

Prioritizing noncommunicable diseases in the Americas region in the era of COVID-19

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ABSTRACT

This article describes the situation of noncommunicable diseases (NCDs) in the Americas, implementation of NCD interventions according to key progress indicators, the impact of COVID-19 on NCD services, and ways to reprioritize NCDs following COVID-19. Information was retrieved from institutional data and through a supplementary scoping review of published articles related to NCDs and COVID-19 in the Americas published April 2020–November 2021. While NCDs account for 80.7% of all deaths in the Americas, implementation of a key set of NCD interventions has been limited, with only three countries reporting implementation of 12 or more of the 19 NCD indicators. By mid-May 2022, the Americas had reported about 29.9% of all COVID-19 cases in the world (154 million of 515 million) and 43.5% all COVID-19 deaths (2.7 million of 6.2 million). This pandemic has hampered progress on NCDs and significantly disrupted services for people who require ongoing care. Adaptive strategies, such as telehealth and mobile pharmacies, have been used to mitigate service disruptions. However, NCD prevention and management must be an integral part of recovering from the COVID-19 pandemic. This will require scaled up efforts to establish/re-establish and enforce policies on NCD risk factors, especially for tobacco control and obesity prevention, as well as greater investment in primary care and expansion of telemedicine and digital health solutions for continuous care for people with NCDs. Lastly, limited data are available on the impact of COVID-19 on NCDs, and hence NCD data and surveillance need to be strengthened.

Keywords

Noncommunicable diseases; risk factors; primary health care; COVID-19; Americas.

As the global public health community continues to respond to the coronavirus disease 2019 (COVID-19) pandemic, noncommunicable diseases (NCDs) need to be reprioritized given that they remain the leading causes of death and disability. Globally, NCDs account for seven of the 10 leading causes of death and were responsible for 41 million deaths, or 71.0% of all deaths worldwide, in 2019 (1). In the Americas, the region with the greatest proportion of COVID-19 cases (154 million of 515 million, 29.9%) and deaths (2.7 million of 6.2 million, 43.5%) reported worldwide (2), NCDs – notably cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases – are responsible for about 5.8 million deaths each year (80.7% of total deaths) (1).

COVID-19, with 2.7 million deaths in the Americas by mid-May 2022 (2), has not only added to the overall disease burden, but has further increased the risk of death for people with NCDs, given their higher risk of severe COVID-19 infections (3).

As governments work to build more resilient health systems, NCDs must be reprioritized by establishing/strengthening risk reduction policies and improving diagnosis and treatment for people with NCDs. Evidence-based and cost-effective NCD interventions exist which include policy, fiscal, and health service measures. These were previously proposed by the World Health Organization (WHO) as the NCD best buys to tackle the common risk factors for NCDs (tobacco use, harmful use of

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alcohol, unhealthy diet, and physical inactivity) and the main diseases (cardiovascular disease, diabetes, cancer, and chronic respiratory disease) (4). These best buys are directed at achieving a one third reduction in premature mortality from NCDs by 2030, as part of Sustainable Development Goal Target (SDG) 3.4 (5).

Political commitment has been garnered to achieve this ambitious goal, arising from the global resolutions of the three United Nations High Level meetings on NCDs, a global NCD action plan, and its accompanying monitoring framework. For the region of the Americas, these commitments have been operationalized through the regional plan of action developed by the Pan American Health Organization (PAHO) (6), which has served as the framework for countries of the Americas region to strengthen their NCD response in the past several years.

Progress on NCDs has been slow; thus far, premature NCD mortality, defined as unconditional probability of dying from the four main NCDs, in the Americas region had a relative decline of 23.1% between 2000 and 2019 (1). However, the estimated projection shows that the region is not on track to reach SDG target 3.4, namely one third reduction in premature NCD mortality between 2015 and 2030 (7). However, by prioritizing and implementing policies on NCD risk factors and strengthening services to improve diagnosis and treatment of hypertension, diabetes, and cancer, some reduction in NCD mortality can be expected by 2030 (8).

The greatest challenge, perhaps, will be to overcome the negative impact of COVID-19 on the NCD situation, as a result of overburdened health systems, disruptions in health service access and access to essential medicines, missed health care, and economic and social effects.

Against this backdrop, this special report on the NCD situation in the Americas reflects on the limited progress in implementing globally recommended NCD policy and service interventions according to key indicators, as well as the impact of the COVID-19 pandemic on NCDs. The purpose of the report is to inform policy-makers, public health officials, and advocates of the NCD situation, and discuss ways to reprioritize NCDs as part of the post-COVID-19 efforts in health system strengthening.

METHODS

This review involved retrieving and synthesizing existing institutional data and conducting a supplementary scoping review. Publications and data were retrieved from scientific databases, government websites of countries of the Americas region, and PAHO/WHO. The following search terms were used: “noncommunicable diseases”, “risk factors”, “hypertension”, “diabetes”, “cancer”, “Americas region”, and “COVID-19”. Articles in English and Spanish were included. In addition to meeting the key words, articles related to the impact of COVID-19 published from April 2020 to November 2021 with a public health scope were retrieved; and key documents on NCDs published from February 2015 to November 2021 were retrieved. Articles on low- and middle-income countries, but without reference to the Americas region, and articles with only a medical/clinical focus were excluded from this review. Our analysis of the data is based on information synthesized from the articles given in the reference list (1, 7–35).

RESULTS

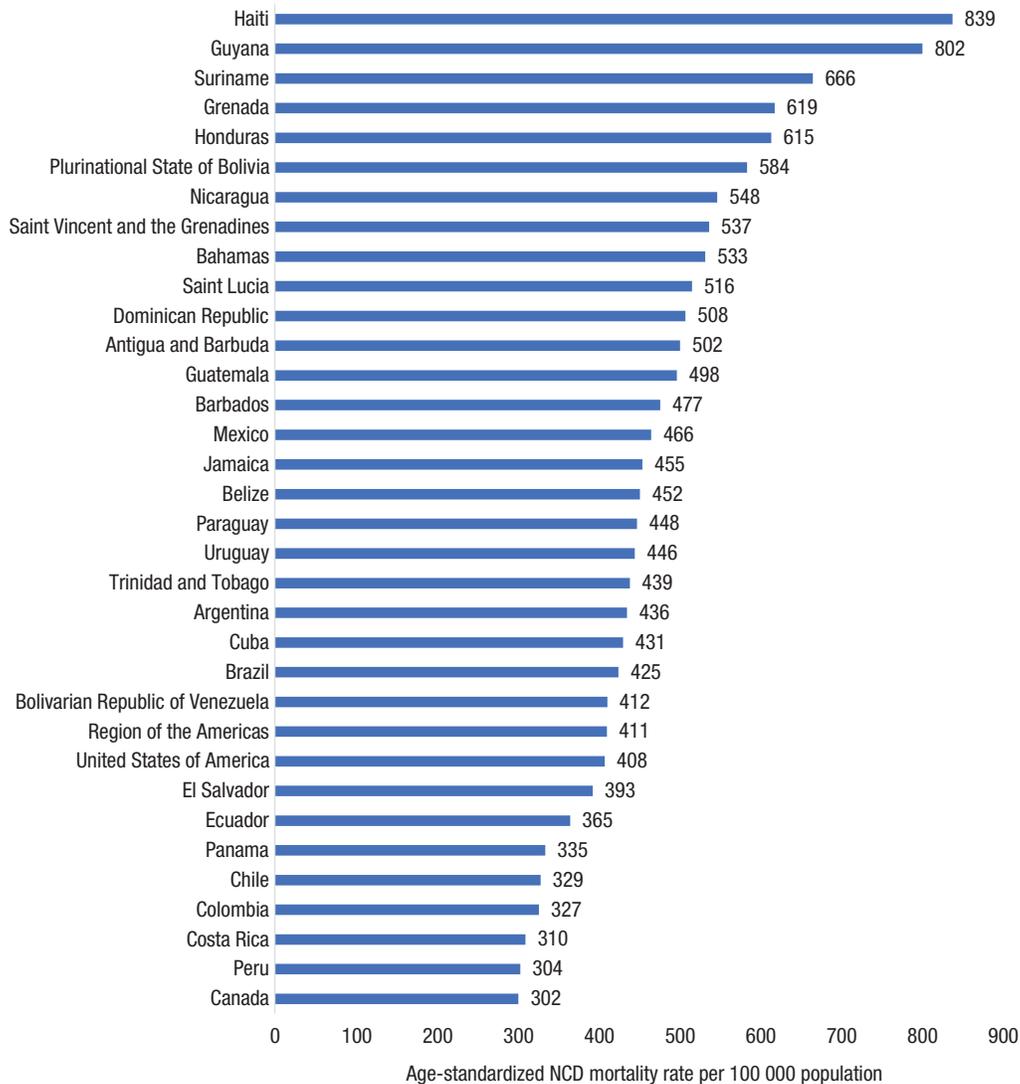
Overview of NCDs in the Americas

NCDs account for 80.7% of all deaths in the Americas, and the regional NCD mortality rate is 411.5/100 000 population. Rates are higher among men than women (482.6/100 000 versus 351.6/100 000) and 24 countries have a higher NCD mortality rate than the regional average. NCD mortality ranges from a low of 301.5/100 000 in Canada to a high of 838.7/100 000 in Haiti, with the Caribbean countries showing the highest rates (Figure 1). Cardiovascular diseases were the leading causes of NCD deaths (34.8%) in the Americas region and were responsible for 2.0 million deaths, followed by cancer (23.4%, 1.4 million deaths), chronic respiratory disease (9.2%, 534 242 deaths), and diabetes (4.9%, 284 049 deaths) in 2019. More than a third (36.2%) of the NCD deaths in the Americas region occurred prematurely in people younger than 70 years, equivalent to 2.1 million deaths in 2019 (1).

Global NCD indicators have been established to drive progress in prevention and control of NCDs, which include: policies on tobacco, alcohol, nutrition, and physical activity; and effective health system interventions, for example, hypertension and diabetes treatment. Chief among these indicators is developing national NCD multisectoral policies and plans. Six years after the global NCD indicators were established, only 19 of 35 (54.3%) countries in the Americas report that they have an operational, multisectoral national NCD plan of action covering the four main diseases and four main risk factors. In addition to a national NCD plan of action, 18 other progress indicators have been identified as key indicators that measure the implementation of NCD policies and interventions. However, achieving the complete set of progress indicators has been challenging, with only three countries in the Americas reporting implementation of 12 or more of these interventions (9).

Some progress has been made in setting time-bound national NCD targets, establishing national NCD plans, creating smoke-free environments and health warnings on tobacco products, and implementing physical activity public awareness and communication campaigns. However, NCD treatment indicators are lagging, and not all countries have established standardized NCD treatment guidelines and provide essential NCD medicines (Table 1) (9).

With regard to NCD prevention, tobacco control is crucial. Important policy advances have been made in the Americas with improvements in implementation of cost-effective tobacco control policies in line with the WHO Framework Convention on Tobacco Control. Fourteen countries have approved legislation that bans indoor smoking in public places and workplaces, 15 countries have introduced mandatory large health warnings on tobacco products, and six countries have introduced legislation to ban tobacco advertising, promotion, and sponsorship (10). In addition, four countries impose a tobacco tax that accounts for at least 75% of the retail sale price (10). South America is now the first multination continent to be smoke-free in public places, meaning that all countries in the subregion have banned smoking in indoor public spaces and workplaces (10), a notable achievement reached in December 2020. If these tobacco control efforts are maintained, the prevalence of tobacco use in adults is expected to decrease with an average relative reduction of 33.0% between 2010 (21.0%) and 2025 (14.0%). This

FIGURE 1. Noncommunicable disease mortality in countries of the region of the Americas, 2019

Note: Prepared from data available on the PAHO ENLACE data portal (<https://www.paho.org/en/enlace>).

would make the Americas the first WHO region expected to achieve the NCD global target of a 30.0% relative reduction in prevalence of current tobacco use by 2025 (10).

Obesity prevention is also critical for NCD prevention and is a high priority in the region given that obesity rates are highest in the Americas (1). Twenty-three countries report that they have school feeding programs and 19 countries that they have norms or regulations on the sale of foods and beverages in schools. Introduction of front-of-package labeling and efforts to reduce salt/sodium and eliminate industrially produced trans-fatty acids from the food supply are taking place across the Americas region, along with taxation of sugar-sweetened beverages (11). Physical activity promotion is an important element of obesity prevention and 25 countries in the region report that they have fully implemented at least one recent national public awareness and motivational communication, including mass media campaigns for physical activity (9).

For people living with NCDs, access to diagnosis, treatment, and continuous care is necessary to control their condition, and prevent complications and untimely death. Nonetheless, one of the greatest barriers to accessing such care is the cost to patients; it has been noted that out-of-pocket payments for health services are higher for people with an NCD, with expenditure for drugs accounting for the greatest cost. For example, in Colombia, Nicaragua, and Peru people with a chronic condition spend more than twice as much on drugs as people without such a condition (12).

Impact of COVID-19 on NCDs in the Americas

People with an underlying chronic condition, especially elderly people, are at increased risk of severe illness or death from COVID-19; this was documented in the first wave of COVID-19 in 2020 in the USA and Mexico (13, 14). In the Americas region, an estimated 250 million people (24.0% of

TABLE 1. NCD progress indicators in the Americas, 2020

NCD progress indicator	Countries that have achieved the indicator (N = 35) n (%)
Time-bound national NCD targets established	24 (68.5)
Functioning system for generating reliable cause-specific mortality data on a routine basis	23 (65.7)
STEPS survey or a comprehensive health examination survey every 5 years	6 (17.1)
Operational multisectoral national strategy/action plan that integrates the major NCDs and their shared risk factors	19 (54.2)
Fully implemented at least three of the five demand-reduction measures of the WHO FCTC at the highest level of achievement (increased taxes, smoke-free spaces, plain packaging, bans on advertising and promotion, media campaign on harms of tobacco use)	9 (25.7)
Fully implemented at least one of the three measures to reduce the harmful use of alcohol (restrictions on availability, advertising restrictions or bans, increased taxes)	11 (31.4)
Fully implemented at least two of the four policy measures to reduce unhealthy diets (salt reduction, limit saturated fatty acids and virtually eliminate industrially produced trans-fatty acids, WHO set of recommendations on marketing of foods and nonalcoholic beverages to children, fully implementing the International Code of Marketing of Breast-milk Substitutes)	8 (22.8)
Fully implemented at least one recent national public awareness and motivational communication for physical activity, including mass media campaigns for physical activity behavioral change	25 (71.4)
Fully achieved having evidence-based national guidelines/protocols/standards for the management of major NCDs through a primary care approach recognized/approved by government or competent authorities	17 (48.5)
Fully achieved the provision of drug therapy, including glycemic control, and counselling for eligible persons at high risk to prevent heart attacks and strokes, with emphasis on the primary care level	7 (20.0)

NCDs, noncommunicable diseases; FCTC, Framework Convention on Tobacco Control. Note: Prepared by the authors based on the information in the PAHO Noncommunicable Diseases Progress Monitor 2020 (9).

the population in the Americas region) live with at least one underlying chronic health condition and thus are a high risk population for COVID-19 (15). For example, in Mexico, as of April 2021, of people who died from COVID-19 who were 60 years and older, 51.6% had hypertension, 39.8% had diabetes mellitus, and 18.4% were obese. In Cuba, high blood pressure was an underlying disease in 29.1% of people who died from COVID-19, followed by diabetes (13.0%), and heart disease (12.7%). In Chile, as of April 30 2021, among people infected with COVID-19 who required hospitalization, 36.7% had hypertension, 22.6% had diabetes, and 6.9% were obese (14). However, in general, data on NCDs and COVID-19 from countries in the Americas are few, drawing attention to the need for improved reporting on comorbidities associated with COVID-19.

The pandemic has led to widespread disruptions in essential health services, including for NCDs. While the consequences remain unclear, as a result of missed care, poorer health outcomes and increased NCD mortality can be expected – even a 4-week delay in cancer treatment has been associated with increased cancer mortality (16). In the Americas, a WHO survey in May 2020 on disruption of government health services noted

that 10 of 28 countries (35.7%) reported that some health professionals providing care for people with NCDs (NCD staff) had been partially reassigned, while in nine countries (32.1%) all NCD staff had been partially reassigned to COVID-19. Outpatient services were open with limited access in 18/28 countries (64.3%), inpatient services were open in 15/28 countries (53.6%), while 10/28 countries (35.7%) had only emergency inpatient services (17). In a second round of this WHO survey in early 2021, little had changed with 39.3% of countries (11/28) showing disruption of NCD services (18).

Cancer screening in the public sector was significantly interrupted as reported by several countries in 2020. In Chile, for example, in 2020, fewer examinations took place: 127 000 fewer mammographies, 100 000 fewer endoscopies, 98 000 fewer cervical smears, and 33 000 fewer colonoscopies (19). In Argentina, one state reported mammographs decreased by 78.8%, colorectal screening by 87.8%, and cervical cancer screening by 56.0% (20). In Brazil, mammograms decreased by 58.0%–80.0%, and breast cancer surgeries by 40.0%. In Honduras, there was an 80.0% reduction in screening for breast and cervical cancers (21).

People living with NCDs have reported difficulties in controlling their conditions during lockdown. For example, in Brazil, more than half of those living with diabetes (59.4%) who were surveyed reported an increased variability in glucose levels, 38.4% had postponed their medical examinations, and 59.5% had reduced their physical activity (22). In a study in Europe and the USA, 50.0% of respondents with NCDs reported a worsening of their medical condition and 17.0% reported developing a new chronic condition (23).

Although the interruptions in continuous chronic care and decreased cancer screening and diagnosis will likely increase NCD morbidity and mortality, the true impact of the COVID-19 pandemic on NCDs and how it might delay the achievement of the global NCD targets is yet unknown. A study in Chile illustrated a projected 10.0% increase in cancer cases in 2022 because of delayed diagnosis and treatment (24).

Strategies have been developed to overcome NCD service disruptions and mitigate the impact on people living with NCDs. These strategies include: triaging patients to serve those with urgent needs; telemedicine to replace in-person consultations; lengthened prescription time and new dispensing approaches for NCD medicines; redirection of patients with NCDs to alternate health care facilities; mobile services; and task shifting/role delegation (25), all which are still to be evaluated and sustained over the long term. For NCD management, digital health solutions deployed during COVID-19 have enabled alternative ways to deliver necessary care, when in-person consultations have not been possible. This has helped to maintain continuity of services and enhance communication between providers and people living with NCDs through on-line or telephone consultations for diagnosis or advice on any changes needed to a treatment plan. From the patient's perspective, these strategies have contributed to people taking a more active role in managing their conditions and avoiding any treatment interruptions resulting from closed medical clinics (25). However, the benefits of these digital health solutions have likely been limited to people living in certain countries, in large cities and with access to technology.

Community support and community health workers have also been used more than before the pandemic and their roles could potentially be expanded, especially to improve

self-management support, public education, and possibly the delivery of basic services to people living with NCDs (26). Digital health workers using artificial intelligence offer innovation and new risk reduction tools for NCDs developed by WHO and PAHO provide assistance for tobacco cessation and to reduce alcohol consumption (27, 28).

DISCUSSION

While the depth and impact of the service disruptions on NCDs are yet to be fully known, the interruption in access to primary care and NCD services has been clearly documented through surveys (17, 18). However, the surveys had some limitation as they were based on subjective reporting and did not include interviews with health authorities or service providers. Nonetheless, the urgent need to address the service disruptions and improve essential services and care for people living with NCDs during the COVID-19 pandemic has been recognized globally. In 2020, United Nations Member States adopted a resolution on global health and foreign policy to strengthen health system resilience through affordable health care for all (29). However, it was also noted that for NCDs, the necessary prevention and control efforts are hampered by lack of universal access to essential health services, medicines, diagnostics, and health technologies, as well as a global shortage of qualified health workers. In this regard, the resolution calls upon governments to promote more ambitious multisectoral national NCD responses.

What is hindering the prioritization of NCDs and more progress on implementing cost-effective NCD interventions? Overall, public health expenditure in the region averages at 3.7% of gross domestic product, far from the benchmark of 6.0% (30), thus resulting in chronic underfunding of efforts to tackle NCDs. Health systems evolved to manage maternal and child health care and acute infectious diseases, but have not adapted to the demands of providing care for chronic conditions that require recurrent visits and potentially referrals for more advanced care over time. In addition, other issues hindering NCD progress include competing public health priorities, limited political will and commitment to NCDs, limited NCD service capacity, such as trained staff, and limited access to quality care (31). Furthermore, interventions to tackle NCD risk factors lie outside the health sector (4), and progress may be slower than needed as these interventions may require agreements with the private sector, which are often voluntary and non-binding. The practice of Health in All Policies and whole-of-society approach for NCDs has not yet been as fully embraced in government policies in the region. It has been suggested that global health diplomacy should be used to promote health in development, through bilateral and multilateral agreements; for NCDs, this means building multisector relationships and exercising diplomacy to negotiate policies and regulations that address risk factors such as obesity or tobacco use (32). Lastly, industry interference in NCD policy development needs to be addressed for conflicts of interest, particularly in countries where corporations can leverage great power (33).

For NCD diagnosis and treatment, primary care plays an essential role, yet it has not received the attention it requires; it performs more as the gatekeeper for accessing more specialized care at secondary and tertiary levels in the health system,

rather than providing quality and continuous care in the community. After 40 years of the Alma Ata Declaration, establishing effective primary care remains a challenge. At least 30.0% of public financing for health is recommended for primary care by 2030, but this figure is far from being achieved in the Americas. Results from 13 countries show that public expenditure on primary care, as a percentage of overall public expenditure on health, is very varied in the region; for example, 12.5% in the USA and 44.2% in El Salvador (34). Insufficient funding not only affects service delivery and operations of primary care, but the direct out-of-pocket expenses for medicines, diagnostic tests, or specialized care that patients have to meet.

However, many socioeconomic challenges in the region affect systems strengthening for NCDs and these challenges have been exacerbated by the COVID-19 pandemic. Globally, government per capita spending on health in low- and middle-income countries is expected to fall in 2022 and this drop will likely happen despite a return to economic growth (35). This economic scenario is not encouraging for prioritization of NCDs as part of health system strengthening. However, promoting social demand to strengthen services for NCDs, from people living with NCDs and those caring for people with NCDs, may help ensure NCDs are prioritized and considered when strengthening health systems. People living with NCDs should be involved in policy building and health dialogues in a meaningful way through consultations, participation in advisory groups, and drivers to promote demand for NCD care, while also participating in their own self-care.

Therefore, to reprioritize NCDs on the public health agenda and advance implementation of the key NCD policy and service interventions, the following actions are needed throughout the Americas region.

- Increase government investments in primary care services, with a focus on improving NCD diagnosis and treatment. At the same time, engage more deeply and meaningfully with people living with NCDs to create demand and meet their needs for services
- Evaluate the effectiveness of technology and digital solutions and expand their use to ensure continuity of care, increase access and quality of services for NCD diagnosis and treatment, and increase patient monitoring, prioritizing those living in vulnerable situations.
- Strengthen surveillance and monitoring of NCDs, including conducting detailed analysis to understand more fully the true impact of COVID-19 on people living with NCDs, including health outcomes affected by missed care and service disruptions.
- Use global health diplomacy and tackle industry interference to strengthen the development and implementation of policies on NCD risk factors, especially for tobacco control and obesity prevention.

Conclusion

As governments continue to respond to both the COVID-19 pandemic and their populations' health needs, it is vitally important to reprioritize the prevention and control of NCDs, and avoid setbacks to reducing premature mortality from NCDs by one third by 2030. This analysis showed that, while some progress has been made on implementation of the key NCD

policy and service interventions, nonetheless, significant service disruptions for NCDs have occurred during the COVID-19 pandemic. While mitigation strategies such as telehealth have been used to fill the gaps, some notable effects have already been seen, including reduced access to cancer screening, poorer diabetes control and worsening of the NCD situation; further adverse impacts on NCD outcomes are likely in the near future. Therefore, NCDs must be made a priority. This will require a number of actions including: scaled up efforts to establish/re-establish and enforce policies on NCD risk factors, especially for tobacco control and obesity prevention; greater investment in primary care services and utilization of innovations such as telemedicine; expanded use of community health workers; and other innovations that can ensure continuous, good-quality care for people living with NCDs. Given the limited data on NCDs and the impact that COVID-19 has had on the NCD situation in

the Americas region, action is needed to strengthen health data, clinical information systems, and disease surveillance systems to generate timely information on NCDs in the region.

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Priorizar las enfermedades no transmisibles en la Región de las Américas en la era de la COVID-19

RESUMEN

En este artículo se describe la situación de las enfermedades no transmisibles (ENT) en la Región de las Américas, la ejecución de intervenciones contra las ENT según los indicadores clave de progreso, el efecto de la COVID-19 en los servicios contra las ENT y las formas de priorizar nuevamente las ENT tras la COVID-19. Se obtuvo información de datos institucionales y mediante una revisión exploratoria complementaria de artículos relacionados con las ENT y la COVID-19 en la Región publicados entre abril del 2020 y noviembre del 2021. Si bien las ENT representan 80,7 % de todas las muertes en la Región, la ejecución de un conjunto clave de intervenciones contra las ENT ha sido limitada, y solo tres países han notificado la ejecución de 12 o más indicadores de los 19 indicadores relativos a las ENT. A mediados de mayo del 2022, la Región había notificado alrededor de 29,9 % de todos los casos de COVID-19 en el mundo (154 millones de 515 millones) y 43,5 % del total de muertes por COVID-19 (2,7 millones de 6,2 millones). Esta pandemia ha obstaculizado el progreso contra las ENT y ha causado interrupciones significativas en los servicios para las personas que requieren atención continua. Para mitigar las interrupciones en los servicios se han empleado estrategias de adaptación, como la telemedicina y las farmacias móviles. Sin embargo, la prevención y el manejo de las ENT deben constituir una parte integral de la recuperación de la pandemia de COVID-19. Esto requerirá mayores esfuerzos de establecimiento, restablecimiento y cumplimiento de políticas sobre los factores de riesgo de las ENT, especialmente el control del tabaco y la prevención de la obesidad; así como una mayor inversión en atención primaria y la expansión de la telemedicina y las iniciativas de salud digital para la atención continua de las personas con ENT. Por último, se dispone de datos limitados sobre el impacto de la COVID-19 en las ENT y, por lo tanto, es necesario reforzar la recopilación de datos y la vigilancia de las ENT.

Palabras clave

Enfermedades no transmisibles; factores de riesgo; atención primaria de salud; COVID-19; Américas.

Priorização de doenças não transmissíveis na Região das Américas na era da COVID-19

RESUMO

Este artigo descreve a situação das doenças não transmissíveis (DNTs) nas Américas, a implementação de intervenções para DNTs de acordo com indicadores de progresso importantes, o impacto da COVID-19 nos serviços de DNT e formas de priorizar novamente as DNTs após a COVID-19. As informações foram obtidas a partir de dados institucionais e uma revisão de escopo complementar de artigos relacionados a DNTs e COVID-19 nas Américas, publicados entre abril de 2020 e novembro de 2021. Embora as DNTs representem 80,7% de todas as mortes nas Américas, a implementação de um conjunto essencial de intervenções para DNTs tem sido limitada. Apenas três países relataram a implementação de 12 ou mais dos 19 indicadores de DNT. Até meados de maio de 2022, as Américas haviam registrado 29,9% de todos os casos de COVID-19 no mundo (154 milhões de 515 milhões) e 43,5% de todas as mortes por COVID-19 (2,7 milhões de 6,2 milhões). Essa pandemia atrapalhou o avanço com relação às DNTs e prejudicou significativamente a prestação de serviços para pessoas que necessitam de cuidados contínuos. Estratégias adaptativas, como telessaúde e farmácias móveis, foram utilizadas para mitigar as interrupções dos serviços. Porém, a prevenção e o manejo das DNTs devem ser parte integrante da recuperação da pandemia de COVID-19. Isso vai exigir mais esforços para estabelecer/restabelecer e fiscalizar políticas voltadas para fatores de risco para DNTs, principalmente controle do tabagismo e prevenção da obesidade, além de maior investimento na atenção primária e na expansão da telemedicina e de soluções digitais em saúde para cuidados continuados de pessoas com DNTs. Por fim, os dados disponíveis sobre o impacto da COVID-19 nas DNTs são limitados; portanto, é preciso fortalecer os dados e a vigilância de DNTs.

Palavras-chave Doenças não transmissíveis; fatores de risco; atenção primária à saúde; COVID-19; América.
