

Bridging Continents for Health Equity: India-Latin America Cooperation for Healthcare Transformation in the Global South

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ABSTRACT

In an increasingly interconnected world, the quest for equitable healthcare access remains a central concern for the Global South. As two emergent blocs—India and Latin American countries (LACs)—grapple with shared challenges of access, affordability, and health systems strengthening, their potential for mutual collaboration in health economics, innovation, and technology is immense. This article examines how India's established capabilities in pharmaceuticals, medical devices, health technology, and frugal innovation can synergize with the needs and aspirations of Latin America. The article attempts to analyze frameworks for regional collaboration, including Free Trade Agreements (FTAs), India's "Vaccine Maitri" and development diplomacy, supply chain integration through Gati Shakti, and India's multilateral engagement with the WHO, BRICS, ASEAN-LAC, and African Union. In conclusion this bilateral and multilateral cooperation can lead to sustainable healthcare systems, technological leadership, and a unified voice for health equity in the Global South.

Global South Healthcare Journal (GSHJ), 2025; 1(2).

DOI: 10.61081/gshj/1v2i103

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KEYWORDS:

Healthcare systems, Free Trade Agreements, Latin American countries.

HOW TO CITE:

Chhibber R. Bridging Continents for Health Equity: India-Latin America Cooperation for Healthcare Transformation in the Global South. *Global South Healthcare Journal*. 2025;1(2):59–64

INTRODUCTION

Healthcare in the Global South continues to be hindered by structural inequalities, inadequate infrastructure, and economic constraints. While Latin American countries (LACs) boast diverse health systems—from universal coverage in Brazil to mixed public-private models in Peru and Colombia—the region faces chronic underfunding, workforce shortages, and dependence on expensive imported medical technologies and pharmaceuticals. India, meanwhile, has emerged as a global leader in low-cost, high-quality healthcare innovation, serving not only its vast population but also exporting affordable medicines and medical devices globally.

This article looks at the strategic, multidimensional India-LAC partnership to foster health equity. Such cooperation could serve as a model for South-South collaboration, leveraging India's prowess in health economics,

manufacturing, academia, and innovation to address LAC's healthcare challenges. The article is also an attempt to place this cooperation within the larger political framework of global health diplomacy and economic integration.

The Global South: Market Size and Growth Opportunities

The global healthcare landscape is undergoing a profound transformation, with the Global South emerging as a critical engine of growth across pharmaceutical manufacturing, medical devices, health services, and digital health technologies. As of 2024, the healthcare market in developing regions—including South Asia, Latin America, Africa, and Southeast Asia—is valued at over USD 1.4 trillion, with projections suggesting it could surpass USD 2 trillion by 2030, driven by demographic shifts, urbanization, and increased healthcare spending.

In particular, India's healthcare sector has seen exponential growth, currently valued at over USD 372 billion (2024), making it one of the top three fastest-growing healthcare markets globally. Its pharmaceutical industry—dubbed the “pharmacy of the world”—accounts for 20% of global generic exports, with a projected market value of USD 130 billion by 2030. India's medical device sector, though smaller at around USD 14 billion, is growing at over 15% CAGR, while its HealthTech ecosystem is booming, with over 5,000 startups contributing to a digital health market expected to reach USD 50 billion by 2030.

The Latin American and Caribbean (LAC) healthcare market is similarly dynamic, valued at approximately USD 300 billion, with strong demand for public health services, private sector innovation, and pharmaceutical imports. Brazil, Mexico, Argentina, and Chile together represent over 80% of LAC's health sector GDP, and are actively investing in expanding universal healthcare, biotechnology, and digital health infrastructure. Moreover, LAC's pharmaceutical market alone stands at USD 80 billion, while the medical device sector is growing at double-digit rates, driven by an aging population and rising non-communicable disease (NCD) burdens.

Together, India and Latin America represent not just high-growth markets, but also increasingly influential players in shaping South-South healthcare cooperation, economic resilience, and innovation-driven public health models. With shared health challenges and complementary strengths—India's cost-effective manufacturing and LAC's advanced clinical infrastructure—this emerging partnership is well-positioned to redefine equitable healthcare in the Global South. Today mutually India & LAC can leverage the economic, technological, and diplomatic pathways that can anchor a robust, mutually beneficial healthcare alliance between India and Latin American countries.

The Health Economics Imperative in the Global South

Health economics lies at the core of any policy aimed at equitable access. Both India and LAC countries spend a relatively low percentage of their GDP on healthcare—India at around 2.1%, and many LAC countries hovering around 4–6%, often with inefficient expenditure patterns. Limited fiscal space constrains their ability to scale universal health coverage (UHC), leading to out-of-pocket expenditures (OOP) that push millions into poverty annually.

India's health economic model is unique: it has shown how economies of scale, innovation, and decentralized models can bring down healthcare costs significantly. Examples include:

- **Generic pharmaceuticals** manufactured under TRIPS-compliant IP frameworks.

- **Frugal innovation** such as the Aravind Eye-Care model and low-cost cardiac stents.
- **Healthtech startups** developing AI-powered diagnostics, telemedicine platforms, and remote monitoring tools.

LAC countries can adapt similar models by leveraging India's experience in designing cost-effective insurance schemes (e.g., Ayushman Bharat), pricing regulations, and strategic purchasing mechanisms.

India's Pharmaceutical and Medical Devices Ecosystem: A Global Resource

India is the world's third-largest pharmaceutical producer by volume and a global leader in generic drug production. It supplies over 50% of Africa's pharmaceutical imports and played a pivotal role during the COVID-19 pandemic through its “Vaccine Maitri” initiative, shipping over 66 million doses to 95 countries, including LAC nations like Brazil, the Dominican Republic, and El Salvador.

Latin America, with its high import dependency and limited local manufacturing, stands to benefit from Indian investment in pharmaceutical production and supply chain integration. The Opportunities include:

- **Technology transfer agreements** for local vaccine and drug manufacturing.
- **Joint ventures** in biosimilars and Active Pharmaceutical Ingredients (APIs).
- **Regulatory harmonization**, facilitated through platforms like the India-MERCOSUR PTA and CARICOM trade discussions.

The medical devices sector also presents opportunities. India's frugal engineering solutions—such as GE Healthcare's handheld ultrasound and Forus Health's low-cost retina scanners—could revolutionize diagnostic access in remote Latin American communities.

Healthtech Collaboration: From Startups to Scalable Systems

India's booming HealthTech ecosystem—with over 4,000 startups—offers scalable, interoperable digital health solutions that can be adapted to LAC contexts. Key areas include:

- **Telemedicine platforms** (e.g., eSanjeevani) that extend specialist care to rural and underserved populations.
- **Mobile diagnostics** and AI-enabled screening tools for diseases like tuberculosis, diabetic retinopathy, and cervical cancer.
- **Electronic Health Records (EHRs)** and public health data analytics systems.

LAC countries with significant rural and indigenous populations, such as Bolivia, Peru, and Guatemala, can adopt

these models to ensure last-mile healthcare delivery, reduce urban-rural divides, and integrate primary care.

Strategic Trade and Political Alliances

India has been deepening economic and political ties with Latin America, particularly during its G20 presidency in 2023, where Prime Minister Narendra Modi emphasized South-South cooperation and development diplomacy. Key developments include:

- **Strategic Free Trade Agreements:** India's PTA with MERCOSUR (Argentina, Brazil, Paraguay, Uruguay) and ongoing talks with the Pacific Alliance (Chile, Colombia, Mexico, Peru) aim to boost pharmaceutical and medical device exports.
- **Development Diplomacy:** India has extended concessional lines of credit to several LAC countries, such as Suriname and Guyana, for healthcare infrastructure projects and supply of medical equipment.
- **PM Gati Shakti:** As a logistics and infrastructure initiative, Gati Shakti enhances India's export efficiency, enabling timely delivery of medicines, vaccines, and equipment to Latin America.

Such instruments can be harnessed not only for market access but also to promote technology transfer, local assembly, and capacity building.

Collaborative R&D and Academia: The Foundation for Future-Ready Healthcare

Sustainable healthcare systems need a skilled workforce and strong research ecosystems. India's educational and R&D institutions—such as AIIMS, ICMR, and IITs—offer opportunities for:

- **Joint research programs** with Latin American universities and think tanks.
- **Student and faculty exchange programs** in medicine, public health, biomedical engineering, and digital health.
- **Multilateral research consortia** through WHO, BRICS, and India-LAC knowledge forums.

Smaller LAC countries with limited health R&D infrastructure, such as Nicaragua, Honduras, and the Caribbean nations, can particularly benefit by affiliating with Indian research programs, adopting open-source models, and sharing clinical trial data.

6. Frugal Innovation and Last-Mile Accessibility

Frugal innovation—a hallmark of India's healthcare ecosystem—emphasizes affordable solutions designed for resource-limited settings. Its application in LAC can bridge geographic and economic barriers. Examples include:

- **Portable dialysis machines** by IIT-Madras for low-resource rural hospitals.
- **Battery-operated neonatal incubators** for remote clinics.
- **Mobile health units** designed for hilly or rainforest terrains, adaptable to Latin America's topography.

Such innovations, when deployed via public-private partnerships and integrated into national health programs, can dramatically enhance access and reduce mortality from preventable diseases.

Strategic Trade Agreements and Development Diplomacy

India's economic outreach to LAC has grown steadily, with bilateral trade exceeding USD 45 billion in 2023. Through Preferential Trade Agreements (PTAs) with MERCOSUR and Chile, pharmaceuticals and medical devices have emerged as critical components of India's export portfolio.

India's G20 Presidency in 2023, emphasized deepening South-South ties and expanding healthcare cooperation, especially with LAC. The following examples illustrate replicable assistance models:

1. **Brazil:** During the height of the COVID-19 pandemic, India supplied over 2 million doses of Covishield vaccine to Brazil under the Vaccine Maitri initiative, despite high domestic demand. This act of solidarity was accompanied by an agreement for the local co-formulation and packaging of vaccines, setting a precedent for tech transfer and regional production.
2. **Suriname and Guyana:** India extended Lines of Credit (LoC) worth over USD 50 million for the procurement of medical equipment and hospital upgradation in Suriname and Guyana. These LoCs include capacity-building clauses such as maintenance training and equipment standardization, offering a replicable model for small island and forested nations with logistical challenges.
3. **Dominican Republic:** India donated a suite of digital diagnostic tools and mobile health vans through its development cooperation arm (MEA-DPA). These vans were equipped with Indian-made portable ECGs, X-rays, and maternal health kits—tools highly suitable for replication in other small and mid-sized developing countries.
4. **Peru:** Indian companies have entered into public-private partnerships with regional hospitals in Peru to supply affordable generic cancer and diabetes drugs, reducing dependency on high-cost imports from the US and Europe. These partnerships were supported by the local government and included training programs for Peruvian

pharmacists and nurses, a model ideal for Francophone Africa and Southeast Asia.

5. **Mexico:** The Indian pharmaceutical giant Dr. Reddy's Laboratories established a dedicated distribution hub in Mexico City, enabling centralized supply to Central America and the Caribbean. This hub has since been used to fulfill public procurement orders for generics under Mexico's Seguro Popular program, illustrating how regional logistics integration can lower drug costs.
6. **Argentina:** India's Department of Science and Technology facilitated a joint Indo-Argentinian R&D program focused on biotechnology and immunology, co-funded by CONICET and DST-India. The projects include vaccine research, traditional medicine studies, and data analytics for healthcare, offering a replicable framework for collaborative research with African and ASEAN partners.

These examples underscore India's strategic pivot to Latin America not merely as a trading partner, but as a co-developer of sustainable healthcare ecosystems. Each initiative reflects a scalable, context-sensitive approach that can be adapted to diverse geographies across the Global South.

Ease of Market Access and Regulatory Harmonization for Equitable Healthcare

One of the critical enablers of India-LAC healthcare collaboration is the ease of market access, particularly for essential medicines, medical devices, and health technologies. Many Latin American countries maintain complex, fragmented regulatory regimes, which pose significant barriers for external manufacturers—particularly those offering affordable generics and diagnostics. Likewise, Indian exporters often face hurdles related to local approvals, language requirements, and standards divergence. Creating a mutual recognition agreement (MRA) framework—starting with countries like Brazil, Mexico, and Colombia—can significantly streamline product entry, reduce time-to-market, and lower costs for public procurement. Simplified customs and documentation processes under strategic Preferential Trade Agreements (PTAs) would further enhance the supply of essential healthcare goods.

In this context, regulatory harmonization becomes a strategic priority for equitable healthcare. Establishing regionally compatible standards for drug registration, bioequivalence testing, device certification, and pharmacovigilance can allow Indian health products to enter multiple LAC markets simultaneously, avoiding the need for country-specific adaptations. Institutions like ANVISA (Brazil) and COFEPRIS (Mexico) can engage with India's CDSCO and Pharmaceutical Export Promotion Council (Pharmexcil) to develop fast-track pathways for WHO-prequalified products and products already approved by stringent

regulatory authorities. Harmonized guidelines can also reduce dependency on expensive Western pharmaceuticals and facilitate technology transfer agreements that include regulatory compliance training for LAC counterparts, enabling local manufacturing without compromising safety or efficacy.

Furthermore, market access and harmonized regulation pave the way for product diversification—a key pillar of healthcare resilience and economic growth. By expanding beyond generics into biologics, diagnostics, digital health platforms, point-of-care devices, and mental health tools, Indian and Latin American industries can jointly tap into new health demands driven by demographic shifts and epidemiological transitions. This not only supports better healthcare outcomes but also fuels job creation, skill development, and export revenue. For instance, public-private partnerships can develop region-specific tools for diseases like Chagas, dengue, and cervical cancer—problems often overlooked by Western pharmaceutical agendas. By aligning health priorities with industrial strategies, India and LAC can collectively build value-added, innovation-driven healthcare economies that meet local needs while positioning themselves as global solution providers.

Collaborative R&D and Academic Linkages

India's development diplomacy in LAC is also deeply intertwined with knowledge exchange and R&D support, a strategic pillar that is often underleveraged globally. The Argentina example above, and others like the India-Peru Biomedical Exchange Program (2022–2024), involve:

- Faculty exchanges between IIT Delhi and Universidad Nacional Mayor de San Marcos.
- Co-funding of PhD fellowships for Latin American researchers in biomedical engineering.
- Shared use of India's public genomic data for disease mapping in LAC's indigenous populations.

Such models are scalable in sub-Saharan Africa, Central Asia, and Southeast Asia, especially when adapted through regional centers of excellence.

Supply Chain Integration and Policy Harmonization

Seamless supply chains are critical for cross-border healthcare delivery. India's PM Gati Shakti platform integrates transport, warehousing, and digital logistics, enabling it to become a reliable exporter of health products. LAC countries can:

- **Align customs and standards** to ease import of Indian pharmaceuticals and devices.
- **Establish warehousing hubs** in the Caribbean and Central America for regional distribution.

- **Implement digital customs procedures** via blockchain or AI for transparency and traceability.

Policy convergence, including price caps, essential drug lists, and insurance coverage norms, can further ease product penetration and market access.

11. Navigating Geopolitical Disruptions: U.S. Trade Tariffs, China's Strategic Moves, and the India-LAC Opportunity

The rising tide of U.S. trade protectionism, particularly the imposition of tariffs on pharmaceutical raw materials, medical devices, and intermediate goods, is reshaping global health supply chains. These tariffs, aimed primarily at China, have inadvertently disrupted global economies of scale and increased input costs for developing nations like India. For Latin America, many of whose healthcare systems depend on imported diagnostics, active pharmaceutical ingredients (APIs), and essential equipment, the knock-on effects are profound. Indian manufacturers, who supply a significant share of generic drugs and low-cost medical technology to LAC markets, are facing higher production and compliance costs—eroding the affordability advantage that defines South-South trade in healthcare.

Meanwhile, China is attempting to fill the strategic vacuum created by shifting U.S. trade policies. Through its Health Silk Road initiative and investments under the Belt and Road framework, China is rapidly expanding its health and logistics footprint in Latin America. Countries such as Ecuador, Bolivia, and Argentina have received large-scale Chinese health infrastructure investments, including hospitals, mobile labs, and medical scholarships. China also offers bundled financing and infrastructure deals with fewer conditionalities, making them appealing to debt-stressed LAC economies. However, this growing influence comes with trade imbalances, supply dependency, and concerns over data sovereignty—especially with the export of Chinese telehealth platforms and AI diagnostics tools.

India and Latin America must now co-develop counterbalancing strategies that capitalize on their shared values of democratic governance, transparent practices, and inclusive growth. One solution is to create a joint India-LAC health resilience platform, focused on pooled procurement, shared R&D pipelines, and regional centers of excellence. By coordinating bulk purchases of APIs, vaccines, and diagnostics—outside of Western and Chinese-dominated supply chains—India and LAC nations can lower costs and reduce market volatility. This cooperative procurement model, akin to the African Union's **AVATT** (African Vaccine Acquisition Trust), could also support small and vulnerable economies like Haiti or Paraguay in accessing affordable health solutions through solidarity-based pricing.

Another strategic priority is the joint development of alternative trade corridors that bypass tariff-heavy regions and optimize logistics. India's PM Gati Shakti platform, when extended through port linkages in Brazil (e.g., Port of Santos) and Chile (e.g., Valparaíso), can enable faster, tariff-free shipping of critical medical supplies across the South Atlantic. Establishing India-LAC bonded warehouses, regulatory fast lanes, and shared digital platforms for compliance can further insulate their trade from protectionist disruptions. Moreover, aligning their negotiating positions at WTO, WHO, and UNCTAD can help shape global trade norms that favor public health over geopolitics.

Lastly, strategic investments in dual-market product development—technologies co-designed for both Indian and LAC settings—can enhance long-term market competitiveness. These could include AI-driven diagnostics tailored for multilingual populations, wearable devices for low-internet environments, or indigenous herbal remedies with region-specific clinical trials. By leveraging cultural and climatic similarities, such as tropical disease prevalence and rural healthcare delivery models, India and LAC can create globally competitive yet contextually relevant products. In doing so, they not only mitigate the impact of tariff wars and external dependencies but also cement their position as champions of Global South-led healthcare innovation and economic sovereignty.

Becoming the Voice of the Global South: Toward Health Sovereignty

India and Latin America, when aligned, can represent a powerful voice for health equity, technological sovereignty, and inclusive development at global platforms. India's leadership roles in, WHO Executive Board, BRICS Health Cooperation Mechanism, India-LAC Ministerial Forums, Global Digital Health Partnership can be used to push for equitable IP regimes, increased development funding, and fair vaccine allocation.

Joint declarations and cooperation strategies can be tabled at the *UN General Assembly*, *G20*, and the newly expanded *BRICS+*, emphasizing Global South-driven innovation and democratization of health technology.

CONCLUSION

As the India-LAC healthcare alliance deepens, examples such as Brazil's localized vaccine packaging, Dominican Republic's use of Indian mobile health tech, and Guyana's medical equipment upgrades via Indian LoCs can serve as replicable templates for the broader Global South. These initiatives combine affordability, sustainability, and respect for local

contexts—offering a compelling contrast to traditional top-down development assistance.

India's health diplomacy thus positions itself not just as aid, but as a partnership grounded in co-development and shared sovereignty, contributing to a new world order where the Global South speaks—and acts—in unison.

Importantly, India can also learn from the health system strengths of major LAC countries to enhance its own schemes such as Ayushman Bharat and various state-led initiatives. Brazil's Sistema Único de Saúde (SUS) offers valuable lessons in decentralized public healthcare governance, effective use of community health workers, and robust primary care integration. Similarly, Chile's FONASA system provides a model for blended public-private health financing, enabling coverage without creating parallel silos. Mexico's experiences with conditional cash transfer programs for maternal and child health could inspire enhancements in India's incentive-based health schemes like Janani Suraksha Yojana. By adopting select innovations from LAC countries—particularly in data-driven resource allocation, preventive health outreach, and community-led care models—India can improve both efficiency and equity within its vast health ecosystem.

The healthcare industry, both in India and Latin America, stands to benefit immensely from this collaboration. Joint ventures, co-developed medical technologies, and coordinated regulatory pathways can help create products and services that are not only affordable but tailored to the needs of emerging economies. Pharmaceutical manufacturers can collaborate on biosimilars, vaccines, and essential generics for chronic conditions, while healthtech companies can adapt AI-based screening, diagnostics, and telemedicine platforms for multilingual, multi-ethnic populations. The three A's—Availability, Affordability, and Accessibility—can be achieved through shared R&D investments, region-specific innovation hubs, and the establishment of South-South supply chains. This approach aligns commercial

opportunity with social impact, empowering industries to become drivers of inclusive healthcare growth.

India and Latin American countries stand at a unique crossroads. Facing common challenges and endowed with complementary strengths, their collaboration offers a transformative opportunity to redefine healthcare delivery, economics, and equity in the Global South. From generic medicines to AI diagnostics, and from collaborative R&D to health diplomacy, this partnership can build resilient, accessible, and affordable healthcare ecosystems.

As India continues to enhance its global stature, and LAC countries seek strategic diversification beyond traditional Western partners, the time is ripe for a long-term, multi-sectoral India-LAC healthcare alliance. Together, these two regions can not only heal their populations more equitably but also shape the global discourse on inclusive, sustainable, and sovereign health systems.

Acknowledgements

The author acknowledges the contributions of Indian and Latin American policymakers, health economists, and development practitioners whose work informed this analysis.

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