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Central America and the Dominican Republic at crossroads: the importance of regional cooperation and health economic research to address current health challenges

Abstract

Objectives: We discuss key health challenges currently faced by countries in the Central America and Dominican Republic region, following the Covid-19 pandemic. We highlight the influence of socioeconomic determinants for the challenging public health dynamics observed, and the crucial roles that regional cooperation and health economic research can have for tackling such challenges.

Methods: We present a descriptive overview of the current situation of public finances and its effect on government capacity to improve social expenditure. We also discuss the impact of the Covid-19 pandemic crisis on social dynamics and living conditions in the region.

Results: Our analysis suggests that the interplay between all these factors is likely to have important consequences for health systems and population health in the post-pandemic period. Previous examples of successful cross-country cooperation in the region indicate the great potential that these initiatives have for supporting health system resilience against current challenges. Technical cooperation must be informed by (currently unavailable) research evidence that can guide decision-making, especially health economic research to support national health resource allocation policies. Areas identified as priorities for applied health economic research include both macro and microeconomic analyses.

Conclusions: Central America and the Dominican Republic face significant health challenges post-pandemic. Our paper emphasises the great potential that regional technical cooperation, informed

by further health economic research, has to improve public policies and health governance in the region.

Keywords: Health policy, Central America, COMISCA, COVID-19, Health economic research

Introduction

This article discusses key health challenges currently faced by countries in the Central America and Dominican Republic region, following the Covid-19 pandemic. Supported by the background information in the next sections, we seek to highlight the crucial role that regional technical cooperation, informed by applied health economic research on priority knowledge areas for the health system, has to improve health policies and governance in the region.

Overview of the health systems of the Central America and Dominican Republic region

In general, the health systems of Central America and the Dominican Republic exhibit a high degree of fragmentation in financing and healthcare delivery. Common characteristics are low health coverage predominantly under contributory health financing arrangements (social health insurance schemes), with segmented coverage according to individual capacity to pay, as well as high levels of out-of-pocket and catastrophic health expenditure incidence, especially among the poor and rural populations. Healthcare provision tends to be hospital-centric based on an individualistic, biomedical and episodic approach to morbidity. Public facilities largely concentrated in urban areas coexist with relatively large networks of private clinics and hospitals. Most countries in the region share similar levels of health system effectiveness and responsiveness, which have been experiencing a decline in recent years (including pre-Covid-19 pandemic) due to e.g. public infrastructure deterioration and inefficiencies^{1,2}. Costa Rica is a notable exception, achieving high levels of population health coverage and the most equitable access to care indicators in the region, through a social health insurance scheme with strong focus on primary care³.

There has been some progress in recent years regarding the adoption of health technology assessment (HTA) considerations for decision-making in the region, although the role of HTA is

still limited. Resolution CSP28.R9 ‘Health Technology Assessment and Incorporation into Health Systems’ by the Pan American Health Organization (PAHO) in 2012 encouraged member states to establish decision-making processes for the incorporation of health technologies based on HTA for all levels of care⁴. However, by 2017, guidelines on how to conduct HTA were generally still missing in Central America and the Dominican Republic; only Costa Rica had adopted an explicit cost-effectiveness threshold (three times the GDP per capita); and very few countries had established some health technology assessment body (HTA unit; e.g. Costa Rica and El Salvador)⁵. In practice, HTA considerations are not systematically used within health decision-making processes in the region, due to hurdles such as the lack of legislation to promote the use of HTA and insufficient resourcing and technical capacity of local HTA units.

COMISCA and the regional institutional frameworks for the governance and stewardship of healthcare systems

The Central American Integration System (SICA) is the institutional framework established by Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Belize and the Dominican Republic, with the aim of achieving the integration of Central America and its overarching regional objectives of peace, freedom, democracy and development⁶. The Council of Ministers of Health of Central America and the Dominican Republic (COMISCA, established 1991) is SICA’s political forum whose aim is to identify and prioritise regional health issues⁷. COMISCA has an Executive Secretariat (SE-COMISCA) responsible for its stewardship function and articulation with other SICA institutions and integration fora⁸.

COMISCA has two main tasks: 1) developing the regional governance frameworks to support the interinstitutional responses agreed by member states to the health issues prioritised; 2) managing the intersectoral and international resources available for such policy responses. COMISCA has

progressively established a range of normative instruments and partnerships with key stakeholders to align regional efforts to improve health prevention, promotion and care provision, but also to respond to the wider risks that ultimately influence public health (under four pillars: human security, social determinants of health, knowledge management and regional public goods)⁹.

The management of joint efforts to improve the identification of health problems and substantiate the formulation of public policies is a key strategic area for COMISCA. This not only enables strengthening health services, but also improving their response capacity, which was a challenge throughout the Covid-19 pandemic. SE-COMISCA is leading on the implementation of the “Health Agenda for Central America and the Dominican Republic 2019-2030” (ASCARD), the “Health Plan for Central America and the Dominican Republic 2021-2025” (PSCARD 2021-2025) and the “Regional Health Policy of the Central American Integration System 2023–2030”. These are aimed at promoting population health through four strategic pillars for which regional cooperation is crucial: 1) Strengthening of institutions, governance and stewardship of health systems; 2) Regional initiatives towards a healthy life and promotion of health with equity and interculturality; 3) Capacity of health systems based on primary healthcare; and 4) Response capacity concerning climate change, health emergencies, disasters and migration processes.

Impact of the pandemic on health

The countries of Latin America and the Caribbean recorded the highest fatality rates due to Covid-19 globally, with more than 2.7 million fatalities representing 32.1% of the total deaths in the world, along with 20% of the total confirmed global cases, despite the Latin American population only comprising 8.4% of the world’s population¹⁰. These data are even more alarming when considering that the number of deaths directly or indirectly attributed to coronavirus was underestimated and could actually exceed 14.9 million deaths¹¹. The latter figure includes the 6.2 million deaths due to

Covid-19 officially notified to the World Health Organisation (WHO) by its 194 member states, in addition to deaths ultimately caused by the coronavirus but that were not notified as such, including those caused by medical conditions that went untreated due to the overloading of health systems.

Central America and the Dominican Republic were particularly vulnerable to the effects of the pandemic, which further aggravated the region's structural problems and exposed the weaknesses of health and social protections systems. Recent data has highlighted the detrimental effects of the pandemic on the institutional response to the demand for standard healthcare services (e.g. maternal and child health)¹².

The outbreak of Covid-19 exacerbated the health challenges in the region, increasingly evident in the new waves of coronavirus variants, and the resurgence of monkeypox, cholera and poliomyelitis in the Americas¹¹. This epidemiological complexity contributed to the overwhelming of local health systems. Although the pandemic of the coronavirus and its variants continues to be present in the region, including among vaccinated populations, the downward trends at a worldwide level and in the Americas "...are an encouraging sign that we could be moving from the acute phase of the pandemic to a sustained control phase"¹³. It is crucial to improve vaccination rates especially among the most vulnerable in rural areas, and strengthen epidemiological surveillance of the current and potential new health risks.

COMISCA needed to make policy decisions and implement regional initiatives under enormous uncertainty during the height of the Covid-19 pandemic^{14,15}. Despite the investments made by COMISCA for the purchasing of medical and laboratory inputs (over USD 1.4 million), vaccines (USD 400 million), Covid-19 tests (182,000) and mechanical ventilators (130), along with the organisation of virtual knowledge exchange meetings (568, of which 70% related specifically with Covid-19) and capacity strengthening sessions (training over 500 health workers and 60 mental

health professionals)¹⁶, the impacts of the pandemic on health exacerbated existing fragilities in the financing of health systems in the region, in a context of growing macroeconomic pressure¹⁷.

Macroeconomic crisis in Central America and the Dominican Republic

Following the global economic and financial crisis of 2008-2009, most countries of the region experienced moderate growth rates of gross domestic product (GDP) from 2011 to 2019 (Figure 1). Panama and the Dominican Republic were exceptions, recording annual growth rates above 5% in the last fifteen years and in the period 2014-2019, respectively.

< Figure 1 >

The economic crisis of 2020 was reflected in economic contraction rates in Central America which ranged from -1.8% to -17.9% (Figure 1), and in average annual rates of reduction of regional production which reached -7.9%, exceeding the average annual decline of Latin America and the Caribbean (-7.0%). Although all social strata were affected by the Covid-19 pandemic, the poor and vulnerable were the most affected¹⁸. Despite the general recovery in economic growth rates observed in the region in 2021 compared to 2020, the considerable negative economic effects of the pandemic for the poorest groups (compounded by years of slow economic growth beforehand) are unlikely to be redressed in the short term¹⁹.

The crisis also unveiled the structural weaknesses of regional labour markets. The restriction to the mobility of people and the limitation of operations of many companies forced them to let go of a considerable number of workers, increasing the numbers of unemployed and underemployed individuals¹⁷. In Costa Rica, unemployment shifted from 10.81% to 16.47% between 2020-2021; in Honduras it rose from 5.55% to 10.68% between 2019-2021; in Panama the unemployment rate

rose from 6.18% to 18.55% for 2019-2020, and in El Salvador, for the same period, from 4.17% to 5.01%.¹⁷

Poverty increased notably in Latin America and the Caribbean, where about 22 million people more than before the pandemic were driven into poverty, amounting to a total of 209 million poor people²⁰. For SICA Member States, the Economic Commission for Latin America (CEPAL) estimated that, for 2020-2021, the number of new poor during the pandemic reached 2.8 million people (CEPALSTAT data).

Domestic fiscal space for health

The drastic decline in economic activity in 2020 caused adverse effects on fiscal conditions, limiting the room for manoeuvre of States to address the needs of the pandemic and the ensuing social and economic crisis. Expansions of the gap between public sector expenditure and revenues have followed, exacerbating fiscal deficits (Figure 2). Notwithstanding some improvement in the fiscal situation in 2021, most SICA member states were still grappling with deficits of 4% or more, which impose a tight constraint on their capacity to expand welfare policies and safety nets.

<Figure 2>

In 2020, when many States were forced to resort to high levels of public debt to combat Covid-19, public debt service in relation to GDP ranged from 3.98% in Guatemala (from a median 3.5% between 2011-2019) to 22.15% in El Salvador (from a median 6.12% between 2011-2019)²¹. The debt service through General State Budgets and the resulting constrained spending capacity have particularly impacted certain government areas, such as the public health sector.²¹

The evolution of the share of public expenditure on health in relation to GDP reveals great heterogeneity across countries. The share of Public Health Expenditure as a percentage of GDP

was highest in Costa Rica (5.38% in 2018 and 6.0% in 2020). This figure ranged from 3% to 5% of the GDP in Belize (3.62% in 2018 and 4.72% in 2020), Nicaragua (3.49% in 2018 and 4.05% in 2020) and El Salvador (2.28% in 2018 and 3.04% in 2020). Panama (2.29% in 2018 and 2.97% in 2020), the Dominican Republic (1.63% and 2.3% in 2020), Honduras (2.56% in 2020) and Guatemala (1.15% in 2018 and 1.43% in 2020) showed the lowest figures. As a benchmark, Public Expenditure as a percentage of GDP only surpassed the Latin American average (3.6%) in Costa Rica, Belize and Nicaragua. Importantly, with Costa Rica as the only exception, the share of public health expenditure in relation to GDP was lower than the WHO's recommended target of 6% in all SICA countries. That minimum target of 6% was recommended by WHO based on evidence that it limits out-of-pocket payments to a level that makes the incidence of financial catastrophe negligible; facilitates the achievement of 90% coverage of maternal and child health services; and meets the financial resource requirements to achieve Universal Health Coverage systems, with expected benefits in terms of population health^{22,23,24}. The persistently low levels of Public Health Expenditure as a percentage of GDP among SICA Member States thus emphasise the need to pursue a new fiscal agreement in each country that protects health and human development.

Inflation and food insecurity

Access to goods and services by the population during the pandemic was affected due to the impact on supply chains and on the value of the main commodities marketed at a global level. This slowing down of supply processes dependent on the supply chain of international markets progressively gave rise to an increase in the price of goods and services consumed on a daily basis by households. Table 1 illustrates the escalation in consumer prices (January-October) in 2021 and 2022, which exceed the levels observed for the same period in 2020.

<Table 1>

This upward trend in price levels was exacerbated by the war in Ukraine, involving nations with very high shares of the global production of wheat, maize, barley, fertilizers, fuel and oil derivatives. This triggered an almost immediate rise in the price levels of these commodities across the globe, and SICA countries were no exception. Food prices reached very high levels, which had not been experienced since the 1970s and 1980s. The inflation of food products from January through to October 2022 recorded the following levels: Costa Rica 15.77%, Nicaragua 11.99%, Honduras 11.9%, El Salvador 10%, Dominican Republic 7.67% and Panama 4.34%.²⁵

The increased food price levels are likely to have deleterious impacts on food security conditions, as well as on the levels of malnutrition among the most vulnerable social groups. Prior to the current inflationary crisis, among the SICA Member States that reported data on food insecurity for the period 2018-2020, Costa Rica showed the lowest proportion of citizens reporting moderate or severe food insecurity (15.3%), whereas that proportion reached very high levels in El Salvador (47.1%), Guatemala (49.7%) and Honduras (45.6%)²⁶. Malnutrition prevalence rates in the total population were already relatively high in most countries of the region between 2018-2020, reaching 7.5% in Panama, 8.5% in El Salvador, 13.5% in Honduras, 16.8% in Guatemala and 19% in Nicaragua²⁶. Given the severity of food price inflation observed in the region since late 2021, it is thus essential to ensure further research on food security in the region, as well as on the impact and efficiency of related public policies that are being developed or implemented, with special focus on their impacts on the poorest households.

Poverty and inequalities in Central America and the Dominican Republic

The pandemic progressively accentuated certain conditions of exclusion related to socioeconomic determinants of health, with many persons and families no longer able to fully participate in their previous production and consumption activities²⁷. Considering the high degree of uncertainty

enshrining the Covid-19 pandemic context and its ensuing socioeconomic dynamics, CEPAL projected three scenarios (low, medium and high) for the evolution of poverty and extreme poverty population rates in SICA and other Latin American and Caribbean countries, between 2019 and 2020 (Table 2)²⁸.

< Table 2 >

The projected scenarios indicate an increase of poverty and extreme poverty rates in all countries of Central America and the Dominican Republic, concentrated especially in the medium-low income strata of the populations. In the medium scenario, poverty in those countries is expected to have increased on average by 4.4 percentage points, in the low scenario by 3.4 percentage points, and in the high scenario by 5.5 percentage points. In Latin America, poverty increased by slightly over 4 percentage points in the medium scenario in 2020, meaning that about 28.7 million people were driven into conditions of poverty; among which about 15.9 million people shifted into extreme poverty²⁸. The countries of Central America and the Dominican Republic show poverty levels that, considering the post-Covid-19 economic activity levels, will be unlikely to fall in the next few years²⁹.

Migration in Central America and the Dominican Republic

Central America and the Dominican Republic experience very dynamic and complex migratory processes, due to the confluence of various types of interests at play (political, economic, social, environmental, cultural)¹⁶. Irregular migratory and human mobility flows persist as an amalgamation of different forms: national, regional and transnational origins. According to the International Organization for Migration (IOM), the migration flows of people coming from Guatemala, El Salvador and Honduras are characterised by being the result of “situations of

underdevelopment, poverty and violence”³⁰. While Costa Rica and Panama represent both transit and destination countries for migrants, Belize is a receiver of agricultural workers from Guatemala, and Nicaragua is a source of agricultural labour moving into Costa Rica. Increased migrant flows into the region of people coming from South America, the Caribbean, and outside the continent have been recorded recently. Panama with more than 146,000 people, and Costa Rica with more than 30,000, have been the main receivers of Venezuelan migrants seeking asylum³¹.

The increased number of refugees and asylum claims poses important challenges for SICA member states. Social stigma, aporophobia and xenophobia issues have been gaining enhanced relevance, amid a context of tighter restrictions for migrants’ acceptance and legalisation in the continent’s northern countries. Such challenges have been mostly addressed through technical cooperation and humanitarian aid, mitigating the consequences of the higher human mobility (see next section).

Regional technical cooperation and policy-oriented research as key pillars for effective health policy in Central America and the Dominican Republic

The coronavirus pandemic in the region has resulted in negative impacts on wellbeing, the economy and development. The frequent public budget deficits among SICA member states represent a key challenge for promoting fiscal space for health, restricting the margins of manoeuvre for public policies. This situation requires addressing the existing challenges from a regional perspective, through regional cooperation and integration.

A first example of the potential of regional cooperation approaches to address challenges exacerbated by the pandemic is given by the COMISCA Joint Negotiation Scheme. This is a mechanism aimed at generating economies of scale for the purchase of medicines, personal protective supplies and laboratory equipment on behalf of the ministries and departments of health of Central America and the Dominican Republic, as well as for the acquisition of non-medical

products for other departments of SICA. Through this mechanism, COMISCA obtained sizeable financial savings in purchasing prices with timely deliveries (Box 1). Nevertheless, no economic studies have been conducted to quantify the mechanism's overall economies of scale or its impact in terms of policies, institutional coverage and/or benefits for population health. This topic is relevant because pandemic-related health risks persist, especially in countries which did not achieve a vaccination rate of 70% of their population with two doses, such as Guatemala (25,7%), Belize (49,2%), Honduras (42,7%), Dominican Republic (52%) and Costa Rica (68%)³².

Box 1. The COMISCA Joint Negotiation mechanism was established as the Community Regional Public Mechanism (BPRC) on behalf of the ministries and departments of health comprising COMISCA. From 2017 to 2020, purchasing price reductions achieved by this mechanism ranged between 9.5% and 37.2%, representing a cost reduction of over USD 20.9 million, or savings of 29.7% with respect to the total regional budget available for these purchases. The highest purchasing cost reductions in the period were achieved for cancer and antiretroviral drugs. Regional benefit estimates for the last thirteen years reach around USD 120 million, with average reductions in purchasing prices between 40% and 60%.^{33,34,35} This reflects country savings due to efficiency gains in the acquisition of medicines and medical devices for the region's national healthcare systems, following a strict process of pre-selection which assured the quality, safety and effectiveness of the purchased products. Moreover, its benefits were extended to the Education, Fisheries and Agriculture Sector, embodying a tangible example of intersectoral support aimed at improving access to and availability of strategic supplies through a mechanism certified under ISO 9001:2015, which is envisaged to become the first purchase option in the SICA region and to be extended to Latin America and the Caribbean³³.

A second example of regional cooperation has been the strengthening of supranational laboratories and national laboratory networks in 20 countries of Latin America and the Caribbean. In partnership with the Andean Health Organization (Hipolito Unanue Agreement) and PAHO, since 2018 SE-COMISCA has supported cross-national studies and projects to reduce errors in pulmonary tuberculosis diagnosis and increase its efficiency. The potential benefits from this regional initiative have been estimated to reach savings of USD 7.72 for each dollar invested, from averted costs due to late or erroneous treatments, complications and individual productivity

losses³⁶. Further technical cooperation in this and other disease areas seems warranted to improve health spending efficiency in COMISCA member states.

A third example is a series of projects implemented in COMISCA countries through international cooperation with epidemiological centres in the United States (Centers for Disease Control and Prevention) and Türkiye's government, with the aim of improving healthcare coverage for irregular migrant populations and local communities in border areas (transit locations)³⁷. This cooperation has involved the provision of tents with medical supplies and equipment to the region, as well as joint studies about the migration patterns through unofficial entry ports in Guatemala with Mexico, Belize, Honduras and El Salvador³⁸. It is generating profiles of morbidity, unmet health needs and socioeconomic implications of the different forms of migration, to guide transnational policies currently being developed in Central America and the Dominican Republic³⁹.

SE-COMISCA also develops partnerships for research and capacity strengthening in health economics, aimed at generating micro and macroeconomic evidence for the design of more equitable public policies that can promote the health of populations in the region. The priority for health economics studies should be to generate evidence that enables a more thorough approach to topics that are rarely tackled at a regional level, and which are highly influenced by the socioeconomic determinants discussed previously. These priority topics have been identified explicitly in the assessments of regional priorities for research conducted by COMISCA with Member States, with the aim of supporting the ASCARD 2019-2030, the PSCARD 2021-2025 and the “Regional Health Policy of the Central American Integration System 2023–2030” agenda. The priority topics identified by member states include:

- the suitability of national health accounts;
- analysis of the burden of disease;

- macroeconomic analysis of health expenditure (including its productivity) with regards to achieving the Sustainable Development Goals (SDGs);
- the identification, including through robust impact and economic evaluations, of interventions that offer greater benefit (vis-à-vis resource requirements) for achieving the SDGs, especially in domains such as food and nutritional security, human mobility and the environment, mental health, adolescent health, medicines and other health technologies.

Strengthening the evidence-base in all areas listed above is essential for supporting regional health policies that can better address the regional challenges post-pandemic. A clear example is economic evaluation evidence for health decision-making. Two recent reviews have concluded that health economic evaluations and budget impact analyses conducted in Central America are still very sparse and generally of suboptimal reporting quality^{4,40}. Most of these economic and budget impact evaluations have focused on cancer and respiratory infections, whilst there is an urgent need for analyses that can guide health resource allocation for conditions including diabetes mellitus, chronic kidney diseases and mental disorders, which have been under-researched relative to their disease burden in the region⁴.

Importantly, the COMISCA prioritisation exercises with its member states have acknowledged the importance of generating institutional capacities and professional skills in health economics and policy. Once again, economic evaluation represents a prime focus area: there is a severe dearth of analysts in COMISCA countries with the necessary skills to undertake, adapt or interpret economic evaluation studies, becoming a major bottleneck for increasing the use of such evidence for health decision-making in the region⁴⁰.

Concluding remarks

Enhancing investments in health economic research that addresses the priority macro and micro-level topics listed above, alongside regional initiatives that can strengthen health policy institutional and professional capabilities, would help maximise the population health benefits arising from the scarce public resources available in Central America and the Dominican Republic. This process must rely on the diversification and extension of the sources of international cooperation, in order to (re)direct these resources towards the regional priorities concerning health and the environment.

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