Investment in technology to increase coverage and quality of services
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IDB Invest, a member of the Inter-American Development Bank (IDB) Group, is a multilateral development bank committed to promoting the economic development of its member countries in Latin America and the Caribbean through the private sector. IDB Invest finances sustainable enterprises and projects to achieve financial results that maximize economic, social and environmental development for the region. With a portfolio of assets of $12.1 billion under management and 329 clients in 21 countries, IDB Invest works across sectors to provide innovative financial solutions and advisory services that meet the needs of its clients.

IDB Invest, May 2019.
Spending on public health in Latin America and the Caribbean has been on the rise for the past 20 years. However, forecasts by the International Monetary Fund suggest this spending will not reach the level of developed countries until 2100. The region’s continued need for investment in the health sector—in terms of both quantity and quality—must be addressed to ensure high-quality health services.

Why is this urgent? First, because the population is aging. By 2030, 17% of the total population will be over 60 years old, a figure expected to reach 25% by 2050. The increase in chronic diseases is another concern. For example, one in ten Latin Americans suffers from diabetes. Given the high levels of obesity and low propensity for physical activity, this figure is expected to increase substantially.

To respond to the growing demand for medical services, investment levels need to increase to at least 6% of gross domestic product (GDP), as recommended by the Pan American Health Organization (PAHO). Currently, six countries in the region allocate more than this percentage, eight devote 2 to 4% of GDP, while the remaining countries spend less, PAHO reports.

The funding gap and challenges in investment efficiency in the health sector faced by governments in Latin America and the Caribbean come at a time of severe fiscal constraints—all of which makes private investment essential to encourage economic growth. Chile and Mexico, and more recently Peru and Colombia, see public-private partnerships (PPPs) as an option not only to close the gap, but also to create knowledge transfer and spur the use of new technologies.

At IDB Invest, we are convinced that promoting private investment in the health sector is essential to advance regional development and to work toward meeting Sustainable Development Goal 3: Good health and well-being. Our PPP team—part of Advisory Services and Blended Finance—supports both public and private clients in structuring PPP projects, the former by designing tenders to make projects more bankable and the latter by proposing private initiatives. Meanwhile, our Social Infrastructure Team—part of the Infrastructure and Energy Division—offers financing to companies interested in investing in the sector.

This study is part of our commitment to raise awareness about this issue and share lessons learned and success stories that can promote more and better investment in the health sector.

Jaime García Alba
Head of Advisory Services and Blended Finance
IDB Invest

threat-development
Despite significant progress in the health sector, millions of people in Latin America and the Caribbean lack access to comprehensive health care services. This lack of access particularly affects those living in the most vulnerable conditions.

The demand for health care services is increasing and changing as a result of several trends including longer life expectancy, the emergence of new diseases, an increase in chronic diseases, nonexistent or outdated infrastructure and equipment in underdeveloped areas, and growing consumer awareness and demand as access to information expands. Technological development opens the door to innovative solutions to meet these challenges. Likewise, countries are constantly searching for new models to manage and finance the sector in order to increase the efficiency of spending.

Against this backdrop, high-tech health care equipment is critical for the early diagnosis and treatment of diseases. However, there are relevant gaps in the adoption and utilization of these technologies which result in late or no diagnostic or treatment of illnesses. Data shows that in Latin America and the Caribbean, the United States and Canada, only half of people with chronic noncommunicable diseases are diagnosed. Only half of those who are diagnosed receive treatment, which is successful in only one out of ten cases. And yet the use of technologies for early breast cancer detection suggests a 20% reduction in associated mortality, and radiation therapy is considered necessary to treat 52% of new cancer cases and 20% of recurrences.

At IDB Invest we analyzed investments in technology undertaken with the private sector to improve quality of healthcare. This report describes how public-private partnerships (PPPs) can be used for the acquisition and management of high-tech health care equipment. It also gives examples of PPPs in practice, providing guidance on success factors and offering decision-makers alternative models for implementation.
IDB Invest—a member of the Inter-American Development Bank Group (IDB Group)—is a multilateral development bank committed to promoting the economic development of its member countries in Latin America and the Caribbean through the private sector. We design innovative investment and advisory solutions that generate and maintain good practices on a global scale. We also study the market to promote better-informed investment decisions.

We work to mobilize the potential of private capital to help advance the development of countries in Latin America and the Caribbean, including through public-private collaboration. Within our priority business segments, we support investments in social infrastructure—projects related to health care and inclusive, sustainable educational infrastructure with private sector participation. In the health sector specifically, we mobilize financing to develop hospitals and clinics, purchase equipment and provide health services, with special emphasis on preventive and diagnostic medicine.

In addition, through the IDB Group’s PPP Single Window, we put together complementary solutions for the public and private sector. The Single Window incorporates the work the IDB does to address countries’ needs for stronger institutional and regulatory frameworks and to identify potential projects. On the IDB Invest side, we provide advisory services to help structure bankable contracts and design the tender process, completing the cycle by offering financial instruments tailored to the specific needs of each project and by mobilizing additional resources from the private sector.

The public sector can use various mechanisms to acquire and manage high-tech health care equipment with the participation of the private sector. These can be divided into two categories: Conventional mechanisms including traditional public procurement, turnkey models and leasing or renting—all of which tend to be shorter term arrangements—and PPPs, agreements that distribute risks between the public and private sectors to supply, maintain and manage technology over the long term.

Under a PPP contract, the private sector partner is responsible for incorporating the technology as well as ensuring its availability, maintenance, update, or replacement. A PPP scheme may also cover the provision of health services and staff training or capacity-building, as well as incentives for joint technological development between the public and private sectors. PPP payments may be subject to performance indicators associated with the quality and availability of the service offered by the contractor.

PPPs have the potential to reduce operating costs and increase the profitability of investments and the quality of the services provided. By capitalizing on the private partner’s expertise, innovation and greater management efficiency, a PPP can help make services more cost-effective.

This section describes different types of PPPs by which the private sector can provide high-tech medical equipment:

1. Technology partner PPP
2. Service concession PPP
3. Innovative public procurement (IPP)

1. Technology partner PPP

**Description**
Under a technology partner PPP, the private sector partner is hired to provide comprehensive, long-term equipment service. This means that the contractor or “technology partner” assumes both the availability risk and the financing risk for the equipment under contract. The private partner is also responsible for supplying, maintaining, updating and refurbishing or replacing the equipment while the contract is in effect. The contracting entity defines the scope of purchase and makes regular payments to have the equipment and services available. This arrangement does not include the provision of medical services (such as diagnostic tests and treatments).

**Application**
This approach is mainly used for the overall management of health institutions’ equipment or information and telemedicine systems. It is recommended when the contracting entity has identified equipment needs but lacks the technological knowledge or the means to satisfy those needs (for example, in the case of innovations in high-complexity hospitals in urban areas). Under this approach, external suppliers can contribute their knowledge, experience and information to the contracting entity to help define the needs to be contracted. For example, they can advise on what equipment would be required based on the needs and make recommendations on the best plan for maintenance and updating.

**Advantages**
This type of PPP creates a flexible relationship between the technology partner and the contracting entity, facilitating the search for customized solutions over the duration of the contract. It also allows for more flexibility in the purchase and acquisition of goods and services.

2. Service concession PPP

**Description**
The service concession PPP covers the provision and overall management of technology and related medical services, including staffing (either partially or fully). The contracting entity makes payments for the availability and quality of the services provided.

**Application**
This approach is typically used in contexts where it is difficult to supply equipment and there is a shortage of trained personnel to provide a service (two examples include, geographically isolated rural areas, or equipment that requires professionals not available in the country). It is also used to create a management model that can serve as a point of reference for other institutions, thus helping to optimize investment resources.

**Advantages**
This type of PPP makes it easier to incorporate personnel policies with specific labor agreements that enable appropriate staffing. It facilitates the development of performance-based incentive systems for personnel; makes the process of matching staff to demand more flexible and allows for greater flexibility in the purchase and acquisition of goods and services.

3. Innovative public procurement (IPP)

**Description**
The IPP approach involves the public procurement of a good or service that may or may not exist at the time of purchase but can be developed within a reasonable period of time. The contracting entity, having identified a particular need, puts out a tender for a technological solution. The IPP allows the contracting entity to meet a need by tapping into an innovative solution, while enabling companies to develop and introduce the required technology and services to the market for the first time. Payments reflect results and shared risk.
Application
IPPs are used in situations where the type of technological solution is required to meet the identified need is not clear, or where the aim is to encourage innovation (such as in the acquisition of whole-genome sequencing platforms). This type of approach can be applied in both technology partner PPPs and service concession PPPs.

Advantages
This is a high-impact acquisition model, since it reduces the risk for a company that has invested in research, development and innovation (R+D+I) and at the same time secures a client—the contracting entity. It can lead to joint developments between the public and private partners, resulting in joint patent registration and knowledge transfer.

Medical equipment management: Critical for effective investments
The management of medical equipment is essential to ensure that investments are effective. It is also one of the most pressing problems faced by health institutions.

Any technology adoption approach should incorporate provisions for equipment management. Adequately planning for equipment management requires understanding the technological equipment to be installed in order to identify the investment needed; ensuring adequate and ongoing staff training for those who will use and maintain the equipment; implementing a comprehensive maintenance plan; and establishing short- and long-term investment planning to cover replacement needs and new equipment.

<table>
<thead>
<tr>
<th>TRADITIONAL SCHEMES</th>
<th>PPP</th>
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<tr>
<td>Traditional</td>
<td>Turnkey / leasing / factoring</td>
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<tr>
<td>Type</td>
<td>Equipment acquisition</td>
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<tr>
<td>Duration</td>
<td>Short term</td>
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<tr>
<td>Scope</td>
<td>Equipment</td>
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<tr>
<td>Innovation</td>
<td>Low</td>
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<td>Risks</td>
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<td>Financing</td>
<td>Public budget</td>
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<td>Payment</td>
<td>Fixed</td>
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<td>Company</td>
<td>Supplier</td>
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Source: Prepared in-house.
Public-private partnerships are a means to leverage private participation in technologies that can help address health challenges in Latin America and the Caribbean. However, to achieve optimal results some conditions are required. Here are some of the factors that contribute to the success of PPPs:

### An appropriate legislative and regulatory environment
Clarity in sector-specific regulations and standards for providing services, as well as provisions for private sector participation and delineation of responsibilities.

### Public sector capacity
The government’s ability to identify, design, structure, tender and manage these types of contracts. While governments build institutional capacity in this area, they can use external advisory services.

### Private sector capacity
Experience, confidence, and the technical and financial capacity to comply with contractual obligations to meet the target performance standards.

### Risk sharing
Adequate identification and allocation of risk to the party most capable of managing it, and creation of incentives for providing high-quality services.

### Consistency with the country’s sector strategy
Use of PPPs as a complementary mechanism to carry out the government’s strategy for the health sector.

### Fiscal environment
Appropriate analysis of potential fiscal contingencies arising from PPP projects and the establishment of provisions for handling such contingencies.

### Political will and citizen support
Political support for the PPP model and accurate information on its benefits for citizens, including strategies to ensure communication and accountability. PPPs should be implemented in an environment of consensus and collaboration.
HOW IDB INVEST’S PPP TEAM WORKS

IDB Invest’s PPP Unit—part of the Advisory Services and Blended Finance team—provides advisory services in structuring PPP projects. These services are part of IDB Invest’s portfolio of nonfinancial products.

We prepare and strengthen the legal and financial structures of PPP projects. Also we lead and support the tendering process by which such projects are awarded, leveraging IDB Invest’s experience and leadership in project financing. Our comprehensive advisory assistance, combined with the institution’s experience, allows us to generate robust, bankable PPP projects in Latin America and the Caribbean.

Additionally, we advise private sector clients in the design of their project investment initiatives, through the development of proposals (private initiatives) that are presented to the public sector. We support the inclusion of innovative financial and legal mechanisms to allow private sector investment even in nontraditional sectors that have trouble attracting capital.

SERVICES TO PRIVATE SECTOR CLIENTS

IDB Invest’s PPP team provides support to private initiatives through the design and implementation of technical, financial, and social and environmental strategies and studies that are necessary to submit solid, bankable PPP projects that will attract investment.

HOW DO WE OPERATE?

Through the IDB Group’s PPP Single Window, we provide our clients with services that span the entire PPP process. The Single Window channels the needs of our public and private clients through a single point of contact and offers the entire portfolio of PPP services provided by the IDB and IDB Invest, facilitating an efficient, full-service experience for our clients.

The IDB’s PPP Unit provides services to develop and strengthen the PPP market by supporting the design and implementation of regulatory and institutional frameworks and by building project portfolios and developing manuals and procedures. In addition, IDB Invest’s PPP team provides support to governments and private sector entities in structuring PPP projects and assisting with the tender process.

TABLE: Services that IDB Invest’s PPP team provides to public clients

<table>
<thead>
<tr>
<th>Project preparation stage</th>
<th>Structuring and public tender stage</th>
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<tbody>
<tr>
<td>Preparing technical, legal, and social and environmental due diligence</td>
<td>Designing and drafting public tender documents</td>
</tr>
<tr>
<td>Identifying possible participants in the public tender and required characteristics</td>
<td>Advising the contracting authority on the implementation and development of the tender process</td>
</tr>
<tr>
<td>Developing the financial model</td>
<td>Designing and organizing market surveys and seeking possible participants and financiers</td>
</tr>
<tr>
<td>Determining the PPP structure most suitable for the project</td>
<td>Assisting the contracting authority during the tender process and selecting the winning participant</td>
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The following cases illustrate how different types of PPPs have been used in the adoption of health care technologies and show some of the factors that have contributed to their success.

**Technology partner PPP**

**CASE 1**  
PPP Agreement between Siemens Healthcare and Servicio Murciano de Salud (SMS) for the overall supply of biomedical equipment to two new public hospitals in the autonomous community of Murcia, in Spain.

**Descripción:** The contract between SMS and Siemens includes supplying equipment to two hospitals, maintaining it, training those who will use it during the life of the contract, handling any needs to update or refurbish the equipment, and providing necessary inputs and replacements. Payments are subject to compliance with quality and availability indicators.

This contract was executed following a competitive dialogue process—a common arrangement in highly complex contracts whereby candidates previously selected by the public authority are required to bring their knowledge and solutions to the table during the dialogue phase, in order to draw up a tender document that incorporates the most important contributions.

**Contract term:** 2009-2024

**FACTORS CONTRIBUTING TO THE PROJECT’S SUCCESS**

1. **Transparency, objectivity and respect for confidentiality** concerning the aspects requested by the participating companies that work together to produce an innovative tender proposal. A lesson learned was that it is useful to consult with the heads of clinical services—the end users—when negotiating contracts for equipment.

2. **The importance of equipment availability** in the success indicators, to ensure that the equipment continues to operate and to encourage effective responses to needs over the life of the contract.

3. **Ongoing training** of personnel who use the equipment, both through face-to-face training by Siemens professionals and through other e-learning formats, which drives greater efficiency and helps in the recruitment of specialist doctors.

4. Creation by the supplier of a **technical oversight office**, with a single point of contact who is responsible for executing, monitoring and evaluating the entire project. This office provides technical support to the whole process and oversees fulfillment of the contract requirements.

**CASE 2**  
Partnership between the Asociación Española de Socorros Mutuos (AESM) and Sistemas Genómicos (SG) for the development of predictive medicine.

**Description:** Long-term strategic alliance between an industrial partner (SG, from Spain) and a clinical, private nonprofit partner from Uruguay (AESM) for the development of the first platform for the clinical analysis and interpretation of whole-genome sequencing data in Uruguay.

The contract includes SG’s technical assistance for the implementation of this cutting-edge technology; the transfer of knowledge for its use (in both Uruguay and Spain), remote technical support throughout the entire project (seven years), the supply of genetic testing kits, joint participation in R+D+I projects and the joint registration of patents, if applicable.
Investment in technology to increase coverage and quality of services

**FACTORs CONTRIBUTING TO THE PROJECT’S SUCCESS**

1. Uruguay already has a program on monogenic hereditary diseases and has gradually been including related tests in its portfolio of services. The personalized medicine model facilitates the inclusion of this type of technology.

2. AESM has clinical and scientific prestige, which made it a key player in identifying and defining the needs of the partnership.

3. SG has the ability to develop a “custom-made” project tailored to the needs of AESM—not just the supply of genetic testing kits but also knowledge transfer, ongoing remote technical support and advice, and the incorporation of state-of-the-art technology.

4. The project includes the possibility of developing joint R+D+I projects, access to knowledge networks and guidance on creating a database of highly heterogeneous diseases in Uruguay.

5. The training of professionals, such as through the “train-the-trainers” model, made professionals available to incorporate innovative technologies. A lesson learned, however, is that in these types of projects it is advisable to ask the trained personnel for a commitment to stay at the facility so that the investment in training pays off.

**KNOWLEDGE TRANSFER**

Transfer of knowledge applied to the diagnosis and treatment of diseases of high genetic and clinical heterogeneity

**TRAINING AREAS**

- DNA extraction
- Genetic counseling
- Mass sequencing laboratory
- Bioinformatics

**SERVICE CONCESSION PPP**

**CASE 3**

Construction, refurbishment, financing, supply of equipment and implementation of a new diagnostic imaging center in Chisinau, Moldova, between the Moldovan government and Magnific SRL.

**Description:** Contract with the national supply company, Magnific SRL, to renovate, build, equip and launch a new radiology and diagnostic imaging center in the IMSP Republican Hospital, a public institution in Chisinau, Moldova, for a period of 12 years. This was the first PPP to be entered into in Moldova.

**Contract term:** 2011-2023

**FACTORS CONTRIBUTING TO THE PROJECT’S SUCCESS**

1. Fees for services were adjusted to a level suitable for attracting potential investors, as the rates paid by the National Hospital Insurance Fund (NHIF) were too low to support a modern diagnostic imaging center. The fee change impact was mostly assumed by the government.

2. The search for investors and the tender process were carried out with legal, technical and financial advice from a player with experience in these types of contracts (International Finance Corporation).

3. The private partner receives a fixed fee from the NHIF for the services provided and can also provide services to private sector patients at market rates, allowing it to earn additional income.

[As of May 2019, the diagnostic imaging project was operational while the radiology center was still in the process of completion]

**RELATIONSHIP BETWEEN PARTNERS**

**Hospital:** IMSP

- Provides facilities for patient care
- Pays the basic costs of the facilities
- Pays for X-ray costs

**Insurer (NHIF):**

- Contracts for computed tomography (CT) and nuclear magnetic resonance services
- Pays for CT and nuclear magnetic resonance services

**Operator:** Magnific

- Supplies and manages cutting-edge equipment
- Provides clinical services
- Receives payment from the NHIF and the hospital for services provided to public inpatients and outpatients by annual fixed volume
- Can treat private market prices

**KNOWLEDGE TRANSFER**

Knowledge transfer as part of the partnership between the Asociación Española de Socorros Mutuos and Sistemas Genómicos

**FIGURE:** Relationship between PPP partners for the new diagnostic imaging center in Chisinau, Moldova

**FIGURE:** Relationship between PPP partners for the new diagnostic imaging center in Chisinau, Moldova

**TRAINING AREAS**

- DNA extraction
- Genetic counseling
- Mass sequencing laboratory
- Bioinformatics
**CASE 4**

Concession agreement for clinical laboratory services in six public hospitals in Madrid, between Servicio Madrileño de Salud and the concessionaire, BR Salud—a joint venture between Unilabs (55%), a clinical diagnostic company in Europe, and Grupo Ribera Salud (45%), a company in the health administrative concession sector in Spain.

**Description:** Administrative concession project in Spain to provide clinical laboratory services to six new hospitals. The facilities were built as public works concessions for nonmedical support services. To provide the clinical laboratory services, the concessionaire installed a central laboratory in the largest hospital (Infanta Sofia) and five satellite or peripheral laboratories in the other hospitals; these are connected in a network through information systems.

**Contract term:** 2009-2019

**FACTORS CONTRIBUTING TO THE PROJECT’S SUCCESS**

1. **Creation of an integrated clinical laboratory network,** which has allowed the centralization and processing of a large volume of tests using automated techniques that generate economies of scale.

2. **Incorporation of highly automated innovative and cost-effective technology,** in line with a biennial investment plan executed throughout the life of the contract, which allows results to be obtained in a shorter time.

3. **Consulting and clinical management support for services,** to promote the rational use of clinical laboratory testing.

4. **The creation of an information technology architecture** that allows for real-time queries, searches, communication with other databases, and connection with data analysis and data management tools to address problems and improve scientific knowledge.

5. **A per capita payment system** which encourages the development of protocols and the clinical evaluation of requests for laboratory tests, reduces the variability of medical practice and improves quality of care.

**FIGURE:**

Clinical laboratory services in six public hospitals in Madrid

- 6 Hospitals
- 49 Centers
- 100 Residential care facilities
- 107 Primary care clinics
- 1,200,000 Citizens

**CALL TO ACTION:**

More & Better Investment in the Health Sector

Public-private partnerships put private sector capital and experience to use to deliver better health services, with significant gains in efficiency and innovation. Developing efficient PPP projects in the health sector requires the following steps:

1. **Have the right conditions.** Before determining whether a social infrastructure project should be developed through a PPP or not, it’s important to ensure that certain conditions are in place—for example, that an appropriate regulatory or institutional framework exists, that the local public and private sectors have the capacity to develop a PPP project, and that the right fiscal conditions exist.

2. **Choose the appropriate type of PP.** Whether a technology partner PPP, a service concession or an innovative public procurement, much of the success of a public-private partnership in the health sector rests on understanding the project requirements and goals and using the type of PPP that best fits the needs.

3. **Manage the equipment: the key element.** Regardless of the type of PPP chosen, during the operational stage of a project it is essential to define how the technology assets will be managed. This factor largely determines whether a project is sustainable over time—and helps to ensure that medical services are provided properly.

4. **Define success factors during project structuring.** A well-structured tender process ensures that the project will be bankable. Properly allocating risks, making a preliminary identification of the best financial structure and determining the basic technical characteristics are some of the key elements needed to attract the attention of the private sector.

At IDB Invest, we promote the development of PPP projects in the health sector through advisory services and financing. Through a holistic approach, we help close the health care gaps in the region through the participation of the private sector on robust technical and financial terms, upholding international standards on transparency and sustainability. We trust that by outlining different PPP approaches and providing some success stories in this report, we will foster new projects that improve the coverage and quality of health services in Latin America and the Caribbean. We encourage closer public-private collaboration and offer our support and guidance to ensure success in the development of PPPs to implement technologies for the health sector.
Let’s continue the conversation:

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