



# Can PPPs Expand Access to Affordable Diagnostic Services in Emerging Markets? Lessons from 15 Case Studies

*Laboratory technician in the process of pipetting samples of bronchoalveolar lavage fluid. © CDC/Unsplash*

**Clinical diagnostics** play an essential role in providing effective health care to individuals and advancing broader health policy objectives, such as universal health coverage.

This case study has been jointly prepared by the World Bank and IFC to explore ways in which PPPs can help improve access to affordable diagnostic services in emerging markets. Its findings have benefited from both IFC experience, and a series of interviews conducted in 2022. The interviews were held with stakeholders of 15 Public-Private Partnerships (PPP) in Albania, Australia, Brazil, Egypt, Italy, Kenya, Senegal, Nigeria, Turkey and India that are operational in the field of clinical diagnostics. The report explores the risks, benefits and lessons learned in project implementation.

This note is part of the PPP Insights series developed by the IFC PPP Transaction Advisory Department for infrastructure specialists, governments, and PPP practitioners. PPP Insights provides sector analysis and case studies looking at infrastructure needs and challenges in developing countries and how PPP structuring techniques are being used to help deliver improved outcomes.

# The essential role of clinical diagnostics

Access to quality diagnostics is essential for both providing effective health care to individuals and advancing broader health policy objectives, such as universal health coverage. For patients, diagnostics are necessary not only in establishing diagnosis for both communicable and non-communicable diseases but also in guiding therapy, prognosticating, monitoring progress and measuring response to therapy. At the population level, disease detection and surveillance are crucial components of epidemiology and public health that inform health policy decision-making, relying entirely on effective diagnostics.<sup>1</sup>

**Value for money:** In addition to their critical importance in the provision of clinical care, diagnostic investigations largely provide excellent value for money. A recent study focusing on 11 most common cancers concluded that global scaling up of imaging diagnostics yields a net return of over US\$ 179 per every US\$ 1 invested.<sup>2</sup> A cost-benefit analysis of basic tests for six common conditions (diabetes, hypertension, HIV and tuberculosis in the general population and hepatitis B and syphilis in pregnant women) concluded that benefit-cost ratios of investing in improved diagnostics varied from less than 1 to 24, 4:1 in different countries, with lower treatment costs, and higher per capita income and disease prevalence positively affecting value for money.<sup>3</sup>

**Scarcity:** The recent COVID-19 pandemic has clearly highlighted the widespread scarcity of diagnostic capacity and capability in many low and middle-income countries (LMICs), clearly showcasing

their inability to quickly and accurately diagnose diseases.<sup>4</sup> The figures are staggering. The “Lancet Commission on diagnostics: transforming access to diagnostics” which published its findings in 2021, reveals that up to 47% of the global population does not have adequate access to even the most basic diagnostic tools. In a sample of 10 LMICs, only 36–87% of hospitals had functional x-ray equipment, and only 2–29% had a CT scanner.<sup>5</sup> In sub-Saharan Africa, just to address the shortfall in pathologists at the present rate of training, it would take more than 400 years to reach around the same ratio of pathologists per 100,000 population that currently exists in the USA and in the UK.<sup>6</sup>

**Access:** Historically, poor access to diagnostics in many countries today can be attributed to LMIC health systems making scarce investments and systematically prioritizing treatment over diagnostics. The gap between what’s required and what’s available is largely due to the fact that the importance of diagnostics has, compared to treatment, historically been underappreciated. Its importance in ensuring universal health coverage and other issues such as antimicrobial resistance has received insufficient attention.<sup>7</sup> A recent analysis of national Health Strategy Plans for 79 LMICs reported that only 36 of these countries had current documents of which 30 mentioned laboratories but only eight mentioned imaging diagnostics.<sup>8</sup>

Access to accurate contemporary diagnostics in LMICs is further constrained due to deficiencies in physical and operational infrastructure, shortfalls in the health workforce, insufficient systems to safeguard quality of services provided and corruption. Many LMICs lack the necessary physical infrastructure needed to

support laboratory and imaging diagnostic equipment.<sup>9,10</sup> Operational infrastructure, such as management systems for workflow, procurement, supply chain, as well as information systems for laboratories and radiology that are all required to deliver contemporary diagnostic services, are also in short supply.<sup>11,12</sup> One of the primary reasons for the gap in diagnostic workforce capacity is the insufficient global capacity to educate and train professionals in this field.<sup>13</sup> Quality assurance systems, such as the certification of professionals and the accreditation of services, also fall behind industry best practices. For instance, a 2018 survey of laboratories in Uganda noted that only 5% of the 78 laboratories surveyed was accredited and that 23% of basic test results were inaccurate, with only 42% and 38% of serum glucose and urea nitrogen test results being accurate.<sup>14</sup> While corruption is a problem for many health systems generally,<sup>15</sup> ensuring access to diagnostics involves procurement of expensive equipment, which can increase this risk.

Even when LMICs acquire diagnostic equipment, either through procurement or donations, a significant portion remains unused due to poor management practices and inadequate maintenance. The World Health Organization (WHO) estimated in 2010 that as much as 70% of the complex devices imported from industrialized countries fail to function upon reaching their intended destinations in low-resource settings.<sup>16</sup> A study published in 2011 estimated that an average of 38% of medical equipment in fifteen developing countries spanning the Americas, Africa, and Southeast Asia was out of service. The three main causes that were identified included lack of training, inadequate health technology management, and insufficient infrastructure.<sup>17</sup>

Poor access to quality diagnostics causes widespread underdiagnosis and misdiagnosis of conditions, **resulting in substantial avoidable morbidity and mortality, and wasteful spending.**

Nearly half of diabetes cases globally are undiagnosed and, as a result, left untreated.<sup>18</sup> A study conducted in Angola in 2017 found that 84% of patients had been wrongly diagnosed and mistreated for malaria, while they were in fact suffering from other conditions that have similar symptoms. A recent study conducted in the UK predicted that the disruption of routine health services and other aspects of the COVID-19 pandemic would lead to a substantial increase in the frequency of avoidable deaths by 4.8–16.6% among patients with breast, colorectal, oesophageal and lung cancers as a result of diagnostic delays, resulting in a total of 59,204–63,229 years of life lost in a five-year period.<sup>19</sup> Between 1.1 and 1.6 million premature deaths could be saved in LMICs by improving diagnostics (and treatment) for only six basic conditions: diabetes, hypertension, HIV and tuberculosis in the general population and hepatitis B and syphilis in pregnant women.<sup>20</sup>

**Wasteful spending:** This occurs due to misdiagnosis, resulting in ineffective treatment or delayed initiation of treatment when the disease has already progressed, leading to increased complexity and higher treatment costs. Poor access to diagnostics can also fuel other costly and lethal global health emergencies such as antimicrobial resistance due to presumptive or iate use of antibiotics. This occurs due to misdiagnosis, resulting in ineffective treatment or delayed initiation of treatment when the disease has already progressed, leading to

ty and higher treatment costs. Poor access to diagnostics can also fuel other costly and lethal global health emergencies such as antimicrobial resistance due to presumptive or syndromic diagnosis which results in overuse of medicines for common conditions, including inappropriate use of antibiotics.<sup>21</sup>

### Using PPPs to Improve Access to Diagnostic Services

Through a PPP, a private party and a government enter into a contractual agreement to provide public diagnostic assets and/or services. The private party bears significant risk and management responsibility, and remuneration is linked to performance. This procurement method has been internationally identified, including by the Lancet commission, as one of the approaches that can support improvement in access to contemporary diagnostics. When thoroughly prepared, PPPs can be designed to ensure benefiting from private sector expertise through delivery of maintenance and/or clinical services that are more efficient and of higher quality than those that have historically been provided by public facilities. With PPPs, the key is to design incentives very carefully, so as to attract qualified partners and limit unexpected, adverse outcomes.

When facing constraints in public resources and fiscal space, governments can use PPPs as an **alternative procurement method and financing tool** to increase access to quality and efficient public assets and services.

A key feature of a PPP is that performance is specified in terms of required outputs (such as type, quality and availability of diagnostics services), rather

rather than inputs (such as types and number of diagnostics equipment) wherever possible. This enables the private PPP partner to be innovative and respond to requirements with maximised efficiency. Private sector technology and innovation can help ensure provision of more rational public services than in traditional public investments through improved operational efficiency.<sup>22</sup> PPPs allow for spreading out the capital expenditure of an infrastructure project over the life of the asset, rather than having it charged immediately to the public budget. When monitoring closely, contractual key performance indicators (KPIs) that focus on accessibility and efficiency can be used to ensure financial incentives for operators to this purpose.

Innovative service provision models such as **hub-and-spoke laboratory and radiology networks** (facilitated by teleradiology) can specifically offer further potential for rationalizing services and help resolve shortfalls in the availability of staff.

The hub-and-spoke organization design is a model that enables patients in need to have access to services locally and arranges other service delivery assets into a network. The network consists of anchor establishment(s) (hub) that offers a full array of services, complemented by secondary establishments (spokes) that offer more limited-service arrays, routing patients or samples needing more complex or intensive services to the hub.<sup>23</sup> This optimises health system use of scarce qualified human resources and equipment as it eliminates inefficient duplication of service provision. The setting up and operation of hub-and-spoke models, biosafe laboratory logistics and information systems, as well as teleradiology networks can vastly benefit from

involvement of private sector entities that have developed experience in these in other countries.

Other potential financial benefits include timely and within-budget project delivery, as well as budgetary certainty over time, resulting in improved assurance of long-term value for money.<sup>24</sup> In PPPs, the risk of design and construction delays, as well as budget overruns, which are significant common issues in traditional public investment setups in many countries, is transferred to the private sector. Government expenditure for services provided over the duration of projects is contractually defined before they start operation, increasing budget predictability and contributing to financial sustainability of health systems. Well-designed PPPs also ensure appropriate risk transfer to the private sector in issues such as operations and maintenance, which further improves long term value for money.

Given the alarming lack of diagnostic specialists and technicians in LMICs, PPPs can further assist by attracting experienced experts with specialized knowledge to deliver public services and by ensuring the facilitation of knowledge transfer through training of domestic staff. When structured well with a critical size, PPPs may attract corporations that specialize in the field and can deploy expert staff and supporting services. Furthermore, PPP contracts can require employment and training of domestic staff to ensure capacity is developed and maintained locally. This applies to both staff that provide clinical services as well as technicians for planned and curative maintenance.

If attracted through well-structured projects meeting critical size, experienced international providers can, within PPPs,

effectively and efficiently resolve operational infrastructure issues that LMICs would otherwise struggle to resolve. Many key infrastructure components such as management systems, maintenance capacity, supply chain required to guarantee availability of reagents, chemicals and spare parts, laboratory, and radiology information systems, etc. are in the most part lacking in many LMICs. Private companies that have already developed and used these in other countries can implement these faster and more efficiently than governments.

**PPPs can ensure the provision of high-quality services** that not only adhere to regulatory requirements applicable to public facilities but also incorporate additional quality requirements, the implementation of which is supported by financial incentives.

All health facilities that operate within a country need to adhere to national regulatory requirements such as accreditation of services and certification of staff. These are however underdeveloped and/or poorly implemented in many LMICs. PPP contracts can include additional regulatory requirements, such as advanced ISO norms that public facilities do not need to adhere to, and can define KPIs that incentivize or penalize operators based on the quality of services they provide.

The potential benefit of transparently tendered PPPs in tackling corruption should also not be overlooked. In most countries, PPP laws require a comprehensive needs assessment and detailed feasibility study, as well as tendering the PPP transparently. To attract qualified bidders, Governments may elect to recruit professional transaction advice to plan

and structure PPPs and to implement/oversee the procurement process ensuring a level playing field for all interested providers that increases transparency and may yield best prices for government. Through contractually defined payment mechanisms to the private partner, PPPs may avoid informal payments from patients and identify specific public funding towards services to public patients and underprivileged population, thereby contributing to UHC.

### **Key risks in diagnostics PPPs and how to mitigate them**

In the absence of thorough consideration of health policy issues and a lack of clear understanding of risks and past lessons by governments, PPPs can fail. A PPP cannot turn a bad project into a good one. Preparation is key. These are perhaps the single most influential factors in determining whether a project will be successful, which span beyond PPPs into wider health policy considerations. PPPs can be used to simply add new capacities that will cover unsatisfied demand, but they can also be used as a tool in the consolidation and streamlining of health systems, fully exploiting their potential to create a more efficient setting for the provision of quality and affordable services accessible to those in need.

Some projects may be more politically or socially challenging to introduce and implement than others.<sup>25</sup> This is a significant risk in healthcare that applies particularly if: (i) there is an existing public sector workforce that fears being transferred to the private sector; (ii) significant tariff increases are required to make the project viable whereas tariffs remain the same in other public facilities; (iii) if there are strong vested interests in maintaining deficient public diagnostics or

(iv) if there are significant land or resettlement issues, among others. All of these issues would need to be carefully considered and mitigated to ensure the successful implementation of the project. Strong political commitment is the single most important success factor.

Many governments in LMICs lack the capacity to plan, implement and monitor projects to ensure they contract what they need at fair prices and that they receive what they are paying for. Government capacity to plan and implement PPPs in LMICs needs to be raised in parallel to developing a pipeline of projects. Reporting requirements need to be clearly defined and government ability to understand the PPP arrangements and monitor performance needs to be developed. Post transaction monitoring support can be recruited to this end as well. This is usually composed of a legal counsel who ideally worked on the PPP agreement, as well as a technical advice. For instance, the Government of Albania put such monitoring support in place to accompany the first two years of the laboratory PPP contract. The monitoring scope included support to the public partner to meet conditions precedent on its side, deploying budget control mechanisms and being a proactive public partner during crucial contract years.

Setting the wrong tariff levels in PPPs can pose significant risks to the financial sustainability and success of a project. Tariffs in PPP projects should cover costs, service the debt, ensure a reasonable return on investment for the private partner, and strike a balance between revenue generation and affordability. This is especially true in LMICs with lower capacity to pay and insurance coverage. Excessive tariffs can impede access to essential services and hinder development

goals while low tariffs can jeopardize the financial sustainability of the project. Further, for the sustainability of the projects, indexation mechanisms to cover inflation and currency risks must be analysed and introduced adequately in the contract. Delayed public and insurance payments generate cash flow issues and also affect project sustainability. Robust financial analysis and benchmarking are crucial in setting appropriate tariffs. Additionally, regular tariff reviews and adjustments address changing circumstances and ensure ongoing PPP success.

**Mismanagement of the demand risk in PPPs** can result in budget shortcomings or infrastructure underutilization, and impede progress towards socio-economic goals, which can pose significant obstacles to the success, sustainability, and overall impact of the PPP.

This is particularly relevant to LMICs where the lack of reliable data does not allow to predict effective demand with sufficient certainty. Furthermore, in the context of highly constrained healthcare spending, PPP contracts need to put in place very strong budget control mechanisms as demand can grow very fast once quality services are available and subsidised. In the Nigeria case, patients were required to make unaffordable out-of-pocket payments, which led to limited access to services and under-utilisation. In Kenya, a shortage of qualified staff led to the underutilization of equipment in more remote locations. In the laboratory PPP project in Albania, on the contrary, demand grew rapidly as a larger range of services became available for public patients, creating budget tensions despite demand control mechanisms in

contract. One way to address low demand risk is for the government to share the risk by providing a minimum volume guarantee. This way, the government assumes responsibility for ensuring a certain level of demand for the services provided by the PPP project and provides greater certainty to the private partner regarding patient flow and revenue generation. It can also help ensure availability and affordability of health services, which is especially important in LMICs. However, it is essential for the government to carefully assess and balance the risks and benefits associated with providing a minimum volume guarantee. Referral mechanisms need to be strengthened ahead of the PPP commissioning. Deployment of qualified staff needs to be ensured through hub-and-spoke models, telemedicine, and retention measures. Proper due diligence and detailed demand assessment should be conducted to evaluate the potential impact on the government's budget, the sustainability of the PPP project, and its alignment with broader healthcare policies and objectives.

**Diagnostic PPPs** with a comprehensive scope allow for better coordination, integration, and management of services.

It ensures that all the necessary components, including equipment, maintenance, spare parts, users training and potentially service provision are aligned. It allows for comprehensive planning of future expansions, flexibility to include technological advancements, and healthcare needs, as well as the anticipation and effective mitigation of potential risks. In the PPP project in Australia, the private partner was in charge of procuring the initial set



of medical equipment while the public partner was tasked with replacing and maintaining the equipment. Such large interface between the public and private scopes is not ideal due to the lengthy procurement lead times and requirements that public entities must comply with, which diverts time and attention from the core clinical services provided by the public partner. Should the private partner assume this responsibility, they could ensure the availability of equipment that is adapted to the level of clinical services and maintained throughout the concession period.

Smaller scale diagnostics PPP projects risk facing limited private sector interest and participation due to potentially lower financial returns and reduced economies of scale.

Diagnostics require minimum volume of services for a sustainable business case, and particularly to ensure that best-practice maintenance services will be put in place. This can be difficult in the context of LMICs where budgets are constrained, which often leads to governments opting for smaller scaled projects, such as the case in Senegal. A good-sized PPP project is crucial to attracting the appropriate pool of qualified private sector players. The other extreme, when one provider obtains a dominant market position, is equally risky for the health system.

## CASE STUDIES >>

The following three case studies have been selected to showcase diagnostic PPP projects developed by the IFC globally which have positively transformed the provision of clinical services to patients in different health system contexts.

# 1

## ALBANIA LABORATORY SERVICES PPP<sup>26</sup>

**Project Context:** Prior to the PPP, in Albanian public hospital laboratories, reagents were frequently missing, forcing both outpatients and hospitalised patients to perform tests in private laboratories with results often varying from one provider to another.

Surveys in 2015 by the Albanian National Center of Quality, Safety and Accreditation of Health Institutions showed 57% compliance with national laboratory standards at public laboratories. At the same time, prices of the top 20 tests at private laboratories were nearly double than in public laboratories, driving up health-care costs in a country where 55% of health spending is out-of-pocket and among the highest in the region.

### IFC's Role

IFC assisted the Albanian Ministry of Health (MoH) in designing and tendering a PPP that would help MoH partner with a qualified private healthcare company to invest in and manage public laboratory services, which will provide access to improved services for the country's entire population.

The PPP is a 10-year concession agreement for a private partner to finance, build or renovate, equip, and operate a network of 18 public laboratories through a hub-and-spoke model, involving all five Albanian university hospitals and 13 regional facilities. The agreement requires the winning bidder to invest to bring the labs and testing up to international standards.

The winning bidder is contractually obligated to meet clearly defined Key Performance Indicators (KPIs) for timely and quality services, such as maximum turn-around time, equipment downtime, daily quality controls, annual staff training program, and accreditation of a list of critical tests. The winning bidder has met the ISO 15189:2012 standard (not mandatory for public laboratories) within 3 years. The Government remunerates the Concessionaire on a transparent, fixed "pay for use" basis for laboratory services with a clearly defined budgeting process to prevent budget overruns. The Government of Albania will retain ownership of all laboratory equipment and assets at the conclusion of the contract.

### Results

After a competitive tender process, the project was successfully awarded in April 2017 to a consortium of Labopharma (Albania) and Exalab (France) offering to invest €12.95 million (\$13.9 million) to set up and operate 18 laboratory centres over the term of the contract. The Concession Agreement was signed on April 10, 2019 as the first PPP with the scope of laboratory testing in Albania. As a result, 1.7 million Albanians now have access to improved lab services through the public system with doubled range of laboratory tests available to patients, within budget limits. Free testing is also provided to uninsured patients who previously had to pay for testing. A new health management information system has improved the reliability of results, doctor diagnoses, and availability of reliable health data available to MoH.

# 2

## BRAZIL BAHIA IMAGING DIAGNOSTIC PPP<sup>27</sup>

**Project Context:** Prior to the PPP, the State of Bahia faced major constraints in meeting the demand for high quality and complex imaging tests. This, apart from negatively affecting patient care, significantly impacted hospital operations, decreasing bed turnover rate and adding to the long wait that patients faced to receive a diagnosis from doctors.

### IFC's Role

IFC acted as the lead advisor on the structuring, tendering, and implementation of the imaging diagnostic PPP project, in partnership with the Brazilian Development Bank (BNDES) and the Inter-American Development Bank (IDB), which together manage the Brazil PSP Program fund, which aims to foster the development of infrastructure and services in Brazil through private sector participation.

The PPP is a 11.5-year concession agreement for a private partner to invest in, and operate, the imaging units of 12 hospital units, and for these units to be connected to a diagnostic centre where diagnostic medical reports are developed. The PPP scope encompasses X-ray, Mammography, CT and MRI scanning. The concessionaire is also responsible for supporting services, such as help desk, cleaning, laundry, and security of the imaging units. All units were fully operational 18 months from the date the PPP agreement was signed. The Government pays the Concessionaire for providing the services under an availability payment structure.

IFC helped the government run an open and competitive bidding process with the lowest availability payment fee as the main bid criteria. The PPP agreement sets out 10 quality and 7 availability indicators to be met by the private partner in order to receive the availability payment. If these are not met, the government can enforce penalties or deductions set-forth in the PPP agreement.

The winning proposal was composed by a yearly maximum Government payment of USD 30 million. The consortium is composed of Phillips do Brasil (a medical equipment provider), Alliar (one of the largest diagnostic-medicine networks in Brazil with over 30 health facilities that offer patients image-based diagnostic exams in cities throughout Brazil) and FIDI (the largest diagnostic medicine operator that provides services to SUS, the Brazilian public healthcare system). The concession agreement was signed in February 2015 and it is the first PPP with the scope of imaging diagnostic services in Brazil.

### Results

The PPP resulted in improved access to high complexity tests in underserved areas, both in the capital of the State and countryside. Over \$40 million was invested in operating equipment and infrastructure, including the setting up of the diagnostic centre in Salvador and installation of 45 new equipment, including new CT and MRI scanners.

# 3

## INDIA JHARKHAND RADIOLOGY PPP<sup>28</sup>

**Project Context:** Prior to the PPP, Jharkhand, a low-income state in eastern India, faced a significant shortfall in public health delivery services aggravated by a severe lack of health diagnostic services. The lack of quality and standard diagnostic services forced people to either forgo them or purchase services from private facilities of mostly poor and varying quality, while incurring heavy out of pocket expenses and additional costs related to travel and over-testing.

### IFC's Role

IFC served as a lead transaction advisor to the Government of Jharkhand to select private operator(s) to develop and operate a state-wide network of modern and advanced Radiology centres utilizing advances in diagnostic services, information technology and logistics management.

The Radiology PPP has developed 25 Radio-Imaging Departments on a 'Hub and Spoke' model in all district hospitals and medical colleges across 24 districts divided into two clusters of 12 districts each. Bigger hospitals act as hubs with a more diverse set of advanced equipment like MRI & CT-Scans, while remaining centres act as spokes with basic diagnostic equipment like X-rays & Ultrasound machines. The "two cluster approach" was designed to share the implementation risk, while ensuring that the projects were of sufficient size to ensure a balance between provision and affordability of radiology services.

The clusters are implemented under a 10-year design, build, finance, operate, and transfer (DBFOT) concession. Under the concession contract, all radiology centres must be mandatorily accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) to ensure quality.

The tender attracted bids from three well established healthcare companies. HealthMap Diagnostics offered the highest annual concession fee and was awarded the project for both the clusters. The concession agreement between Government of Jharkhand and HealthMap was signed on November 16, 2015.

### Results

Through this project, vital health services have been made available to 3.5 million residents of the State of Jharkhand. The PPP mobilized about US\$10 million of private sector investment and generates an annual concession fee of \$50,000 which is used by the state government to support the health system.

# If we had to name 5 key lessons learned

1. PPPs are not an end to itself, but merely a tool to achieve government objectives such as ensuring provision of affordable, efficient, and quality care, including diagnostics. When Ministries of Health are faced with multi-factor issues to deliver clinical diagnostics, which sole procurement of equipment will not solve, PPPs can be a valuable solution.

However, PPPs need to be tailored to support concrete policy goals and should only be used when private sector participation in projects offers affordable advantages over public provision of services. When public partners consider partnerships with private sector solely as way to request concession fees in exchange of access to patient referrals or use of public facilities, the objective is likely to be missed. The end goal of projects should be to ensure that patients have access to affordable, quality and efficient care. If innovation, efficiencies, and quality offered by the participation of private sector outstrip those of public sector providers, PPPs should be considered as the model to supply these services sustainably.

2. Lack of affordability is the main reason why diagnostics PPPs fail to reach their objectives in LMICs. Equity considerations need to be carefully addressed and the associated fiscal impact evaluated.

Public sector funding support towards diagnostic PPPs can improve affordability as well as address situations arising from market failures that present risks that the private sector is unwilling to bear. It can be provided in a number of ways (upfront capital expenditures contributions, operations subsidies, minimum revenue guarantees, etc.) and from different sources (health insurance fund, budget; donors, etc.), and should be structured to maximise benefits of the PPP instrument. Each financial viability support mechanism should be engineered in order to respond to the underlying risk profile of each project.

Hybrid PPPs constitute a good midway. In hard infrastructure projects, countries have applied so called viability gap funding approaches or “hybrid PPPs” that resolve affordability issues by merging the benefits of having access to affordable financing instruments for the public sector with the benefits of introducing the private sector in the delivery of public services. The Hybrid PPP model focuses on leveraging financial viability support mechanisms available to Governments to reduce risk perception and associated premiums, therefore producing a lower cost of financing and making PPPs financially viable while managing user affordability. Its principle is to retain the PPP structure and risk transfer as much as possible in place to reap the benefits of the private sector participation, while channeling public sector resources to make the project financially viable. Countries like Canada or Germany systematically develop their hospital PPPs with this approach. Emerging countries also started to implement this in social infrastructure: for example, India has developed a policy in December 2020 to support hospital and medical education PPPs through such hybrid schemes whereby central and state governments can fund up to 80% of CAPEX and 50% of OPEX costs.

**3.** Size matters. PPPs need to be sizeable to reach economies of scale and attract quality players, but should refrain from establishing the private sector as a dominant provider of services.

For projects to be economically viable as well as profitable for the private sector, they need to capture sufficient demand so that they can adequately benefit from economies of scale as well as attract qualified partners with the right capacity and financial standing. On the other hand, governments should avoid contracting PPPs that are too large and that could place the private sector providers in a market dominant position in order to nurture positive competition between providers and as they need to be able to effectively deliver health policy because they ultimately always retain the final responsibility for the provision of services.

**4.** Payment mechanisms need to be clear, robust, and protective of the poor. Government payments should be secured and on time.

To attract strong players and ensure performance over time, governments need to ring-fence funding towards the contract and ensure timely payments. Providers need to be incentivized by clear, transparent, and achievable KPIs that ensure fulfillment of health policy goals throughout the duration of projects. These can include productivity, efficiency, quality, waiting times, patient satisfaction, health outcomes, etc. Ideally, co-payment policies for publicly funded services should not differ between PPP projects and public providers and should always strive to ensure patients do not forego necessary care due to financial hardship.

**5.** Much can be achieved by learning from past experiences and by preparing projects professionally.

Effectively partnering with the private sector requires careful preparation and very clear tender documentation. As the World Bank Group study shows, there is vast global experience in designing diagnostic PPPs that governments can tap into. However, case studies must be investigated in detail to learn valuable lessons. “Copy-pasting” does not work: regional and country circumstances require to customize the approach. Developing pathfinding PPPs with reputable transaction advisors allows to tap into lessons learned in implementing successful PPPs around the world are put in action and that lessons learned through failed projects or projects that do not deliver in line with expectations are avoided. IFC PPP Transaction Advisory advises government on structuring health PPP making sure that the project is likely to meet country objectives in a sustainable manner. IFC brings in its know-how and strong understanding of investor community’s capacity and requirements. Furthermore, IFC’s Performance Standards on Environmental and Social Sustainability set strict requirements that ensure protection of all involved parties and are widely accepted by investors and lenders.

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