

TC ABSTRACT

I. Basic Project Data

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| ▪ Country/Region: | REGIONAL/CID - Isthmus & DR |
| ▪ TC Name: | Fostering transformation through technological innovation |
| ▪ TC Number: | RG-T3153 |
| ▪ Team Leader/Members: | TEJERINA, LUIS R. (SCL/SPH) Team Leader; NELSON, JENNIFER A (SCL/SPH) Alternate Team Leader; DELFS ILIEVA, ISABEL (SCL/SPH); CENTENO LAPPAS, MONICA CLARA ANGELICA (LEG/SGO); GUERRA, MARTHA M. (SCL/SPH) |
| ▪ Taxonomy: | Client Support |
| ▪ Number and name of operation supported by the TC: | N/A |
| ▪ Date of TC Abstract: | 07 Mar 2018 |
| ▪ Beneficiary: | REG |
| ▪ Executing Agency: | INTER-AMERICAN DEVELOPMENT BANK |
| ▪ IDB funding requested: | \$ 339,000.00 |
| ▪ Local counterpart funding: | \$ 0.00 |
| ▪ Disbursement period: | 24 months |
| ▪ Types of consultants: | Individuals; Firms |
| ▪ Prepared by Unit: | Social Protection & Health |
| ▪ Unit of Disbursement Responsibility: | Social Sector |
| ▪ TC included in Country Strategy (y/n): | No |
| ▪ TC included in CPD (y/n): | No |
| ▪ Alignment to the Update to the Institutional Strategy 2010-2020: | Social inclusion and equality |

II. Objective and Justification

- 2.1 The objective of this operation is to explore ways to leverage digital technology to create personalized social protection and health services for the people of LAC. Specifically, this TC will focus on 1) Supporting the implementation of electronic health records (EHR) in LAC by developing guidance on standards, best practices and tools to measure the maturity of health information systems; and 2) Use of machine learning algorithms and non structured data to develop social maps for targeting social investments in the region. Products developed under this TC will be shared with countries in the region as tools to facilitate the development and implementation of strategies to make better use of technology to make social spending more efficient.
- 2.2 Building foundations: The digital transformation of health information systems currently offers an opportunity to improve quality, efficiency and safety in the region. The World Health Organization (WHO) stated that the proper collection, management and use of information within healthcare systems "will determine the system's effectiveness in detecting health problems, defining priorities, identifying innovative solutions and allocating resources to improve health outcomes" (Stansfield, 2005). A critical element of the HIS ecosystem is the electronic health record. PAHO has stated that a "sound electronic health records (EHR) system is essential to achieving universal health coverage; it provides support for diagnosing and treating patients by offering fast, thorough, and specific information on patients at the point of care" (PAHO, 2016). Although promising, EHRs have only been adopted at scale by a limited number of countries in Latin America. Key barriers include funding, lack of evidence documenting effectiveness, and lack of required infrastructure and standards. Of countries included in a 2016 study, only 52.6% have a national EHR system, and only 26.3% have

legislation the supports the use of their national EHR system. The sustainable, scalable, and interoperable development of EHR-centered programs and initiatives requires a patient-oriented national online health strategy framework, built upon a system for unique identification (PAHO, 2016). Countries also require tools for assessing the readiness of their health information system for the introduction of EHRs, and determining what types of products are the best fit for their needs. Given that many countries are facing similar issues, regional economies of scale may exist.

- 2.3 Use of machine learning algorithms and non-structured data to develop social maps: The use of machine learning algorithms combined with non-structured data is being widely used in the private sector by companies such as Google, Amazon and Netflix to improve the way they do things, however we have seen few examples of its use in public policy. One of the main strategic tools for the design of social policy are social maps that allow the prioritization of geographic areas for investments in social protection, health, and education. However for the development of such maps countries usually need to wait for the implementation of a census, which happens every ten years. Recent efforts however have taken advantage of the use of non-structured data such as satellite images to predict gaps in social indicators geographically. Maps of this type have been developed to find areas in a country with the highest rates of poverty, illiteracy, teenage pregnancy or to measure the access to social services such as health centers or schools. Existing studies however have mostly been developed as academic studies and not implemented as tools for public policy. Validating the use of these maps to inform social policy would allow countries to have up to date information for monitoring social indicators and making decisions on investments in social programs.

III. Description of Activities and Outputs

- 3.1 The Technical cooperation will be divided into two components: Component 1 will fund studies for the design of a Health Information Technology Marketplace including a market study for EHRs in LAC, best practices for implementing EHRs, and readiness assessment and solution vetting tool for EHRs. Additionally, it will include contracting an expert in EHRs to provide direct technical assistance to countries during implementation, and development of a website to disseminate the information. Component 2 will fund the implementation of poverty maps using non-structured data and machine learning algorithms to inform social policy in the region.
- 3.2 **Component I: Health Information Technology Marketplace.** This component will fund four studies required for the online marketplace of solutions for the implementation of EHRs, the design and implementation of the website, and will support direct technical assistance through the contracting of an expert consultant to assist implementation (50% cost sharing with KNL cutting edge funds). The goal of the marketplace is to provide governments with an easy way to research, share, and implement technology solutions.
- 3.3 **Component II: Machine learning algorithms and non-structured data to develop social maps.** This component will test the ability of using local data from satellite images and household surveys to train models to build poverty and health maps, studies will be implemented using open source algorithms and prioritizing publicly available data to facilitate replication by countries.

IV. Budget

Indicative Budget

| Activity/Component | IDB/Fund Funding | Counterpart Funding | Total Funding |
|---|------------------|---------------------|---------------|
| Health Information Technology Marketplace | \$ 289,000.00 | \$ 0.00 | \$ 289,000.00 |

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|--|--------------|---------|--------------|
| Machine learning algorithms and non-structured data to develop social maps | \$ 50,000.00 | \$ 0.00 | \$ 50,000.00 |
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V. Executing Agency and Execution Structure

- 5.1 The technical cooperation will be executed by the Bank.
- 5.2 The Technical Cooperation will be executed by the Bank due to its regional character and because many of the TC products will be part of a marketplace that is to be made available through the Bank to the countries in the region.

VI. Project Risks and Issues

- 6.1 This is a project that aims at providing innovative solutions that in some cases have not been implemented for long enough or at scale for benefits to be guaranteed. For Component 1 there is a risk of not finding experienced consultants for the development of the studies with the necessary level of quality. To mitigate this risk, we will conduct additional outreach efforts to be able to reach a large pool of consultants from which to choose. For component 2 there is a risk of not achieving enough country ownership of the solutions being proposed to make the efforts scalable and sustainable. To mitigate this risk, the team will maintain a direct line communication with the countries and technical counterparts from the relevant institutions to keep them informed and to take into account their inputs for the final products.

VII. Environmental and Social Classification

- 7.1 The ESG classification for this operation is "undefined".