (21)	2/14 (14)	4/14 (29)
<b>NCD national targets</b>								
Region of the Americas	NA	NA	NA	NA	14/35 (40)	23/35 (66)	24/35 (69)	21/35 (60)
North America	NA	NA	NA	NA	1/2 (50)	1/2 (50)	2/2 (100)	2/2 (100)
Mesoamerica	NA	NA	NA	NA	4/9 (44)	5/9 (56)	6/9 (67)	6/9 (67)
South America	NA	NA	NA	NA	5/10 (50)	6/10 (60)	7/10 (70)	7/10 (70)
Non-Latin Caribbean	NA	NA	NA	NA	4/14 (29)	11/14 (79)	9/14 (64)	6/14 (43)
<b>NCD and risk factor surveys</b>								
Region of the Americas	NA	NA	NA	10/35 (29)	12/35 (34)	13/35 (37)	10/35 (29)	11/35 (31)
North America	NA	NA	NA	1/2 (50)	1/2 (50)	2/2 (100)	2/2 (100)	2/2 (100)
Mesoamerica	NA	NA	NA	1/9 (11)	2/9 (22)	4/9 (44)	2/9 (22)	1/9 (11)
South America	NA	NA	NA	4/10 (40)	6/10 (60)	1/10 (10)	3/10 (30)	4/10 (40)
Non-Latin Caribbean	NA	NA	NA	4/14 (29)	3/14 (21)	6/14 (43)	3/14 (21)	4/14 (29)

NCDs, noncommunicable diseases; (...), missing information; NA, not applicable because this indicator was not included in that year's survey.

Source: Prepared by authors based on Pan American Health Organization's country capacity surveys conducted in 2001, 2006, 2010, 2013, 2015, 2017, 2019 and 2021.

mitigated through the implementation of WHO best-buy policy options and interventions, which are a set of 16 interventions to reduce tobacco use, reduce harmful use of alcohol, reduce unhealthy diet, reduce physical inactivity, and manage cardiovascular diseases and diabetes (10). Results show that in Jamaica, every Jamaican dollar (JA\$) invested can be expected to lead to a return of JA\$ 2.1 over 15 years (31). In Peru, this return on investment was found to be 3.0 Peruvian soles for every sole invested (32).

Fiscal and health policy coherence is important for optimizing excise taxes on tobacco, alcohol, and sugar-sweetened beverages. For tobacco taxes, this policy coherence has been supported through evidence-based guidelines, information-sharing, and standardized monitoring (28). To overcome the

lack of data on sugar-sweetened beverages, particularly the capacity to monitor progress, PAHO led the first estimation of a region-wide comparison of sugar-sweetened beverage taxes (33). The resulting indicators serve as a regional public good, enabling the analysis of trends and establishment of best practices. Similar work is underway for alcoholic beverages.

### Improving NCD diagnosis and treatment in primary health care

The NCD program has been providing technical cooperation to improve the capacity of primary care services for diagnosis and treatment of NCDs. The chronic care model has formed the

**TABLE 3. Evidence-based NCD technical packages to support policies, programs, and surveillance**

Topic	Technical package		
	Name	Year	Actions
<b>NCD risk factor</b>			
Tobacco control		2008	<ul style="list-style-type: none"> <li>Monitoring tobacco use and policies</li> <li>Protecting people from tobacco smoke</li> <li>Offering help to quit tobacco use</li> <li>Warning about the dangers of tobacco</li> <li>Enforcing bans on tobacco advertising, promotion, and sponsorship</li> <li>Raising taxes on tobacco</li> </ul>
Healthy diet: salt intake		2016	<ul style="list-style-type: none"> <li>Surveillance: measure and monitor salt use</li> <li>Harness industry: promote the reformulation of foods and meals to contain less salt</li> <li>Adopt standards for labelling and marketing</li> <li>Knowledge: educate and communicate to empower individuals to eat less salt</li> <li>Environment: support settings to promote healthy eating</li> </ul>
Healthy diet: trans fat		2018	<ul style="list-style-type: none"> <li>REview dietary sources and landscape of industrially produced trans fat (IPTF) for policy change</li> <li>Promote the replacement of IPTF with healthier fats and oils</li> <li>Legislate or enact regulatory actions to eliminate IPTF</li> <li>Assess and monitor trans fat content in the food supply and changes in trans fat consumption in the population</li> <li>Create awareness of the negative health impact of trans fat</li> <li>Enforce compliance with policies and regulations.</li> </ul>
Physical activity		2018	<ul style="list-style-type: none"> <li><b>Active societies:</b> implement behavior-change communication campaigns and build workforce capacity to change social norms</li> <li><b>Active environments:</b> promote safe, well maintained infrastructure, facilities and public open spaces that provide equitable access for walking, cycling, and other physical activity</li> <li><b>Active people:</b> ensure access to opportunities, programs, and services across multiple settings to engage people of all ages and abilities in regular physical activity</li> <li><b>Active systems:</b> strengthen leadership, governance, multisectoral partnerships, workforce, research, advocacy, and information systems</li> </ul>
Alcohol		2018	<ul style="list-style-type: none"> <li>Strengthen restrictions on alcohol availability</li> <li>Advance and enforce drink driving countermeasures</li> <li>Facilitate access to screening, brief interventions, and treatment</li> <li>Enforce bans or comprehensive restrictions on alcohol advertising, sponsorship, and promotion</li> <li>Raise prices on alcohol through excise taxes and pricing policies</li> </ul>
<b>NCD management</b>			
Cardiovascular disease, diabetes, chronic respiratory diseases, and early cancer diagnosis		2010 (updated 2017 and 2020)	<ul style="list-style-type: none"> <li><b>PEN package.</b> Package of <b>Essential Noncommunicable Disease Interventions</b>. The interventions are for the detection, diagnosis, treatment, and care of cardiovascular diseases, diabetes and chronic respiratory diseases, and early cancer diagnosis.</li> </ul>
Cardiovascular disease and hypertension		2018	<ul style="list-style-type: none"> <li>Healthy lifestyle counselling</li> <li>Evidence-based treatment protocols</li> <li>Access to essential medicines and technology</li> <li>Risk-based cardiovascular disease management</li> <li>Team-based care</li> <li>Systems for monitoring</li> </ul>
Childhood cancer		2021	<ul style="list-style-type: none"> <li>Centres of excellence and care networks with sufficient competent workforce</li> <li>Universal health coverage with benefit packages and models for quality services</li> <li>Regimens for management with guidance, essential technologies, and medicines</li> <li>Evaluation and monitoring with quality assurance and robust information systems</li> <li>Advocacy</li> <li>Leverage financing</li> <li>Linked policies and governance</li> </ul>
<b>NCD surveillance</b>			
NCD and NCD risk factor surveillance		<ul style="list-style-type: none"> <li>GYTS (1999)</li> <li>GSHS (2003)</li> <li>STEPS (2006)</li> <li>GATS (2008)</li> </ul>	<ul style="list-style-type: none"> <li>STEP wise approach to NCD risk factor surveillance (<b>STEPS</b>)</li> <li>Global school-based student health survey (<b>GSHS</b>)</li> <li>Global Tobacco Surveillance System (<b>GTSS</b>): Global Adult Tobacco Survey (<b>GATS</b>) and Global Youth Tobacco Survey (<b>GYTS</b>)</li> </ul>

NCDs, noncommunicable diseases.  
**Source:** Prepared by authors.

basis of this work and has been applied particularly to improve diabetes care (34). For hypertension management, WHO launched the global HEARTS initiative and ministries of health and local stakeholders in the region have implemented this initiative with the technical cooperation of PAHO. HEARTS is now included in 1380 primary health care centers in 22 countries which

are applying the protocol and the interventions (35). Many lessons have been learnt from this approach for cardiovascular disease risk management (36). The core pillars are: healthy lifestyle promotion; evidence-based treatment protocols; access to affordable medicines and technologies; and management based on cardiovascular risk assessment, treatment and referral,

team-based care and task-sharing, and systems for monitoring. In addition, several tools to improve hypertension control in primary care have been developed including a scorecard (37), guidance on the use of clinically validated automatic blood pressure devices (38), a cardiovascular disease mobile application to measure cardiovascular risk (39), and a monitoring framework (40).

For cancer control, the current focus is on implementing three global initiatives in the region to: 1) eliminate cervical cancer; 2) improve survival for childhood cancer; and 3) control breast cancer. PAHO initiated its work on cancer with the emergence in the 1970s of cancer societies and leagues that focused on strengthening radiotherapy services (41). The perspective has since shifted to primary and secondary prevention, particularly for infection-related cancers such as cervical cancer (through human papillomavirus (HPV) vaccines and cervical cancer screening) and liver cancer (through hepatitis B vaccines), and lung cancer through reducing tobacco use. Notable progress has been made in the region on cervical cancer prevention and control, as countries have recently made advances in HPV vaccination, screening, and treatment (42). The PAHO Revolving Fund has been a vital mechanism to increase access to vaccines, and hepatitis B and HPV vaccines are part of national immunization programs in 37 countries and territories, and 44 countries and territories, respectively. The PAHO Strategic Fund for essential medicines offers Member States essential cancer and palliative care medicines and, more recently, HPV tests through a pooled procurement mechanism to increase access to these products (43).

## CHANGES IN NCD MORTALITY AND PREVALENCE OF RISK FACTORS

Surveillance is a core pillar of the PAHO NCD program. Its work includes strengthening NCD surveillance capacity by supporting countries to produce data and report in the global and regional NCD monitoring frameworks. Data have been widely disseminated and are available for public use on ENLACE, PAHO's data portal on NCD mortality, prevalence, and policies (44). Data sources and methods are described in the portal (44). Mortality data are from national civil registration and vital statistics and/or mortality information systems reported annually to PAHO by national authorities. Data on the prevalence of risk factors are from government health statistics including national population-based surveys.

### NCD mortality

Data illustrate the high burden of NCDs. NCDs are the leading cause of death in the Americas and were responsible for 5.8 million deaths in 2019, 81% of the 7.2 million deaths (1). The age standardized NCD mortality rate was 411.5 per 100 000 population in 2019, and was higher in men than women (482.6/100 000 versus 351.7/100 000). Significant differences are seen across the region: NCD mortality in Haiti (838.7/100 000) is almost three times higher than NCD mortality in Canada (301.5/100 000), the country with the lowest mortality rate (28). NCD all-cause mortality has declined by 17.2% over the past 2 decades, from 497.2/100 000 population in 2000 to 411.5/100 000 in 2019. The decline was slightly higher in men (–18.8%) than women (–16.5%). Declines in NCD mortality from 2000 to 2019 were

greater in the Andean Area, and the Southern Cone and Brazil (Figure 1). Mortality was essentially unchanged in Central America and the Latin Caribbean, while the decline in NCD mortality in the Non-Latin Caribbean and North America subregions ended in 2013 and 2011, respectively (43). Despite declines across the region, countries will not achieve the SDG goal for NCDs unless evidence-based programs are scaled up quickly.

### Premature NCD mortality

Of the 4.3 million deaths caused by cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases in 2019 in the Americas, 1.5 million (34.9%) were premature, occurring in people aged 30 to 70 years. The unconditional probability of dying between the exact ages of 30 to 70 years from these four NCDs was 14.0% overall; 16.4% in men and 11.8% in women. Haiti had the highest rate of premature NCD mortality in the region at 31.3% (44).

NCD premature mortality has declined over the past 2 decades, with an annual percentage change of –1.7% between 2000 and 2011, and a lower rate of decline between 2011 and 2019 of –0.8%. This decline is not enough to meet the 2030 SDG target, which requires an annual percentage change of –2.2% (Figure 2). Current projections indicate that only two countries, Chile and Trinidad and Tobago, are on track to achieve the SDG target by 2030 (44).

### Prevalence of risk factor

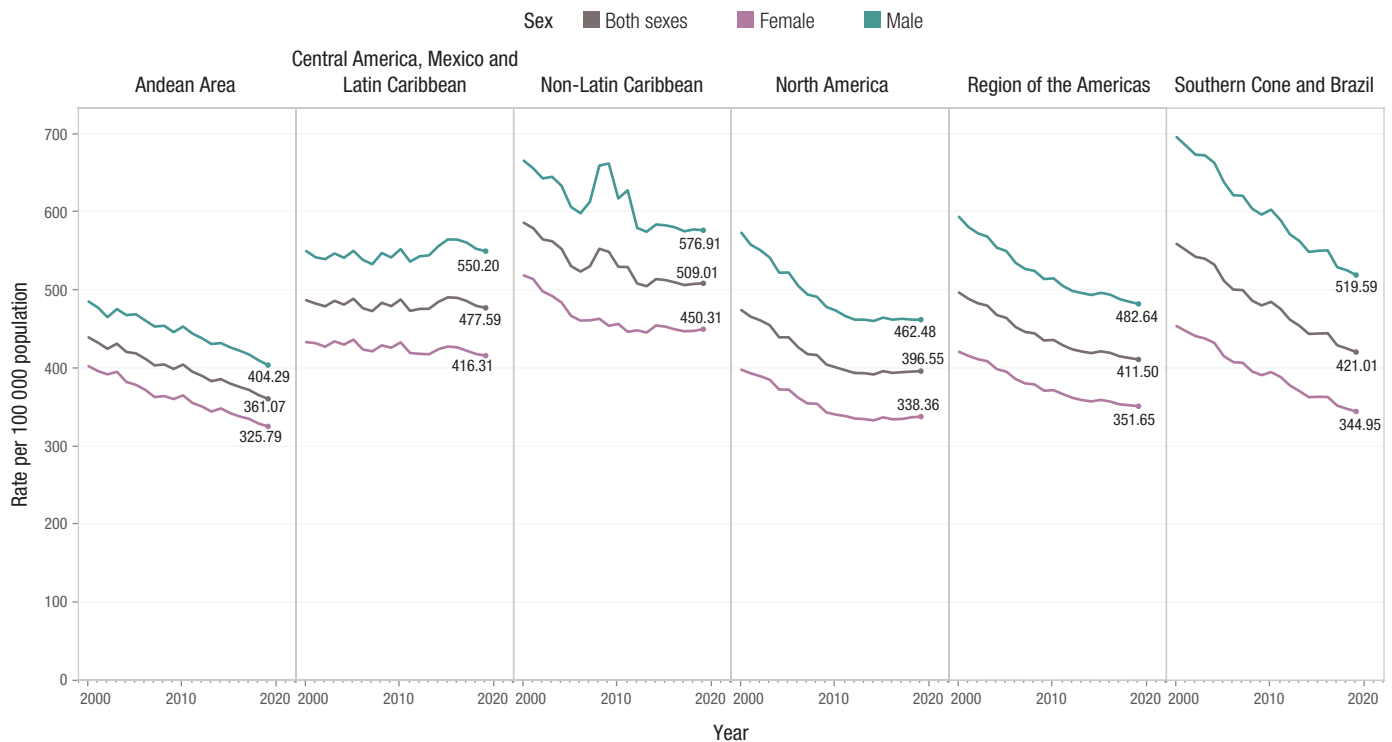
The prevalence of risk factors has changed unevenly over time (44). To highlight major changes, we discuss the prevalence of tobacco use and overweight and obesity. The prevalence of tobacco use in adults decreased from 28.0% in 2000 to 16.3% in 2020, making the Americas the WHO region with the second lowest tobacco consumption (45). Among men, the prevalence of tobacco use decreased from 35.3% to 21.3%, and among women, from 20.6% to 11.3% between 2000 and 2020. The Americas region is now one of three WHO regions that is on track to achieve the global target of a 30% relative reduction in tobacco consumption by 2025 (45).

The overall prevalence of overweight and obesity in 2016 (the latest year for which data were available) was 62.5% (64.0% in men and 61.0% in women); this is the highest prevalence of all WHO regions (44). Overweight and obesity increased substantially (by 70.8%) from initial reports in 1975, when 36.6% of adults were overweight and obese (44). The rate of increase in overweight and obesity was even more dramatic among children and adolescents, and rose by two and a half times between 1975 and 2016, from 12.4% to 31.7% (46).

## COUNTRY CAPACITY FOR TACKLING NCDs

PAHO has been monitoring the implementation of NCD policies and programs through the WHO country capacity survey since 2000. In 2013, PAHO began to monitor the key NCD indicators of the WHO Global monitoring framework. The changes seen over time in the key NCD indicators show that progress has been made in NCD national capacity (Table 2).

Several countries have established an NCD unit or branch in their ministries of health; this figure increased from 17 countries

**FIGURE 1. Trends in age-standardized death rates from all noncommunicable diseases, by subregion and sex, Region of the Americas, 2000–2019**

Source: Prepared by authors based on data from the PAHO database, ENLACE (43).

in 2001 to 31 of 35 countries by 2021 (Table 2). However, only 19 countries reported having a national operational NCD plan in 2021, which is a basic element of a functional NCD program, a slight increase on the 12 countries reporting an NCD program in 2010. Similarly, only eight of 35 countries had an operational multisectoral NCD commission in 2013, which rose to 13 countries by 2021. However, more countries are now reporting having evidence-based guidelines in place on the four main NCDs, although the Caribbean subregion lags behind in this regard (Table 2).

More efforts are needed in NCD surveillance. Although most of the countries have implemented at least one round of a national health or NCD survey, countries are not implementing it every 5 years as recommended (Table 2).

## BUILDING A STRONGER NCD RESPONSE

As countries eventually emerge from the COVID-19 pandemic, a key conclusion has been the need to transform and strengthen health systems, prioritizing NCDs, ensuring equitable access to services and integrating NCD services in the first level of care, including the use of telehealth (47, 48). In addition, risk factor prevention and health promotion policies need to be strengthened so that more countries are on track to achieve the NCD-related SDG 2030 health goals. Based on 25 years of the PAHO NCD program and the more recent observations of disrupted NCD services because of the COVID-19 pandemic (49), the following actions are recommended to assist efforts to build better and stronger responses to NCDs post-pandemic and develop a set of supportive evidence-based tools (Table 3).

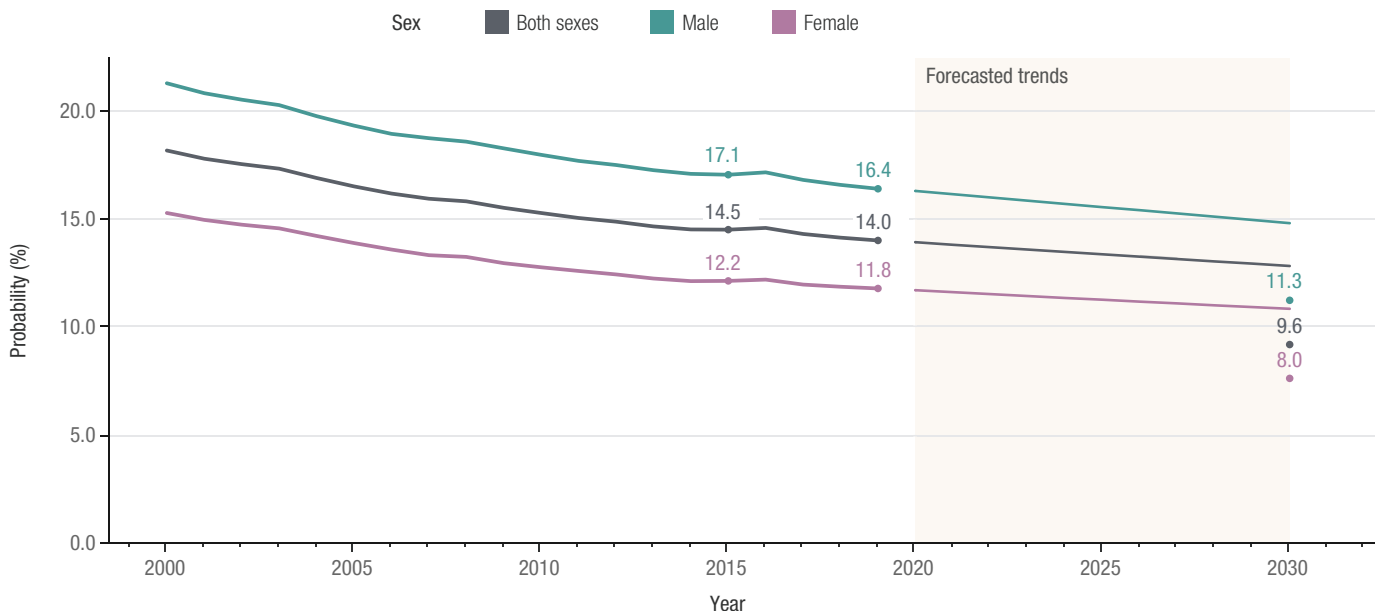
## Strengthening the integration of NCDs in primary care services

About 240 million people are living with at least one NCD in the Americas (50) and need continuous access to essential primary care and affordable medicines. The COVID-19 pandemic has disrupted services, leading to many persons missing or forgoing medical attention over the past 2 years. Therefore, the recovery effort must prioritize NCD services as a core pillar of the first level of health care and ensure integration of NCD services at the primary care level with the appropriate number of trained health care providers, expanded access to services, and good quality care to provide optimal diagnosis, treatment, and self-management support (48). Clinical protocols will also be critical to ensure optimal evidence-based care; updated, evidence-based guidelines are available through the PEN package and HEARTS package (Table 3). HEARTS has been implemented in more than 20 Member States in the Americas and improvements in hypertension control are being reported in several of these countries (35–40).

## Utilizing economics for NCD prevention and control

While economic recovery from the COVID-19 pandemic will drive the development agenda, the adverse economic impact of NCDs (51) and the implementation of NCD interventions (27) can help advance the post-pandemic recovery. Taxing unhealthy products is perhaps the most cost-effective approach to reducing their consumption and the related health, social, and economic costs; at the same time such taxes provide an

**FIGURE 2. Trends in the unconditional probability of dying between the exact ages of 30 and 70 years from any of the four main noncommunicable diseases, by sex, Region of the Americas, 2000–2019, and projections to 2030**



**Notes:** The four noncommunicable diseases are: cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases. Dots at the year 2015 show the baseline values, dots at the year 2019 show the most recent available data, and dots at the year 2030 show the target values. The trend lines shown from 2020 to 2030 are projections based on a best-fit log-linear regression model of the probability in the period 2015–2019.  
**Source:** Prepared by authors based on data from the PAHO database, ENLACE (43).

immediate source of revenue for governments. Health taxes can therefore be used to increase revenue for health for countries on their road to recovery from the COVID-19 pandemic. Lessons from tobacco taxation in this region provide a solid foundation for applying taxes to sugar-sweetened beverages and alcoholic beverages. Key lessons include the importance of: monitoring tobacco taxes; setting tax policy within an intersectoral coherent policy framework; developing guidelines; and generating independent evidence to support tobacco taxes.

Building the evidence on the economic benefits of NCD policies and interventions will support health authorities in their dialogue with other sectors.

### Reducing NCD risk factors and scaling up health promotion interventions

Scaling up cost-effective population-based policies, laws, and regulations to reduce the demand for and availability of unhealthy commodities, such as ultra-processed and processed products low in critical nutrients, tobacco, and alcohol, while making healthier choices the easier choice, remains key for prevention of risk factors. In addition, reshaping built environments to promote physical activity and reduce air pollution are also important.

Capacity-building is needed to implement the available technical packages including ACTIVE, MPOWER, SAFER, SHAKE, and REPLACE (Table 3). Governance, transparency, accountability, and management of conflicts of interest should also be improved. In addition, NCD risk factors can be better tackled in primary care services with healthy lifestyle counselling, screening, and brief interventions, especially for alcohol use disorders and tobacco use.

### Scaling up surveillance capacity for NCDs

Current capacities for NCD surveillance are still inadequate in several countries of the region and urgently require strengthening. Data on NCDs are often not well integrated into national health information systems. Thus, improving NCD surveillance and monitoring is a top priority for PAHO to provide strategic information for policy-making, service provision, and accountability. This can be achieved by integrating the core NCD indicators into national health information systems and periodically conducting population-based NCD surveys. Lastly, as countries focus on the countdown to 2030 SDG targets, having robust data to report on NCD mortality, premature mortality, risk factor prevalence, and country capacity is essential.

### CONCLUSION

This paper presents the first comprehensive analysis of PAHO's 25-year NCD program. Important advances have been made in the implementation of policies on NCD risk factors and interventions to improve NCD diagnosis, treatment, and surveillance. In addition, some decline in premature NCD mortality has occurred. However, not enough data are available to show the direct impact of these interventions on health outcomes. Based on this analysis, a set of actions are recommended for governments to raise the priority of NCDs, namely: integrating NCDs as a core pillar of primary care services; using health taxes as a basis for investing more in NCD prevention and control; and implementing policies, laws, and regulations to reduce the demand for and availability of tobacco, alcohol, and ultra-processed products. Ultimately,



NCD prevention and control will require government prioritization and optimal allocation of human and financial resources, recognizing that each country's development and optimal achievement of human capital requires a healthy and productive population.

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## Enfermedades no transmisibles en la Región de las Américas: revisión del programa de trabajo de la Organización Panamericana de la Salud tras 25 años de actividades

### RESUMEN

En este artículo se describe el progreso en la lucha contra las enfermedades no transmisibles (ENT) en la Región de las Américas desde que la Organización Panamericana de la Salud (OPS) iniciara su programa contra las ENT hace 25 años. Se abordan los cambios en las características epidemiológicas, las políticas, la capacidad de los servicios de salud y la vigilancia de estas enfermedades. Este programa de la OPS se rige por planes regionales de acción sobre enfermedades y factores de riesgo específicos, así como por un plan integral de ENT. Su labor consiste en poner en práctica paquetes técnicos de la Organización Mundial de la Salud basados en la evidencia sobre las ENT y sus factores de riesgo con el objetivo de alcanzar la meta de los Objetivos de Desarrollo Sostenible (ODS) de reducir en un tercio la mortalidad prematura causada por las ENT para el 2030. En los últimos 25 años se han logrado importantes avances en la ejecución de políticas sobre los factores de riesgo de estas enfermedades, en las intervenciones para mejorar su diagnóstico y tratamiento, y en la vigilancia. La mortalidad prematura por ENT disminuyó 1,7% anual entre el 2000 y el 2011 y 0,77% anual entre los años 2011 y 2019. Sin embargo, es necesario fortalecer las políticas de prevención de factores de riesgo y promoción de la salud para garantizar que más países estén bien encaminados para lograr las metas de salud de los ODS relacionadas con las ENT para el 2030. Se recomiendan medidas para que los gobiernos prioricen más las ENT y las conviertan en un pilar central de los servicios de atención primaria, al usar los ingresos generados por los impuestos en el sector de la salud para incrementar las inversiones en la prevención y control de las ENT, y ejecutar políticas, leyes y regulaciones para reducir la demanda y la disponibilidad de tabaco, alcohol y alimentos ultraprocesados.

### Palabras clave

Enfermedades no transmisibles; factores de riesgo; promoción de la salud; Organización Panamericana de la Salud; Américas.

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## Doenças não transmissíveis nas Américas: uma revisão do programa de trabalho de 25 anos da Organização Pan-Americana da Saúde

### RESUMO

Este artigo descreve o progresso no combate às doenças não transmissíveis (DNTs) nas Américas desde que a Organização Pan-Americana da Saúde (OPAS) iniciou seu programa para essas doenças há 25 anos. Discute-se como evoluíram a epidemiologia das DNTs, as políticas contra essas doenças, a capacidade dos serviços de saúde e a vigilância. O programa da OPAS para as DNTs é orientado por planos de ação regionais sobre DNTs específicas e fatores de risco, bem como por um plano integral contra essas doenças. O trabalho envolve a implementação de pacotes técnicos da Organização Mundial da Saúde baseados em evidências sobre as DNTs e seus fatores de risco, no intuito de alcançar a meta do Objetivo de Desenvolvimento Sustentável de reduzir em um terço a mortalidade prematura causada pelas DNTs até 2030. Avanços importantes foram obtidos nos últimos 25 anos na implementação de políticas sobre fatores de risco das DNTs, intervenções para melhorar o diagnóstico e o tratamento das DNTs, e vigilância das DNTs. A mortalidade prematura causada pelas DNTs diminuiu 1,7% ao ano entre 2000 e 2011 e 0,77% ao ano entre 2011 e 2019. Contudo, as políticas sobre a prevenção dos fatores de risco e a promoção da saúde precisam ser fortalecidas para que mais países estejam no rumo certo para alcançar as metas de saúde relacionadas a essas doenças, no âmbito dos Objetivos de Desenvolvimento Sustentável até 2030. São recomendadas medidas para que os governos elevem a prioridade das DNTs ao torná-las um pilar central dos serviços de atenção primária, usando a receita dos tributos saudáveis para investir mais na prevenção e no controle das DNTs, e ao implementar políticas, leis e regulamentos para reduzir a demanda e a disponibilidade de álcool, tabaco e produtos alimentícios ultraprocessados.

**Palavras-chave** Doenças não transmissíveis; fatores de risco; promoção da saúde; Organização Pan-Americana da Saúde; América.

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