

Technical Cooperation (TC) Document

I. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Support the design, implementation and evaluation of digital health transformation operations
▪ TC Number:	RG-T4244
▪ Team Leader/Members:	Nelson, Jennifer A (SCL/SPH) Team Leader; Tejerina, Luis R. (SCL/SPH) Alternate Team Leader; Aguilar Rivera, Ana Mylena (SCL/SPH); Casco, Mario A. (ITE/IPS); Donghyun Kang (SCL/SPH); Florencia Savoca Truzzo (SCL/GDI); Magri, Nicola (SCL/SPH); Pablo Jose Orefice (SCL/SPH); Sara Vila Saintetienne (LEG/SGO); Vanessa Curran (SCL/SPH)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	NA
▪ Date of TC Abstract authorization:	16 February 2023
▪ 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, and Venezuela.
▪ Executing Agency and contact name:	Inter-American Development Bank / Jennifer Nelson (SCL/SPH)
▪ Donors providing funding:	OC SDP Window 2 - Social Development(W2E)
▪ IDB Funding Requested:	US\$450,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	36
▪ Required start date:	15 April 2023
▪ Types of consultants:	Individual and 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):	NA
▪ TC included in CPD (y/n):	NA
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Social inclusion and equality; Productivity and innovation; Institutional capacity and rule of law; Gender equality; Diversity

II. Objectives and Justification of the TC

- 2.1 **Justification and Importance.** Healthcare in Latin America and the Caribbean (LAC) is overdue for an upgrade and technology is opening excellent opportunities to tackle critical health challenges in a cost-effective and scalable way. Many countries in the LAC region are now looking to digitally transform healthcare to improve quality, efficiency, and equity. However, a successful digital transformation of the health sector will require deliberate investment in digital foundations, well-thought-out digital health strategies and the patience to deliver results over the long term. Meanwhile, the pressure is on, as health systems and citizens face a growing burden of noncommunicable diseases (NCDs), also known as chronic diseases, such as diabetes, cardiovascular diseases, and mental health disorders. (Bernal et al., 2022).
- 2.2 Along with the prevalence of NCDs, their economic burden is expected to rise substantially in the coming years both in terms of direct healthcare costs and indirect

costs measured in terms of foregone earnings due to years of productive life lost because of premature mortality and disability. In fact, it is estimated that NCDs will cost the world economy US\$30 trillion between 2011 and 2031 and that mental health conditions will account for an additional US\$16.1 trillion over this time frame (Bloom et al., 2011). It is also expected that NCDs will cost countries more in the future; one study that projected healthcare spending in LAC through 2050 estimated declining expenditures for infectious diseases but rising expenditures for circulatory diseases and cancer (Rao et al., 2022). Looking ahead, the challenge to health systems will be to increase equity, quality, and effective coverage in a fiscally achievable and sustainable way. Key strategies involve strengthening primary care, improving the integration of services, providing cost-effective preventive and public health services, and improving interoperable and integrated information systems that enhance coverage, while also reducing transaction costs, inefficiency, and redundancies (Rao et al., 2022, Bernal et al., 2022).

- 2.3 Digital health is useful when it is an integral part of the healthcare management and delivery system. One of the most important pillars of digital health are Electronic Health Record (EHR) systems paired with Health Information Exchange (HIE), so that clinical information can be shared at the individual level in a safe and secure way across public and private providers (Nelson et al., 2020). When integrated with healthcare processes, EHRs and HIEs have been shown to reduce medical errors, increase productivity, and save patients' time, while providing data for public health surveillance (Nelson et al., 2020; Bagolle et al., 2022). EHRs can also improve cost analysis and/or service billing because they contain data on individual level procedures and effectiveness of treatment if paired with patient outcomes (Baum & Giussi, 2019). Digital health has benefits for the environment; for example, replacing physical visits with remote consultations can generate significant reductions in carbon emissions (Keshvardoost et al., 2020; Savedoff et al., 2021). Improved digital infrastructure also has economic benefits; IDB estimates show that a 10 percent point change in digital infrastructure is associated with a 3.2 percent higher GDP and a 2.6 percent higher productivity (García Zaballos and López Rivas, 2012; Mooney et al., 2022). This is especially relevant as all LAC countries have positive gaps relative to the advanced Organisation for Economic Co-operation and Development (OECD) countries, with the exception of mobile broadband infrastructure in Uruguay (Mooney et al., 2022).
- 2.4 **Inclusive digital health.** LAC is one of the most unequal regions in the world. It has sharp income disparities, and gender, race, and ethnicity are strong determinants of who accesses social services such as healthcare, education, and employment in the region. Under these circumstances, there is a highly relevant debate on whether growing use of technology will reduce inequality and close social gaps or instead exacerbate and deepen them. The digital divide, digital literacy levels, and data poverty impact all levels of the health sector. They limit people's access to tools and services for preventing diseases and providing care. They restrict healthcare providers' ability to efficiently offer services to the entire population. They also hamper equitable participation in the workforce, as well as fair and informed decision-making and resource allocation that benefits everyone. These inequalities are also perpetuated by a growing reliance on algorithms for decision-making that can be based on biased data, or data with limited or biased information on certain population groups. Unless digital technologies are intentionally deployed in an equitable and inclusive way, these imbalances will only grow; however, governments often lack operational tools to help determine and monitor how a digital intervention will affect equity (Bagolle et al., 2022).

- 2.5 To harness digital tools to curb the growth and impact of NCDs and 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 and 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 and disseminate knowledge for digital transformation of health services in LAC. This work is a critical area in the IDB's [Health Sector Framework Document](#) (GN-2735-12) and 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. SPH also collaborates closely with other internal partners such as IDB Lab, the Innovation for Citizen Services Division (ICS), the Knowledge, Innovation and Communication Sector (KIC) and the Information Technology Department (ITE) to apply their areas of expertise to health challenges in the public sector seamlessly. As of March 2023, SCL/SPH has supported 10 countries including Argentina, Bahamas, Colombia, Ecuador, El Salvador, Honduras, Jamaica, Paraguay, Peru, and Suriname in the creation of digital agendas and/or national roadmaps for digital health transformation, all of which include the implementation of EHR systems, health information exchange, and scaling up telehealth programs. Critical success factors of the implementation of digital interventions include delivering tailored, tactical support and tools to provide operational support to ensure investments achieve their intended impact (Savedoff et al., 2021).
- 2.6 **SCL/SPH's Approach.** Digital transformation of the health sector requires more than buying software and computers. Patients, medical providers, and managers all need to have confidence in digital technologies, find them easy to learn and use, and experience them as beneficial if they are going to adopt them (Savedoff et al., 2021). The most important barriers LAC faces when adopting digital health interventions are resource and infrastructure limitations, absence of nationwide digital health agendas, uncertainty about ethics and legal considerations (e.g., respect to privacy and security of the information), lack of adherence to common interoperability standards, limited presence of a workforce trained in health informatics, and poor regional collaboration (Luna et al., 2014, Nelson et al., 2020). To overcome these challenges, SCL/SPH's approach to successful digital transformation requires balanced investments in six dimensions: governance and management of the digital health transformation; infrastructure; information and standards; health applications and services; people and culture; and informed health policy and practice (Savedoff et al., 2021, Bagolle et al., 2022). To support governments in their digital transformation process, SCL/SPH has developed a menu of services and technical resources across all six dimensions available on the IDB's [Social Digital website](#) that are currently deployed across 17 countries.
- 2.7 **Benefits to countries.** Digital transformation of the health sector can improve quality, equity and efficiency when implemented intentionally and holistically (Bagolle et al., 2022). For example, interconnected and interoperable health systems 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 15 of the HIE studies (60%) demonstrated positive economic effects due to significant savings related to reducing duplicated diagnostics (laboratory tests, medical images) (Bagolle et al., 2022). For example, a study in Canada found that connected health in the outpatient context reduced the duplication of laboratory testing and diagnostic imaging testing, saving the system C\$172.7 million and C\$6.7 million, respectively (Gartner, 2018). Cost effective interventions to harness digital health to reduce the burden of NCDs exist globally (Bernal et al., 2022). Additional research is needed to document the effects of digital health transformation at scale in LAC, especially due to limited fiscal space in all countries post pandemic. However, while 76% of countries in the region have national norms that describe HIE, only 42% of have norms relating to which interoperability standards are used, and only one country has achieved HIE at a national scale in practice between public and private sectors (Bagolle et al., 2020).

- 2.8 **A more resilient region.** Standards-based HIE is also important for global public health. The COVID-19 pandemic 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 create regional and global foundations for HIE that serve beyond the COVID-19 use case, such as yellow fever vaccination or the International Patient Summary. SCL/SPH is working with the Pan American Health Organization (PAHO) and the World Health Organization (WHO) to support these efforts. It will be critical for the region to establish governance mechanisms and infrastructure for cross-border digital health and data sharing according to WHO guidelines.
- 2.9 **Bank's support to the health sector and lessons learned.** Through the Regional Public Good TC "Digital Transformation in Health to Mitigate the Effects of COVID-19 in Latin America and the Caribbean" (ATN/OC-18352-RG), SCL/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. Currently, 15 countries are involved in the initiative jointly supported by PAHO.² Through the TC "Support the Design and Implementation of Key Digital Interventions for COVID-19 in Latin America and the Caribbean" (ATN/JF-18098-RG), SCL/SPH has supported countries to scale-up telehealth solutions and supported the sustainable implementation of Digital Health Interventions for COVID-19 and future public health emergencies. SCL/SPH also supports the RACSEL Network (*Red Americana de Cooperación sobre Salud Electrónica*), currently joined by 10 countries.³ Additional technical assistance is required to consolidate these efforts and support countries to tackle public health emergencies caused by noncommunicable diseases and to generate evidence of effectiveness in LAC.
- 2.10 **Objective of the TC.** The objective of this TC is to support the development and implementation of tools and support services for the design, implementation, and

¹ Canada Dollar (C\$).

² The LACPASS/DDCC Initiative is jointly supporting 15 countries: Argentina, Bahamas, Belize, Chile, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Panama, Paraguay, Peru, Suriname, and Uruguay.

³ The RACSEL Network is comprised of representatives from Ministries of Health and Technology from 10 countries: Chile, Colombia, Ecuador, El Salvador, Guatemala, Panama, Paraguay, Peru, Suriname, and Uruguay. The Network, started in 2013, supports regional learning among governments for digital health.

evaluation of country operations with digital components and provide implementation support to the IDB's digital health portfolio. The specific objectives are to: 1) provide expert digital health services across the SCL/SPH portfolio related to governance, interoperability, change management, process transformation, clinical informatics and inclusive digital health; 2) promote learning and knowledge exchange through the design of toolkits, learning materials, events and other technical resources to improve human capital and position the IDB as a credible technical partner for digital health transformation; and 3) conduct two evaluations of digital interventions supported by IDB operations.

- 2.11 **Strategic Alignment.** This TC is consistent with the IDB's Update to the Institutional Strategy (AB-3190-2) and is aligned with the development challenges of: (i) "Social Inclusion and Equality" by supporting governments to implement quality digital health services such as telehealth and access to health information, including marginalized and remote groups; and (ii) "Productivity and Innovation" by improving skills of the health workforce related to digital health transformation and productivity through the use of digital tools. This TC is aligned with the cross-cutting themes of: (i) "Gender Equality and Diversity" as it creates specific tools and guides for the application of the technology to be socially/demographically inclusive and impact evaluations will generate evidence on the inclusiveness of investments; and (ii) "Institutional Capacity and Rule of Law" as it supports strengthening institutional capacity through evaluations and application of digital tools. It is aligned with the IDB Group 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 the Ordinary Capital Strategic Development Program (OC SDP) Window 2 - Social Development (W2E) established in GN-2819-14, specifically, strengthening of national systems and global and regional integration. This TC aligns with the IDB's 2021 [Health Sector Framework Document](#) (GN-2735-12) (HSFD) as digital health transformation is included as a priority area because it is critical to improve quality and efficiency of health systems and services and public health, and has the potential to reduce inequality and support the region to reach universal health coverage with quality; specially, it aligns to Line of Action 3: Improve the organization and quality of healthcare service delivery particularly for diverse, marginal, and disadvantaged groups (See paragraph 5.11 "Digital health and information technology can contribute to UHC progress under the right conditions"). It also helps to address key knowledge gaps identified in the HSFD related to digital health, specifically generating evidence for effective implementation strategies.

III. Description of activities/components and budget

- 3.1 The TC has two components: 1) Provide expert digital health services and design new tools to support implementation; and 2) Evaluate digital health interventions supported by IDB operations.
- 3.2 **Component 1: Provide expert digital health services and design new tools to support implementation.**⁴ This component will fund deployment of existing SCL/SPH digital health services and development of new services according to SCL/SPH's six

⁴ If activities are to be carried out in any of the eventual beneficiary countries, the team will request the non-objection of the corresponding government.

dimensions.⁵ It will also finance the development of toolkits for policy makers and implementers related to digital health governance, intervention evaluation, and inclusive design and implementation. This component will also support regional knowledge exchange through virtual and in-person workshops. Main results of this component include: (i) three digital health agendas and roadmaps; (ii) three toolkits for policy makers and implementers related to digital health governance, intervention evaluation, and inclusive digital health⁶ designed and implemented; and (iii) one regional workshop to share learnings across governments.

- 3.3 **Component 2: Evaluate digital health interventions supported by IDB operations.** This component will fund baseline and follow up assessments and cost-benefit analysis for key digital health investments in IDB projects such as electronic health records (EHRs), telehealth, and mobile health to improve health outcomes, equity, and efficiency. Main results of this component include: two technical notes evaluating the effectiveness and/or cost-effectiveness of digital health interventions.
- 3.4 **Results.** The main results of this TC include: (i) three digital health agendas and roadmaps; (ii) three toolkits for policy makers and implementers related to digital health governance, intervention evaluation, and inclusion, designed and implemented; (iii) one regional workshop for digital health; and (iv) two technical notes evaluating the effectiveness and/or cost-effectiveness of digital health interventions. These results contribute to: (i) increasing the number of countries that make sustainable and holistic investments in digital health by approving national digital health agendas and roadmaps and policies to improve governance, cybersecurity, and HIE in line with international standards; (ii) increased public sector capacity to implement large-scale digital health transformation initiatives; and (iii) increased coverage of quality and efficient digital health services to improve health outcomes for LAC citizens.
- 3.5 **Total costs.** The total cost of this TC is US\$450,000, funded by the OC SDP Window 2 - Social Development(W2E) fund. These resources will finance individual consultancy services and consulting firms for 36 months.

Indicative Budget (US\$)		
Activity/Component	Description	IDB/Fund Total Funding
Component 1. Provide expert digital health services and design new tools to support implementation	This component will fund consultancies (individual and firms) to deploy and design digital health services and toolkits, and travel and logistics for one regional workshop.	325,000
Component 2. Evaluate digital health interventions supported by IDB operations	This component will fund consultancies (individual and firms) to conduct baseline and follow-up assessments, cost-benefit analysis, and publication of results.	125,000

⁵ See [Social Digital](#) resources and publication [The Golden Opportunity of Digital Health for Latin America and the Caribbean](#) to review existing services and approach. Countries will be selected on a demand-driven basis in collaboration with SPH country specialists to ensure alignment to country needs and priorities.

⁶ Inclusive digital health is a principle approved by all PAHO Member States in 2021 in its Roadmap for the Digital Transformation of the Health Sector in the Region of the Americas. More information about the principle is available here: <https://iris.paho.org/handle/10665.2/57199?locale-attribute=en>

TOTAL		450,000
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- 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 international consultants may be required, for which the IDB hiring process is more agile, reducing the risk of delays in execution. This execution structure will ensure cross-country learning and alignment with SCL/SPH Digital Health Strategy.
- 4.2 Since 2017, SCL/SPH has been developing and implementing a strategy to develop tools and processes to facilitate and improve the design of digital projects in the health sector, including during the response to the COVID-19 pandemic. These tools have already been implemented in 10 countries and the results have been used for the design of projects and have positioned the Bank as an important technical partner in this area. SCL/SPH actively collaborates with the PAHO in the digital agenda and supports its regional Plan of Action for Strengthening Information Systems for Health 2019-2023 endorsed by member states in October 2019.
- 4.3 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 Consulting Firms for Bank-executed Operational Work (GN-2765-4) and its associated operational guidelines (OP-1155-4); and (iii) contracting of logistics services and other services other than consulting, in accordance with policy GN-2303-28.
- 4.4 All knowledge products derived from this TC will be the Bank's intellectual property. Knowledge products will be published through the Bank's web page and other means accounted for in the indicative budget.
- 4.5 All products financed by this TC will include toolkits, guides and manuals that will be usable and replicable for all 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 potential delays of intervention implementation that could impact evaluation activities and feasibility. These risks would be mitigated through close supervision of digital health operations. Other risks are that the tools and services developed do not generate adequate ownership at country level. To mitigate this risk, emphasis will be put to have team leaders and country counterparts as collaborators of any tool and service that is designed and tested and to make sure that their input is built into the design. At the local level, technical counterparts and partners

will be identified to support the implementation and adoption of tools and solutions funded by the TC.

VI. Exceptions to Bank policy

- 6.1 There are no exceptions to the Bank policy.

VII. Environmental and Social Strategy

- 7.1 This TC 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-T4244](#)

[Terms of Reference - RG-T4244](#)

[Procurement Plan - RG-T4244](#)