

TC Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Improve Regional Interoperability in Health
▪ TC Number:	RG-T4125
▪ Team Leader/Members:	Nelson, Jennifer A (SCL/SPH) Team Leader; Tejerina, Luis R. (SCL/SPH) Alternate Team Leader; Bagolle, Alexandre (SCL/SPH); Casco, Mario A. (ITE/IPS); Delfs Ilieva, Isabel (SCL/SPH); Natalia Almeida (LEG/SGO); Orefice Sobrera, Pablo Jose (SCL/SPH)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	
▪ Date of TC Abstract authorization:	07 Apr 2022.
▪ Beneficiary:	Regional: Argentina, Bahamas, Barbados, Belize, Brazil, Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Haiti, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	OC SDP Window 2 - Social Development(W2E)
▪ IDB Funding Requested:	US\$200,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	August 2022
▪ Types of consultants:	Individual; Firms
▪ Prepared by Unit:	SCL/SPH-Social Protection & Health
▪ Unit of Disbursement Responsibility:	SCL/SPH-Social Protection & Health
▪ TC included in Country Strategy (y/n):	N/A
▪ TC included in CPD (y/n):	N/A
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Social inclusion and equality; Productivity and innovation

II. Objectives and Justification of the TC

- 2.1 **Justification and Importance:** Many countries in Latin America and the Caribbean (LAC) have begun or accelerated their work towards digital transformation of the health sector, especially due to the COVID-19 pandemic. To harness digital tools to improve the efficiency, quality, and equity of the sector, the Inter-American Development Bank (IDB) through the Social Protection and Health Division (SCL/SPH) works in four main areas: (i) support quality design, execution and evaluation of digital health transformation agendas & operations; (ii) increase human capital in LAC for digital transformation; (iii) build strategic partnerships within and outside of IDB for digital transformation; and (iv) generate & disseminate knowledge for digital transformation of health services in LAC. This work is aligned to the broader Social Sector (SCL) Digital Agenda to improve the efficiency of the sector, improve the quality of social services, and reduce inequality through digital services and is a critical area in the [Health Sector Framework Document](#). SPH has supported 10 countries in the creation of digital agendas and/or national roadmaps for digital health transformation, all of which include the implementation of national electronic health records and scaling up

telehealth programs.¹ One of the critical success factors of the implementation of these digital interventions is tacit understanding of interoperability standards in healthcare. While 76% of countries in the region have national norms that describe health information exchange, only 42% of have norms relating to which interoperability standards are used, and only one country has achieved health data exchange at national scale between public and private sectors (Bagolle et al, 2020).

- 2.2 **Benefits to countries:** Interoperability processes and data management systems can optimize how the many actors within a country share data with the health system. This can help governments make better decisions about health of their population. A health system that is interoperable can: (i) reduce health care costs associated with redundant diagnostic testing, unnecessary hospitalizations, and preventable readmissions; (ii) make better use of resources and management to know how, when, and where those resources are used; (iii) effectively monitor notifiable diseases, seasonal diseases, communities' disease burden, and other aspects; (iv) aid public health research; and (v) strengthen disaster response (Bagolle et al, 2022). A systematic literature review of 25 studies on health information exchange (HIE) systems found positive outcomes for the quality and cost-effectiveness of health care, while fifteen of the HIE studies (60%) demonstrated positive economic effects due to significant savings related to reducing duplicated diagnostics (medical images, laboratory tests) (Bagolle et al, 2022). For example, a study in Canada found that connected health in the outpatient context reduced the duplication of lab testing and diagnostic imaging testing, saving the system C\$²72.7 million and C\$6.7 million, respectively (Gartner, 2018). Interoperability is also important for global public health; the COVID-19 pandemic has identified that the current global health architecture is slow to respond to the current pandemic and ill-prepared to prevent future public health emergencies. There is a critical window of opportunity to take advantage of the momentum around COVID-19 to create regional and global foundations for data exchange that serve beyond the COVID-19 use case, such as yellow fever vaccination or the International Patient Summary, and globally the World Health Organization (WHO), Group of Twenty (G20), and Organization for Economic Cooperation and Development (OECD) are working to this end.
- 2.3 A key component of successful implementation of interoperability in healthcare is specialized human capital that all “speak the same language” and have both theoretical and practical experience. SPH has partnered with leading institutions to improve theoretical knowledge of interoperability of within public sector, but opportunities to put this knowledge into practice, such as interoperability laboratories for health are sparse.³ Through “Network for the Development of Electronic Medical Records (EMR) in LAC” (ATN/OC-14357-RG), the Inter-American Development Bank (IDB) supported the creation of the American Network for Cooperation on e-Health (RACSEL), a networked of currently comprised of eight governments⁴ to promote

¹ 10 countries supported as of July 2022 include: Argentina, Bahamas, Colombia, Ecuador, El Salvador, Honduras, Jamaica, Paraguay, Peru, and Suriname.

² Canada Dollar (C\$).

³ One of the key activities that support hands-on learning for interoperability in health are connectathons or projectathons, which provide a detailed implementation and testing process to enable the adoption of standards-based interoperability through structured and supervised peer-to-peer testing environment.

⁴ RACSEL is currently made up of Colombia, Paraguay, Suriname, Uruguay, Chile, Peru, Ecuador, Argentina, and El Salvador; as well as by a set of strategic partners, such as the Pan American Health Organization (PAHO) and the IDB. [Colombia is designated as President.](#)

collaboration in the field of Electronic Health and share lessons learned to improve the quality of health services in LAC. RACSEL issued five technical guides for the region, providing a solid guide for the regions, but lacked implementation experience. Additionally, SCL has supported the interoperability of social sectors, with the creation of a [maturity model and framework](#), provides important inputs to help countries think about integrating social determinates of health into healthcare.

- 2.4 A health interoperability laboratory can provide experiential knowledge for interoperability and is defined as a facility focused on the interoperability of digital health applications where the government, private, and academic sectors can come together to test, create, innovate and connect digital health information systems through tactic experiences and common understanding to support the adoption of international standards. These standards allow health systems to support continuity of care between public-private sectors by allowing patients and providers to share their health data safely. Health interoperability laboratories exist all over the world, some examples include the United States' [Office of the National Coordinator Tech Lab](#), Canada's [mHealth & eHealth Development and Innovation Centre \(MEDIC\)](#), Asian Health Information Network's regional [Standards and Interoperability Lab](#) (SIL-ASIA) supported by the Asian Development Bank, [Germany's eHealth Interoperability Lab](#) and [Jembi](#) in South Africa. IDB has also support laboratories for testing emerging technologies in the region including [fAIR LAC](#) and [LACCHAIN](#). Direct beneficiaries include Ministry of Health staff, especially those tasked with the development, selection or regulation of health information technology solutions and other members of the digital health ecosystem including digital health start-ups and private companies working in the sector. Results of these efforts include improved capacity of human resources in digital health and greater cooperation between countries and between public, academic and private sectors.
- 2.5 **Bank's support to the health sector and lessons learned.** Through "Digital Transformation in Health to Mitigate the Effects of COVID-19 in Latin America and the Caribbean" (ATN/OC-18352-RG), SPH has supported the National Center of Health Information Systems (CENS) in Chile to create the first Regional Health Interoperability Lab in LAC as part of the "LACPASS" project, but its current scope is limited to COVID-19 use-cases, including Digital Documentation for COVID-19 Credentials (DDCC) and the public sector. Currently, nine countries are involved in the project⁵ however, only one country from the Caribbean region is participating (SU) and one country from Central America (ES). To date, the project has supported three countries to meet EU DCC standards (CO, ES, and UY) and is actively supporting five more to meet the WHO standard. More support is required to provide technical assistance to these subregions and move to use-cases beyond COVID-19. Technical support provided through regional communities of practice for common challenges like the one created through RACSEL the project may be more cost-effective, as they take advantage of regional economies of scale, however sustainable business models need to be developed.
- 2.6 **Objective of the TC.** The objective of this technical cooperation is to support the design and pilot of a sustainable regional health interoperability laboratory for LAC, external to IDB, involving the public, private and entrepreneur sectors, and improve

⁵ Argentina (AR), Colombia (CO), Chile (CH), Ecuador (EC), El Salvador (ES), Perú (PE), Paraguay (PR), Surinam (SU), and Uruguay (UY).

the governance structure of RACSEL to improve the digital health ecosystem in LAC and support adoption of international interoperability standards in the region.

- 2.7 **Strategic Alignment.** The TC is aligned with the Second Update to the Institutional Strategy (AB-3190-2) and is strategically aligned with the challenges of: (i) Social Inclusion and Equity by supporting the health sector to adopt and deploy digital health services using best practices to expand access and care continuity; and (ii) Productivity and Innovation by fostering the spread of digital technologies in the public and private sectors. It is aligned with the Corporate Results Framework 2020-2023 (GN-2727-12) by contributing to the development challenge of productivity and innovation and the guiding principle of knowledge and innovation. It is also aligned with priorities established in OC SDP Window 2 - Social Development (W2E) established in GN-2819-14, specifically strengthening of national systems and global and regional integration. It is aligned to IDB's 2025 Vision by supporting countries to successfully adopt and use digital technology to drive long-term dividends for economies in terms of growth, innovation, and social inclusion. It also helps to address key knowledge gaps identified in the health SFD related to (i) digital health, specifically generating evidence for effective implementation strategies; and (ii) human resources for health, specifically evaluating the cost-effectiveness of different approaches to training.

III. Description of activities/components and budget

- 3.1 The technical cooperation will be divided into two components: (i) Design and documentation of the LAC Digital Health Regional Laboratory based on best practices; and (ii) Deployment of priority health interoperability services.
- 3.2 **Component 1: Design and documentation of the LAC Health Interoperability Laboratory based on best practices.** This component will fund a consultancy for the design of the laboratory, including mapping of stakeholders, governance structure, and sustainability model based on best practices, including how best to involve the private sector⁶. The consultancy will review existing laboratories and focus on the delivery of key services needed in the region, for example: training on Health Level 7 (HL7) Fast Health Interoperability Resources (FHIR), a next-generation interoperability standard created by the standards development organization designed to enable health data, to be quickly and efficiently exchanged; testing compliance on HL7-FHIR and other standards to ensure semantic and syntactic interoperability of health information systems; and use of Integrating the Healthcare Enterprise (IHE) profiles such as the international patient summary (IPS). The component will also fund documentation of lessons learned during the first phase of deployment, which will be used for course correction and continuous improvement. Main results of this component include (i) Governance and Sustainability Plan for RACSEL; and (ii) Governance and Sustainability Plan for the Regional Laboratory in Digital Health.
- 3.3 **Component 2: Deployment of priority health interoperability services.** This component will fund a consultancy to deploy and maintain a regional laboratory to execute the priority services defined in Component 1, for example, hosting a virtual connectathon or projectathon for HL7-FHIR and all pre-connectathon activities, or the deployment of digital public goods that are needed for interoperability in healthcare, such as health provider directory in a testing environment, to demonstrate their

⁶ SPH will coordinate with IDB country offices as pilot countries and are formalized.

importance and facilitate tacit training. Services would be provided for 12 months and to at least three country clients. Services to be provided would be prioritized based on demand from countries for cross-cutting issues related to interoperability in the health sector and adoption of international standards. Countries that have expressed interest in participating include Colombia, El Salvador, Honduras, however, participation will be open to all IDB countries according to demand of final services to be delivered and all RACSEL members will be consulted in the design phase mentioned in Component 1⁷. Main results of this component include deployment of one cross-border digital service with participation of public and private sector actors.

- 3.4 **Results:** The main results of this TC include: (i) Governance and Sustainability Plan for RACSEL; (ii) Governance and Sustainability Plan for the Regional Laboratory in Digital Health; and (iii) deployment of one cross-border digital service with participation of public and private sector actors. These results contribute to improved human capital for digital health and interoperability, resulting in a digital health ecosystem with a higher adoption of standards and cooperation between public, private and entrepreneurial sectors.
- 3.5 **Total costs.** The total cost of this TC is US\$200,000, funded by the OC-SDP Window 2 - Social Development(W2E) fund. These resources will finance individual consultancy services and/or firms for 24 months.

Indicative Budget (US\$)

Activity/Component	Description	IDB/Fund Total Funding
Component 1. Design and documentation of the LAC Health Interoperability Laboratory	This component will fund a consultancy for the design of the laboratory, including mapping of stakeholders, governance structure, and sustainability model based on best practices, including how best to involve the private sector.	40,000
Component 2. Deployment of priority health interoperability services	This component will fund a consultancy to deploy and maintain a regional laboratory to execute the priority services defined in component 1	160,000
TOTAL		200,000

- 3.6 **Monitoring.** Monitoring of the progress and quality of the activities financed by this TC will be carried out directly by the IDB, through SCL/SPH. The TC team leader will be responsible for supervising and monitoring the appropriate execution of the project, with support from the operations analyst based in the country office. The Bank's institutional systems will be used to support this process.

IV. Executing agency and execution structure

- 4.1 The Bank will be executing this TC given the high level of complexity and technical expertise required to prepare the terms of reference of the studies and assessments involved, as well as to supervise their implementation. SCL/SPH has the capacity and technical expertise required to carry out these processes. Additionally, the hiring of

⁷ SPH will coordinate with IDB country offices as pilot countries are formalized.

international consultants may be required, for which the IDB hiring process is more agile, reducing the risk of delays in execution.

- 4.2 The activities to be executed under this TC have been included in the Procurement Plan and will be executed in accordance with the procurement methods established by the Bank, namely: (i) hiring of individual consultants, as established in AM-650 standards; (ii) contracting of consulting firms for services of an intellectual nature in accordance with the Policy for the Selection and Contracting of Companies for Operational Work executed by the Bank (document GN-2765-4) and its associated operating guidelines (OP-1155-4); and (iii) contracting of logistics services and other services other than consulting, in accordance with policy GN-2303-28.
- 4.3 All knowledge products derived from this Technical Cooperation will be Bank's intellectual property. Knowledge products will be published through the Bank's web page and other means accounted for in the indicative budget.
- 4.4 All the products financed by this TC will include toolkits, guides and manuals that will be usable and replicable for all the countries in the region. If activities in one of the participating countries are required, the team will obtain the country's no objection before the start of the activities.

V. Major issues

- 5.1 Risks identified include the difficulty to identify an organization that could coordinate the ecosystem and administer the lab with expert knowledge in health IT within LAC. Other risks include laboratory sustainability and ensuring services align with client demand and coordination of internal and external actors. These risks would be mitigated through documentation of best practices, governance arrangements, landscape analysis, and sustainability models from existing labs, and put into practice through the development of a governance model and sustainability and scale-up plan as part of the establishment of the laboratory, defined through Component 1.

VI. Exceptions to Bank policy

- 6.1 There are no exceptions to the Bank policy

VII. Environmental and Social Strategy

- 7.1 This Technical Cooperation does not intend to finance pre-feasibility or feasibility studies for specific investment projects or environmental and social studies associated with them; therefore, the requirements of the Bank's Environmental and Social Policy Framework (ESPF) do not apply to this TC.

Required Annexes:

[Results Matrix - RG-T4125](#)

[Terms of Reference - RG-T4125](#)

[Procurement Plan - RG-T4125](#)