



Market research to identify and analyze opportunities to produce strategic health technologies in Latin America and the Caribbean

PAHO



Pan American
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In September 2021, the Member States of the Pan American Health Organization (PAHO) adopted a resolution to promote multisectoral action to increase regional production capacities for and improve access to essential health technologies. This priority strategy aims to develop a productive array from an integrated economic and social development vision, acknowledging that access to essential medicines and health technologies is crucial for universal health coverage.

The COVID-19 pandemic exposed the Region of the Americas' dependence on strategic sectors, impacting access to products and services. Stakeholders recognize health care as a significant economic and social development driver, responsible for over 25% of the world's innovation effort. The growing dependence on the international supply of health sector products has had a substantial negative socioeconomic impact, particularly on high-density knowledge and technology products.

COVID-19 also revealed severe shortages and excessive price increases for particular medical products, highlighting the need for regional self-sufficiency in production. Thus, PAHO hired specialized services to conduct market research to identify and analyze opportunities to produce strategic health technologies and their health inputs in Latin America and the Caribbean.

Introduction

In September 2021, the Member States of the Pan American Health Organization (PAHO) adopted the resolution and policy documents “Increasing production capacity for essential medicines and health technologies” (CD59.R3 and CD59/8)^{1,2} that seek to promote multisectoral action to increase regional production capacities for and improve access to essential health technologies.

In this scenario, PAHO’s resolution is defined as a priority strategy for developing a productive array from an integrated economic and social development vision, recognizing that access to essential medicines and other health technologies is a global priority and fundamental to universal access to health coverage.

This strategy sets economic, public, and private activities that require the formulation of specific policies so that Member States can fulfill their duty. The approach seeks to reduce the risk of diseases and improve health actions and services, especially during public health emergencies or situations of overwhelming demand, such as during the COVID-19 pandemic.

Regionwide, the loss of industry competitiveness and the mismatch between care and the production and innovation in health demonstrate vulnerabilities. The COVID-19 pandemic highlighted the Region of the Americas’ dependence on strategic sectors from a technological and health needs vantage point, impacting the population’s access to products and services.

There is current recognition that health strongly correlates to economic and social development. It combines the social and citizenship dimension with the economic and innovation dimension. It mobilizes an overall production system that responds to more than 25% of the world’s innovation effort.

This context contributed to the worsening dependence on the international supply of products consumed in the health sector, reflecting a substantial negative socioeconomic impact. This dependence is mainly on products with a high density of knowledge and technology, such as drugs and medicines, unique raw materials, intermediate inputs, electronic-based medical equipment, blood products, vaccines, and diagnostic reagents. It also includes technologically simple products, such as personal protective equipment (PPE). Each example had global production concentrated in specific countries/regions, resulting in a high worldwide dependence.

As countries declared a COVID-19 health emergency, the unexpected, abrupt, and synchronous increase in demand for certain medical products immediately led to severe shortages and excessive price increases. The scarcity of other health technologies, such as mechanical ventilators, oxygen production technologies, oximeters, and certain medicines used in intensive care units, progressively emerged.

¹ Pan American Health Organization. Increasing Production Capacity for Essential Medicines and Health Technologies [Resolution CD59.R3]. Washington, D.C.: PAHO; 2021. Available from: <https://www.paho.org/en/documents/cd59r3-increasing-production-capacity-essential-medicines-and-health-technologies>.

² Pan American Health Organization. Increasing Production Capacity for Essential Medicines and Health Technologies [Document CD59/8]. Washington, D.C.: PAHO; 2021. Available from: <https://www.paho.org/en/documents/cd598-increasing-production-capacity-essential-medicines-and-health-technologies>.

The opportunity

The health technology-manufacturing sector is relevant from health policy, technological development, and economic and regional market perspectives. It is a sector characterized by the high participation of technology-based companies and in which competition is strongly guided by the ability to innovate and differentiate products.

From an economic point of view, this industrial sector has shown constant evolution in the volumes produced and marketed, both in the Region and internationally. It is a growing sector in which there is the possibility of developing poles for exporting products and services to different markets, promoting skilled jobs and income generation while meeting the technological demands of public health.

The effective coordination of industrial and innovation actions and projects in the health sector, coupled with an installed productive and scientific-technological base and a mature regulatory system, are essential to boost the development and production initiatives of a wide range of strategic health technologies.

Thus, the design of a strategy to geographically diversify the global value chains of strategic health technologies associated with reducing the vulnerabilities of health systems can promote increased production of these products and intraregional trade. This action can create opportunities to strengthen the industry for raw materials, inputs, components, medicines, and other health technologies. Overall, it will stimulate economic and social integration and improve access to health in Latin America and the Caribbean.

The market studies

Conducting market research and value chain analysis is crucial for defining a productive investment strategy for several reasons:

- 1. Opportunity identification:** Market research helps to identify gaps, trends, and growth opportunities in the market. This identification lets investors decide where to allocate resources and in which sectors or market segments to invest.
- 2. Competitive analysis:** These studies provide valuable insights into competitors, including their strengths and weaknesses, business strategies, and market share. Understanding the competition allows investors to make strategic decisions and gain a competitive advantage.
- 3. Consumer understanding:** Market research assists in understanding consumers' needs, preferences, and behaviors. This knowledge helps investors identify opportunities to meet market demands and develop more attractive, competitive products or services.
- 4. Risk assessment:** Value chain analysis helps to identify potential risks associated with productive investments, such as dependence on suppliers, input price volatility, and logistical vulnerabilities. Understanding these risks enables investors to take proactive measures to mitigate them and protect their investments.
- 5. Value chain optimization:** Studying the value chain of a sector or market helps identify areas of inefficiency and opportunities for improvement. Investors can use this information to optimize the value chain, reduce costs, and increase profitability.
- 6. Strategic planning:** Based on market research and value chain analysis, investors can develop long-term investment strategies, to establish clear goals and objectives. This view facilitates decision-making and resource allocation in a more efficient and focused manner.
- 7. Performance monitoring:** Market research and value chain analysis are also helpful for tracking the performance of productive investments over time. This assessment allows investors to evaluate the success of their strategies and adjust as needed to ensure sustainable growth and profitability.

In this context, PAHO contracted with IQVIA Solutions do Brasil LTDA and the Institute of Management Foundation (FIA) to conduct market and value chain studies for biological medicines, chemically synthesized drugs, medical devices, and PPE.

The four contracted studies were segmented as follows:

- 1. Biological Medicines:** Including mRNA-based and other sustainable technologies.
- 2. Chemically Synthesized Medicines:** Including antivirals, antiretrovirals, sedatives, and medicines whose indication of use and production technology may be relevant to a health emergency response.
- 3. Medical Devices:** Devices used to conserve medicines, diagnose, prevent, monitor, and treat COVID-19 and other diseases relevant to the response to health emergencies.
- 4. General Health Support Devices:** PPE.

For studies in the pharmaceutical segment (studies one and two), the work carried out by IQVIA and FIA are complementary: The former focusing on market analysis, the latter on value chain analysis. FIA analyzed the market and value chain for medical devices and PPE (studies three and four).

For studies one and two, the analysis focused on the four main markets in LatAm: Argentina, Brazil, Colombia, and Mexico. In studies three and four, the markets evaluated were Argentina, Brazil, Chile, Colombia, Costa Rica, and Mexico.

The scenario

The studies compiled data on medicines, vaccines, medical devices, and PPE for COVID-19 treatment and prevention. The primary goal is to present a comprehensive landscape of these therapies, supporting decisions related to regulatory environments, boosting local production, fostering innovation, and facilitating technology transfer.

The COVID-19 pandemic exposed the need for improved healthcare strategies to manage global health crises. South America experienced the highest mortality rate, indicating the need for more effective mitigation measures. Factors contributing to regional disparities include variations in case-reporting, testing capabilities, preventive measures, and vaccination campaigns, leading to inconsistent pandemic responses.

National Regulatory Authorities in each country implemented Emergency Use Authorizations (EUAs) to expedite health technology approvals. In emergencies, regulatory agencies must ensure new vaccines and drugs meet quality, safety, and efficacy standards through risk–benefit assessments, as the World Health Organization (WHO) advises. Accelerated EUA approvals enhanced competition among manufacturers.

Manufacturers and national institutes established partnerships to expedite final approvals and product commercialization in affected regions. However, Latin America’s reliance on foreign-produced active pharmaceutical ingredients (APIs), critical components (e.g., semiconductors), and unique materials remain a significant vulnerability and risk factor for future crises.

The pandemic impacted medicine usage, prompting new product launches and increased demand for existing treatments. Unprecedented vaccine demand in 2021 led to large-scale government purchases to prevent stock shortages. Furthermore, the consultancy expects public sector-driven vaccine purchases to continue, accommodating population needs and booster doses for eligible individuals. As new strains resistant to approved vaccines or treatments emerge, leaders must frequently reassess the situation and make swift decisions to alleviate pressure on health systems.

As recommendations to support the implementation of productive regional arrangements and expand the offerings of existing plants, the studies suggest adopting suitable policies. Two measures are crucial for establishing regional partnerships: harmonizing regulatory areas, particularly in health technologies, to ensure protection for the populations involved; and facilitating political articulation among country representatives to expedite appropriate legal measures.

Additionally, evaluating traditionally successful public policy instruments for industrial park development is essential. The consultancy recommends utilizing the state’s purchasing power to boost the local economy. Financial support from international organizations, such as Inter-American Development Bank (IDB), World Bank,

Development Bank of Latin America (CAF), and local banks (The Brazilian Development Bank (BNDES), Bancomext, etc.), with internationally compatible interest rates, is also crucial.

Another relevant instrument is the appropriate protection of foreign trade mechanisms for products from other markets, including import taxes, antidumping measures, and strategic area protection. Furthermore, establishing applicable taxes for producing and commercializing these products within each country and Latin American countries is necessary to achieve tax equity.

A classic example of tax imbalance is comparing taxes on production and importation, typically favoring the latter. A linear accelerator facility installed in Jundiaí (Brazil) by Varian was closed due to high tax costs, while competitors importing products faced virtually negligible costs.

Lastly, adequate technical support is essential, with priority public investment in developing and improving recommended products. According to the studies, this approach will maintain internationally competitive technological levels and achieve a competitive scale in the global market.

Conclusions

The studies summarize the value chain of technologies used to treat and prevent COVID-19, including medicines, vaccines, medical devices, and PPE. The studies focus on aiding decision-making regarding the regulatory environment, local production, innovation, and technology transfer.

The impact of the pandemic in Latin America was significant due to inadequate preventive measures, insufficient vaccination campaigns, and discrepancies in case-reporting. National Regulatory Authorities accelerated the insertion of new products in the market through EUA during the pandemic, increasing manufacturers' competitiveness. Partnerships between manufacturers and national institutes facilitated approvals and product commercialization for medicines and vaccines.

Regarding medicines and vaccines, Latin America faces a significant risk factor in international dependence on API production. In the present scenario, vaccine purchases may shift towards other COVID-19 treatment drugs. Health authorities must continually assess the situation to address potential risks, such as new strains resistant to current treatments.

The consultancy recommended regional production for biological medicines such as insulin, tocilizumab, and Factor VIII to amplify production capacity. For chemically synthesized drugs, it recommended creating a productive regional arrangement for baricitinib, midazolam, and propofol and exploring the potential to produce other esters such as dexamethasone, as well as developing liposomal formulations for amphotericin B.

In addition, the consultancy recommended further studies to detail the expansion of production capacity for medical devices, including the identified opportunities in Group A (e.g., X-ray equipment, ultrasound), B (e.g., real-time PCR³), C (e.g., infusion pumps), and E (e.g., nasal cannula). Due to market size and pricing variability, the consultancy did not recommend expanding production capacity for the devices in Group D (those used to conserve, maintain, and preserve drugs and vaccines).

The consultancy also recommended further studies for PPE to plan the expansion of production capacity and identified eligible products for productive regional arrangements, including gloves, N95/FFP2 respirators, surgical masks, and disposable aprons. Products with limited market viability, such as boots and face shields, were not recommended for production. The consultancy emphasized the need to develop local production capacities, seek alternatives for obtaining inputs, and incentivize product improvement and quality, given the high research and development costs, and low value-added for most products in this category.

³ PCR: polymerase chain reaction.

For more information



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In September 2021, PAHO Member States adopted a resolution (CD59.R3) to increase regional production capacities for and improve access to essential health technologies. The COVID-19 pandemic exposed the Region's dependence on strategic sectors, impacting access to products and services. The resolution acknowledges that access to essential medicines and health technologies is crucial for universal health coverage. This priority strategy aims to develop a productive array from an integrated economic and social development vision.

The COVID-19 pandemic highlighted severe shortages and excessive price increases for particular medical products, revealing the need for regional self-sufficiency in production. To address these challenges, PAHO hired specialized services to conduct market research and identify opportunities to produce strategic health technologies and their inputs in Latin America and the Caribbean.

The studies have addressed the need to increase the production capacity of medicines and essential health technologies. This publication presents the recommendations of the consultancy. The recommendations include further studies necessary for planning production capacity, identifying products eligible for production, and developing regional productive arrangements.

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