
PPPs in healthcare

Models, lessons and trends
for the future

Healthcare public-private partnerships series, No. 4



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Ordering information

This publication is available for electronic download from the Global Health Group and PwC websites.

Recommended citation

Abuzaineh, N., Brashers, E., Foong, S., Feachem, R., Da Rita, P. (2018). PPPs in healthcare: Models, lessons and trends for the future. Healthcare public-private partnership series, No. 4. San Francisco: The Global Health Group, Institute for Global Health Sciences, University of California, San Francisco and PwC. Produced in the United States of America. First Edition, January 2018.

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Acknowledgements

We extend our gratitude for the expertise and experiences generously shared during the development of this report. Organizations that provided information and insights included government ministries, private consortia, financing institutions and nongovernmental organizations (NGOs), as well as academic thought leaders, and financial, legal and technical advisors.

- Access Health International
- Center for Global Development (CGD)
- European Bank for Reconstruction and Development (EBRD)
- European Investment Bank
- Fundación Economía y Salud (Economy and Health Foundation)
- HANSHEP (Harnessing non-state actors for better health for the poor)
- Instituto de Estudios Superiores de la Empresa (IESE, Institute of Higher Business Studies, University of Navarra, Barcelona Spain)
- IJGlobal
- International Finance Corporation (IFC)
- Meg Kellogg, Health PPP Consultant
- PwC Australia
- PwC India
- PwC Mexico
- PwC Spain
- PwC United Kingdom
- Ribera Salud SA
- Richard Scheffler, School of Public Health, University of California Berkeley
- Robert Taylor, Health PPP Consultant
- Timothy Thahane, Former Minister of Finance and Development Planning, Lesotho
- The United Nations Economic Commission for Europe (UNECE)
- The World Bank Group

List of key acronyms

BRIC – Brazil, Russia, India and China (post 2010 this has become BRICS to include South Africa)

CT – Computerized tomography

DBFM – Design, build, finance and maintain

DBFMO – Design, build, finance, maintain and operate

DBOD – Design, build, operate and deliver

DBOT – Design, build, operate and transfer

DFID – Department for International Development

ED – Emergency department

IFC – International Finance Corporation

IJGlobal – Project Finance and Infrastructure Journal

IT – Information technology

KPI – Key performance indicator

MRI – Magnetic resonance imaging

NHS – National Health Service (United Kingdom)

NGO – Nongovernmental organization

OECD – Organization for economic co-operation and development

O&M – Operation and management

PFI – Private Finance Initiative

PPIP – Public-private integrated partnership

PPP – Public-private partnership

SPE – Special purpose entity

SPV – Special purpose vehicle

UCSF – University of California, San Francisco

UNECE – United Nations Economic Commission for Europe

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UCSF Global Health Group/PwC report series on public-private partnerships in health

About the report series

This report of models and lessons learned around healthcare public-private partnership (PPP) projects is the fourth in a series of publications on PPPs jointly authored by the UCSF Global Health Group and PwC.

This series aims to document and raise awareness of innovative PPP models in health globally and to disseminate lessons learned to inform current and future healthcare partnerships.

Past and upcoming reports in the series include: an in-depth view of the Queen ‘Mamohato Memorial Hospital PPP in Lesotho, a market landscape study of current and planned healthcare PPPs in Latin America, a study of innovations on the PPP model in the Valencia region of Spain and a high-level landscape of ‘asset-light’ healthcare PPPs in India.

About public-private partnerships

PPPs are a form of long-term contract between a government and a private entity, through which the government and private party partner in the provision of public services. PPPs are distinguished from other government private contracts by: the long-term nature of the contract (typically 15+ years); the shared nature of the investment or asset contribution; and the transfer of risk from the public to the private sector.

Under a PPP arrangement, the private partner takes on significant financial, technical and operational risks and is held accountable for defined outcomes. PPPs provide governments with alternative methods of financing, infrastructure development and service delivery. By making capital investment more attractive to the private sector, PPPs can reduce the risk for private investment in new markets and ease barriers to entry. In the past three decades, governments from low- to high-income countries have increasingly sought long-term partnerships with the private sector to deliver services in sectors such as transportation, energy and waste. Healthcare partnerships have emerged more cautiously but have rapidly expanded since the early 2000s. The emerging partnerships have tackled a range of healthcare system needs—from construction of facilities, to provision of medical equipment or supplies, to delivery of healthcare services.

While relatively simple “design, build, finance and maintain” models, like the British hospitals built under the Private Finance Initiative (PFIs), remain the most commonplace, an increasing number of governments are experimenting with or considering more ambitious models, which include the provision of clinical services within the private partner scope of the PPP.

Scope and methodology

This report assessed the spectrum of facility-based healthcare PPPs

implemented globally to develop a typology of common PPP business models. Drawing on research and findings from prior reports in the UCSF Global Health Group/PwC PPP report series and other sources, this report looks closely at cases highlighted in the series to identify leading practices and innovations in healthcare PPPs to develop supporting criteria for successful implementation. Additional desk research was conducted on the history and evolution of PPPs in healthcare, with a particular focus on how governments have applied PPP business models in different settings, and lessons learned from PPP projects across a wide range of countries. Interviews were also conducted with senior leaders in government ministries, private consortia, financing institutions and nongovernmental organizations (NGOs) as well as academic thought leaders, and financial and technical advisors.

This report is intended to offer high-level insights on the nature, opportunities and considerations of the most common PPP models based on past and current experience; it is not intended as an exhaustive inventory of all healthcare PPP models or projects. Countries considering a PPP project should give careful consideration to the implications and opportunities of the different models for their local context and environment, and the objectives they seek to accomplish before embarking on decisions around incorporating PPPs into healthcare delivery.

Audience

The primary audiences for this report are the governments of low- and middle-income countries—including policymakers in ministries of health and

finance—who wish to consider PPPs as models for health system strengthening, as well as the wide range of private sector actors who seek to engage with government.

Lessons and findings may also be helpful to others studying how best

to leverage the private sector to strengthen health systems, including donor agencies, non-governmental organizations, academic institutions and private health entities.

UCSF Global Health Group/PwC PPP report series

In 2012, the Global Health Group at the University of California, San Francisco (UCSF) partnered with PwC Global Healthcare to form a joint Fellowship to advance the study of public-private partnerships (PPPs) in health around the world. The Fellowship builds upon the two organizations' common interest in PPPs as an innovative approach for improving the quality, efficiency and accessibility of healthcare across countries at all levels of economic development. The goal of the Fellowship is to further the academic study, documentation and rigorous evaluation of PPPs, in order to increase understanding of their design, impact, costs and challenges, and inform decision-making.

The products of the Fellowship are being published as a series of reports that aim to highlight the many facets of innovative PPP models globally, and disseminate leading practices and lessons learned for the benefit of current and future projects. Five reports have been, or will soon be published:

- Health System Innovation in Lesotho: Design and early operations of the Maseru public-private integrated partnership (2013)
- Lessons from Latin America: The early landscape of healthcare public-private partnerships (2015)
- Innovation rollout: Valencia's experience with public-private integrated partnerships (2017)
- PPPs in healthcare: Models, lessons and trends for the future (2018)
- Lessons from India: An overview of 'asset-light' healthcare public-private partnerships (2018)

Introduction

The global healthcare landscape

Governments today face a wide range of complex healthcare challenges spurred by changing demographics, a growing burden of chronic disease, rising healthcare costs, more informed patients and rapidly changing

healthcare technologies. Healthcare systems are increasingly strained and are struggling with how to expand access and deliver high-quality healthcare services—all while controlling costs. These pressures will only increase as countries seek to implement Universal Health Coverage, and achieve the aim of Sustainable Development Goal 3 (“to ensure healthy lives and

promote wellbeing for all at all ages”) by 2030. Additional investment in health will be needed in many countries,¹ particularly in developing countries where healthcare infrastructure remains inadequate, and facilities lack the necessary management skills and patient care workforce to address the growing demands of caring for their population.

Worldwide:



400 million people do not have access to one or more essential health service



By 2020, chronic diseases will account for roughly **73%** of all deaths



Between 2015 and 2050, the population > 60 years will nearly double to **22%**



7.2 million healthcare professionals are needed

Source: World Health Organization, 2013-2015, www.who.org

Managing these demands will be expensive—government spending on health globally is expected to increase more than 65% from 2010 to 2020, including over US\$3.6 trillion invested in infrastructure alone by OECD and BRIC countries.² Countries are increasingly looking to innovative partnership and contracting models to finance care and to bring in needed skills for care delivery. Although there is no simple answer to the appropriate

mix of public and private financing in healthcare delivery, public-private partnerships (PPPs) have emerged as a promising tool to provide governments with alternative methods of financing, infrastructure development and service delivery.

PPPs can be applied across many sectors, and typically seek to capture private sector capital and expertise to improve the provision of a public service. By

making capital investment more attractive to the private sector, well-structured PPPs can mobilize private investment into public service delivery, within a risk sharing mechanism. PPPs are highly complex undertakings; thus it is important for governments to ensure that project outcomes support larger health system goals, and that PPP facilities and services are integrated into the wider health system.

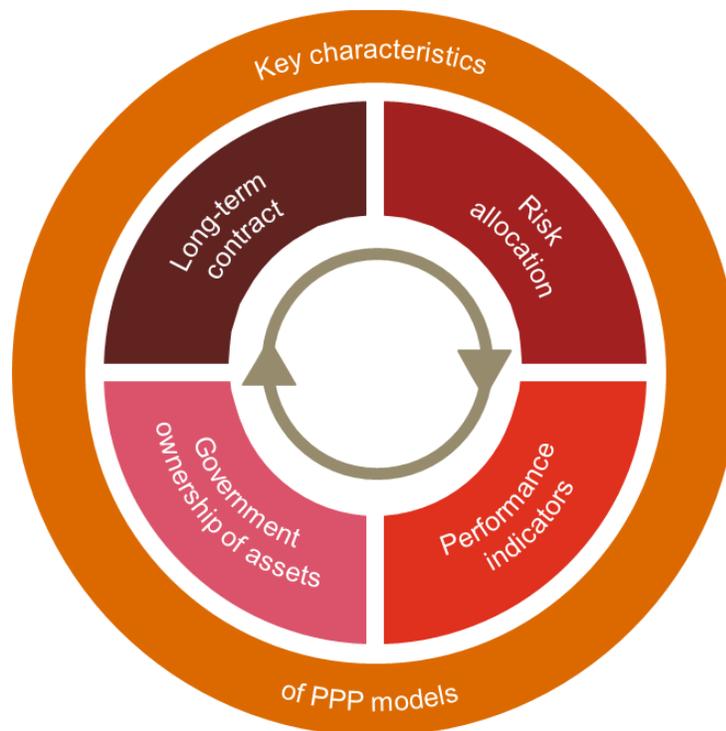
Why PPPs?

In the past three decades, governments from low- to high-income countries have engaged the private sector in long-term partnerships in sectors such as transportation, energy and waste. Healthcare partnerships have emerged more cautiously over the past 20 years—from solutions to improve hospital infrastructure, to delivery of nonclinical and clinical services.³

There is currently no universally-accepted definition of a PPP, and opinions differ on what models are considered PPPs.⁴ However, the term is commonly used to describe a form of long-term contract between a public and a private party, through which the two entities partner in the provision of public services. The long-term nature of the partnership creates an opportunity for both the public and private partners to take advantage of each other's strengths.

Although other forms of public-private contracting arrangements exist, such as contracting out services, or transferring public facilities to private ownership (“privatization”), these arrangements do not involve a sustained, collaborative arrangement between the parties. As such they are typically not considered to be PPPs, and are therefore not considered in this report.

Figure 1 – Key characteristics of PPPs in healthcare



Four features of PPPs that distinguish them from other forms of government private contracts include:

- The long-term nature of the contract (typically 15+ years, usually at least longer than five)
- The transfer of risk from the public to the private sector (both parties have “skin in the game”)
- A contract based on mutually agreed upon performance indicators
- Government ownership of the assets (facilities and equipment) at the end of the contract

Using this definition, the majority of PPPs fall within three overall categories: 1) those that address health system needs through the construction and operation of facilities, often including a range of nonclinical or clinical support services; 2) those that focus on the provision of standalone clinical services; and, 3) those that offer a suite of clinical services bundled with the building of new, or refurbishment of existing, infrastructure.

This report examines these three major categories of PPPs, and the health system challenges that they address, and draws lessons from recent country experiences around the

requirements and enabling environment for successful PPPs. The report draws largely from a series of reports on healthcare PPPs co-authored by the UCSF Global Health Group and PwC, as well as from reports produced by a wide range of agencies and organizations involved in advising on, designing, implementing or operating PPP projects around the world.

Typical PPP drivers

In healthcare, governments have gravitated toward PPPs to address a range of health system challenges, including:

- Need for new or upgraded infrastructure
- Capital budget and/or cash flow constraints
- Need for improved management skills to improve quality and cost efficiency of healthcare delivery
- Need for stronger and more efficient procurement and supply chain
- Need for additional services/skills (e.g., specialty services) or expanded service capacity

Around the world, hospitals are in disrepair, and facilities and services are poorly managed. However, most governments lack the capital budgets to

finance new construction on a large scale, and are constrained by national policies and hiring norms that restrict their ability to implement reform. By partnering with the private sector through PPP arrangements, governments gain access to more flexible and innovative practices—such as the introduction of comprehensive IT systems and performance-based human resource management practices—allowing them to expand capacity and improve service delivery more efficiently. Governments also gain access to new financing sources and are able to share risk with the private sector. For instance, under PPP arrangements the private partner typically assumes the risk for the cost and timeline for construction, with payment withheld until the facility is fully open and operational.

For the private sector, PPPs provide an opportunity to gain access to new markets at a lower risk profile, while contributing to a public good. Although public healthcare markets typically come with lower potential returns on investment, they offer opportunities to increase volume and market share, and allow the private sector to diversify their investment and service delivery portfolio.

Global healthcare PPP trends

To date, the majority of PPP projects worldwide have been implemented in non-health sectors and in upper-income countries, with transportation making up the bulk of projects. However, a growing number of middle- and lower-income countries are exploring healthcare PPP projects. Despite these trends, it remains difficult to quantify the exact size of the healthcare PPP market for a number of reasons, including limited data available on the sector, the wide and varying range of models included under the definition of a PPP in different reports, the different stages of

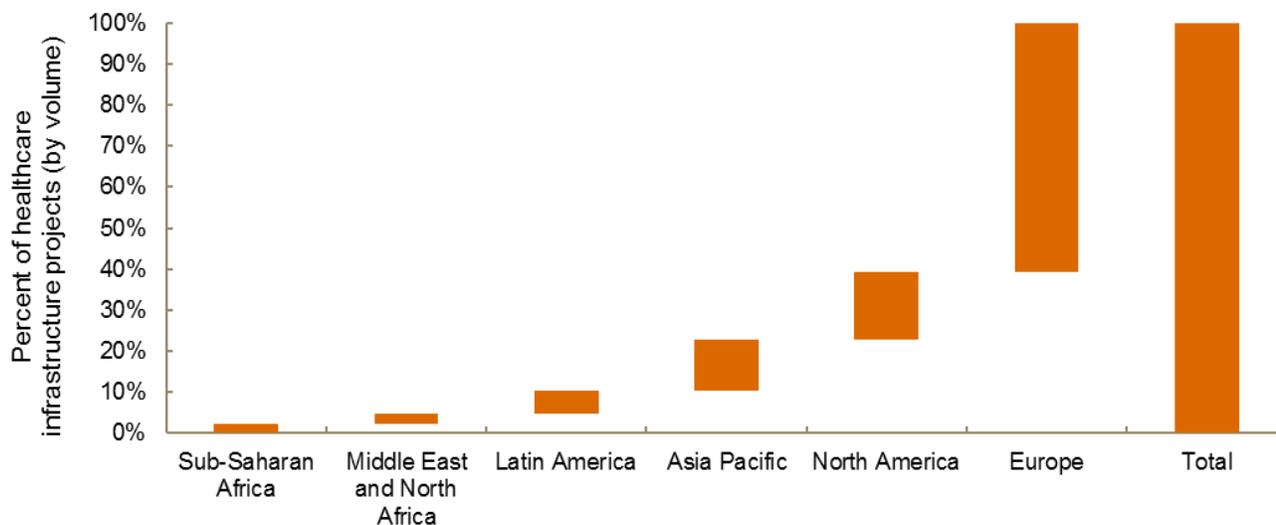
development of current PPPs (e.g., in the pipeline vs. signed vs. operational) and the tendency for healthcare PPPs to be lumped together with other “social sector” PPPs (e.g., education).

The most robust data available on PPPs, both globally and across all sectors, focuses on global infrastructure projects and finance transactions. The Project Finance and Infrastructure Journal (IJGlobal) estimates that there are roughly 600 healthcare infrastructure projects/assets globally—the vast majority of which are PPPs.ⁱ Although this

data is limited to infrastructure deals it provides valuable insight into geographic trends of healthcare PPPs, including hospital and health center PPPs that are operational, under construction, in development or in pre-development stages.

Over 60% of infrastructure projects identified by IJGlobal are in Europe (see Figure 2); North America makes up a little over 15% of projects, while by comparison, Sub-Saharan Africa and the Middle East and North Africa together constitute less than 5% of projects globally.

Figure 2 – Healthcare infrastructure projects by geographic region (May 2017)



Source: IJGlobal Project Finance and Infrastructure Journal Project Database, accessed May 9, 2017ⁱⁱ

ⁱ The IJGlobal database provides detailed information on financial structure, policy, pricing and players influencing infrastructure transactions and trends, which together provide insight into healthcare PPP maturity across geographic region based on the volume of assets by country. Data was filtered based on ‘Social & Defense’ and ‘Healthcare’ project sector and sub-sectors respectively. Limitations to the data: project/asset data may include non-PPP structured deals and does not include healthcare infrastructure projects that were initiated before 2007 that may currently be operational; data may also not routinely reflect changes in project status caused by changes in political party or national PPP policy that put projects on hold.

ⁱⁱ This graphic represents greenfield or brownfield projects that are operational, under construction, in development or in pre-development.

According to the IJGlobal data, roughly half of current healthcare infrastructure projects are operational. Looking at the data by country, the UK and Canada together made up more than two-thirds of the operational projects. The remaining third are split between Australia, France, Germany, India, Ireland, Italy, Japan, Mexico, Portugal, Spain, United Arab Emirates and the United States, which each had more than one operational project, and Austria, Chile, Egypt, Kenya, Lesotho, Malaysia, Pakistan, Philippines, Romania, South Korea and the

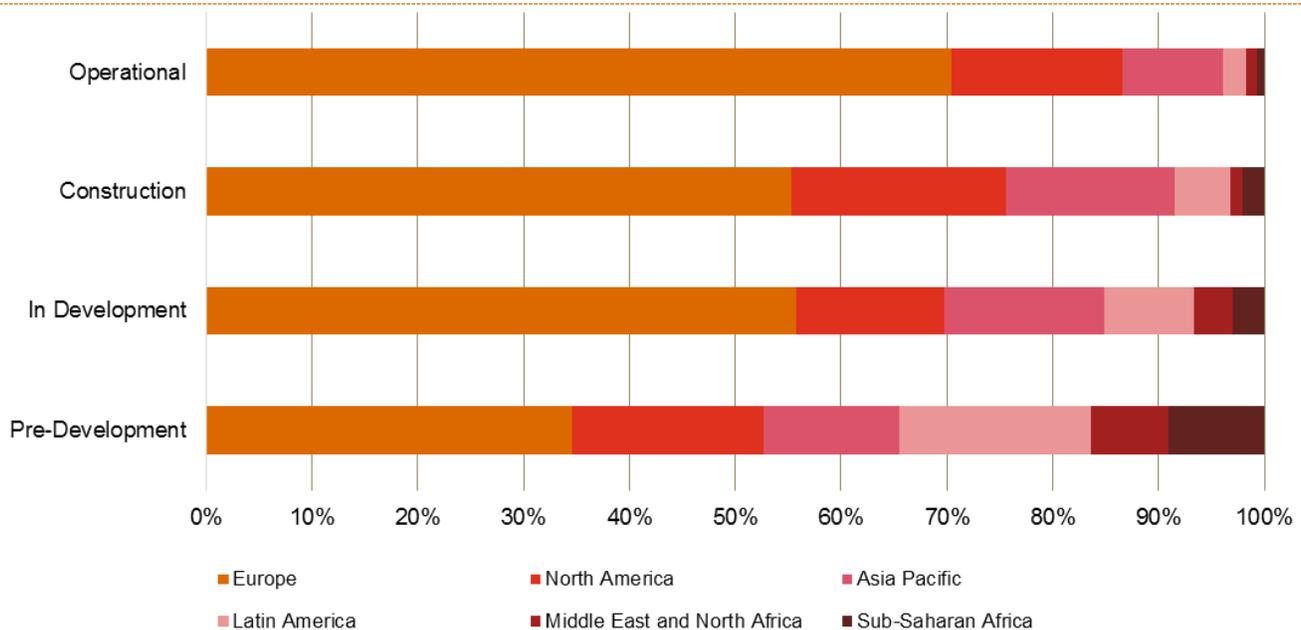
Turks & Caicos Islands, each of which had one operational project (post-construction).

While the mature PPP markets of Europe and North America have the largest share of infrastructure projects that are operational, in construction or in development, the longer-term pipeline (PPPs in pre-development) is more equally divided across all geographic regions (see Figure 3).

Healthcare infrastructure represents a significant cost for countries, and can necessitate partnerships with the private sector through PPPs to finance

the building or renovation of new facilities. However, overall public health spending comprises more than just the physical infrastructure of healthcare facilities, and also includes service delivery. This represents an additional opportunity for the private sector to work with the public sector to improve the overall management of healthcare delivery.² Thus as overall private investment grows in a market, very likely so will the number of PPPs.

Figure 3 – Geographic distribution of healthcare infrastructure projects by project stage (May 2017)



Source: IJGlobal Project Finance and Infrastructure Journal Project Database, accessed May 9, 2017

Features of common PPP models in healthcare

PPPs in healthcare provide opportunities for governments to leverage private sector resources and expertise, to enable investment in large-scale projects that advance national and local public health goals, such as improving quality of service delivery, and expanding access to care.

Historically, governments have engaged the private sector to deliver services through healthcare PPPs to achieve one or more of six functions:

- **Finance** – financing or co-financing of the project
- **Design** – design of the project, including design of the infrastructure and care delivery model
- **Build** – construction or renovation of facilities included in the project
- **Maintain** – maintenance of hard infrastructure (facilities as well as equipment as applicable)
- **Operate** – supply of applicable equipment, IT and delivery/management of nonclinical services
- **Deliver** – delivery and management of specified clinical and clinical support services

The majority of facility-based PPPs bundle these functions into three models:

1. **Infrastructure-based model** – to build or refurbish public healthcare infrastructure
2. **Discrete Clinical Services model** – to add or expand service delivery capacity
3. **Integrated PPP model** – to provide a comprehensive package of infrastructure and service delivery

These models comprise the focus of this report, and are described in greater detail, below.ⁱⁱⁱ

Each government's decision of which model to pursue is driven largely by local health needs and environmental (e.g., political, social) factors. The threshold of risk and responsibility that the government seeks to allocate—and that the private partner is willing to accept—are also major determining factors. The majority of reports in the UCSF/PwC report series have focused on the Infrastructure-based and Integrated PPP models, referred to as PPPs and PPIPs respectively in previous reports. However, Discrete Clinical Services models are beginning to gain traction as an 'asset light' option, and are included in this summary report.^{iv}

ⁱⁱⁱ This report does not cover other types of arrangements such as real estate transactions or leasing arrangements, in which the private partner owns the assets at the outset and gradually sells them to the government over a long-term period, or where the government transfers or sells assets to the private partner and relinquishes control.

^{iv} There is some debate about whether Discrete Clinical Services PPPs fall under the definition of a PPP. Given its rise in service delivery, and other qualities of risk sharing and performance management, it has been included in this report (see discussion starting on page 26).

Table 1 – Overview of the three most common PPP business models in healthcare

			
PPP model type	Infrastructure-based model	Discrete Clinical Services model	Integrated PPP model
PPP model components	Infrastructure + financing + nonclinical services + clinical support services (as relevant)	Clinical services	Infrastructure + financing + nonclinical services + clinical and clinical support services
Private partner responsibilities	Private partner is contracted to design, build, finance and maintain facilities. Delivery of nonclinical services can be included (e.g., laundry, cafeteria). More advanced projects include delivery of clinical support services (e.g., lab, radiology)	Private partner is contracted to deliver discrete clinical services (e.g., clinical support services, specialty care services)	Private partner is contracted to design, build, finance, operate facilities and deliver nonclinical and clinical services
Common PPP model name(s)	Design Build Finance Maintain (DBFM), Design Build Finance Maintain Operate (DBFMO), Design Build Operate Transfer (DBOT), Private Finance Initiative (PFI), Infrastructure PPP, Accommodation model	Operation and management (O&M) contracts	Design Build Operate Deliver (DBOD), Clinical services PPP, Integrated PPP, Public Private Integrated Partnership (PPIP), Alzira model
Healthcare delivery impact			

PPP design and tendering

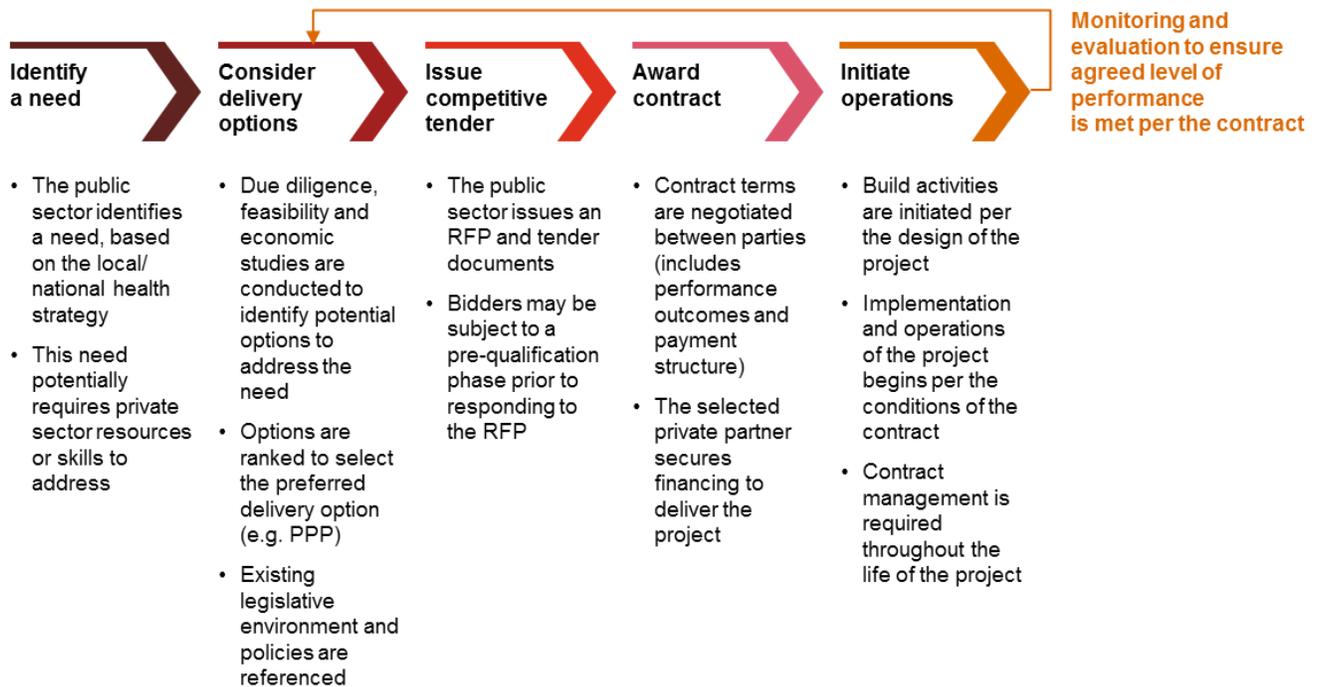
Project design

Healthcare PPPs are highly complex undertakings that require in-depth consideration of a range of factors, including: local and

national healthcare needs; funding availability and requirements; political and community tolerance for transferring responsibility to a non-government entity; investor appetite within a particular

country or sector; and public sector capacity to manage the contractual risks associated with that transfer.

Figure 4 – A typical PPP project lifecycle^v



Due to their complexity and legal/financing requirements, PPPs are typically managed by governments at the national or subnational level depending on how the national health system is structured. For projects designed following the Infrastructure-based or Integrated PPP models, once design and construction are

complete, the private partner remains responsible for maintaining the facilities, and may also provide additional nonclinical and/or clinical services, depending on the terms of the contract. Examples of typical nonclinical services include: housekeeping, cafeteria services, utilities management and grounds maintenance.

Examples of clinical support services include: imaging, laboratory, disinfection/sterilization and rehabilitation. For projects using the Discrete Clinical Services or Integrated PPP models, the private partner may be tasked with offering select specialty clinical services (e.g., dialysis services), through to comprehensive primary and

^v This visual represents a typical lifecycle for solicited bids initiated by the public sector. The process may vary between jurisdictions and will vary if PPPs are promoted as unsolicited bids initiated from the private sector.

specialty care services. Under both of these models, the private partner is responsible for managing the human resource functions (staffing and HR management) for the services it provides.

A key feature of healthcare PPPs, is that all PPP facilities and services revert to government control at the end of the project. This ensures that the government continues to have ‘skin in the game’ throughout the project and that the facilities are maintained and delivered at appropriate standards.

The tendering process

Under a typical best practice tendering process, once a potential project is deemed to comply with relevant national PPP guidelines, and is determined to be affordable and more likely to lead to desired outcomes compared to other options, the lead ministry is given approval to solicit private sector interest through a competitive bidding process.⁵ To encourage multiple responses to the tender, and to increase competition among, and innovation within, proposals, it is in the government’s interest to manage the tendering process as transparently as possible.

Most tenders call for separate technical and financial

proposals. As part of the PPP bidding process, bidders need to demonstrate the cost of finance in their response, with less risky projects generally securing a lower cost of debt.

Depending on the structure and services specified in the tender, one or more private entities (or more commonly a consortia of private entities) will come together to bid on the project. In some cases, the tender may specify inclusion of particular entities; for instance as part of an Integrated PPP model implemented in Lesotho in southern Africa, the government required bid respondents to include local organizations as part of the private structure of the contract, and that the equity investment in the private consortium shift to the local partners over time.

Often, the private parties involved in a bid response will form a new, separate contractual entity called a special purpose vehicle (SPV) to serve as the single point of contact to represent the collective interests of the private parties, and contract with the government for the project. SPVs are typical in project finance transactions where lenders are reliant on the cash flows of a particular project. The SPVs are set up specifically for the purpose of delivering activities related to the project, and serve as the legal entity to

subcontract with the various private entities within the consortium to carry out specific elements of the contract (see Figure 5).

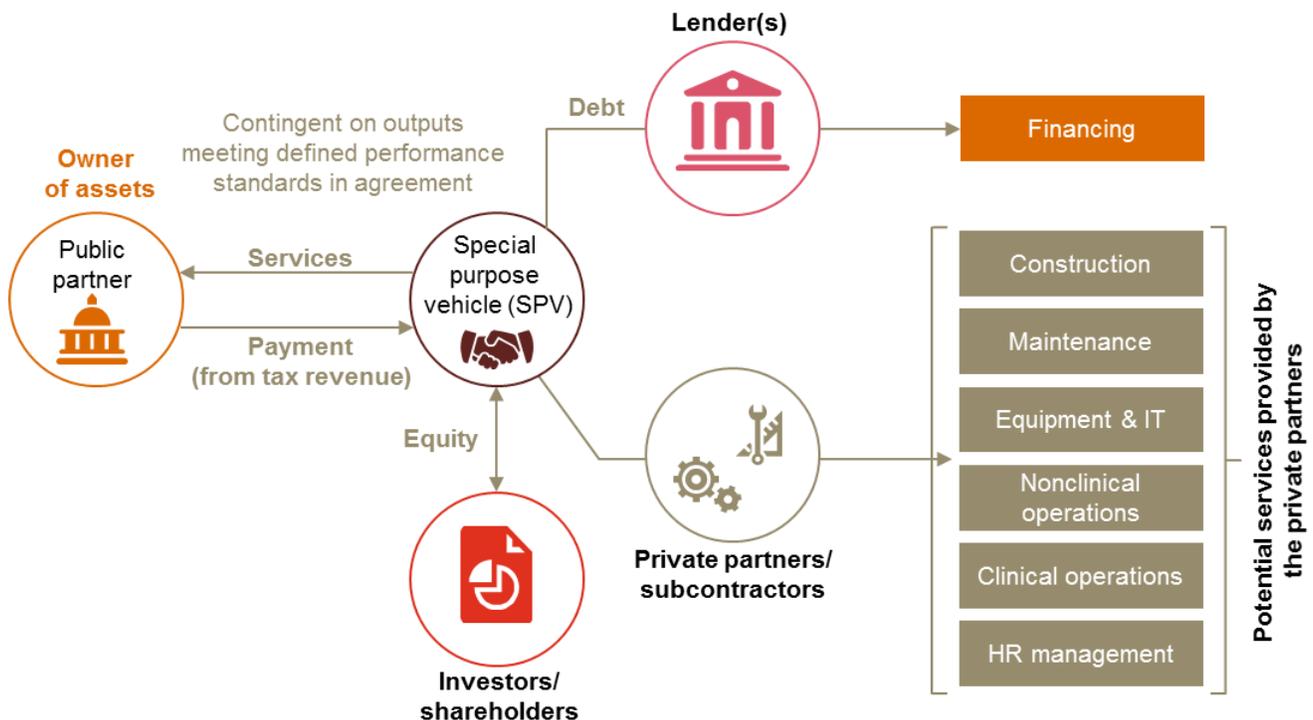
As part of the PPP contract, the SPV commits to key project terms, which generally include a pre-determined date for completion of any design and construction activities, as well as pre-specified outcome and quality metrics for any services to be provided during the contract term.

In traditional procurement contracts involving multiple entities, the government is required to contract with each entity separately. Thus, PPP bid responses that employ an SPV arrangement offer a much simpler and potentially less risky management approach for the government, by reducing the number of contracts the government has to manage.⁶ To be compelling, however, it is important that the bid response demonstrate how the SPV will leverage the capacity and manage the performance of its individual entities to deliver on project requirements. This in turn places the onus on the government to clearly articulate project requirements in the tender.⁷

Special purpose vehicles

Special purpose vehicles (SPVs)—also called special purpose entities (SPEs)—are a key feature of project finance schemes and of many PPPs. They are legal entities formed to fulfill narrow, specific or temporary objectives related to a specific project or investment. SPVs are also formed to: allow other investors to share in the risk of the project; bring in additional management and technical capacity; and/or protect the interests of both lenders and investors. SPVs are generally prohibited from undertaking business outside the defined project. In cases where one entity is able to deliver all services for the PPP (for example, some Discrete Clinical Services PPPs), an SPV is likely not necessary.^{8,9}

Figure 5 – Typical structure of a healthcare PPP



Balancing risk and reward

One of the central features and criteria for success of a PPP involves the appropriate allocation of responsibility (risk) between the

public and private partners. Any transfer of risk must be closely managed, with key roles and responsibilities by partner clearly laid out in the contract. Risks within PPP projects generally fall into three main categories:

1. General and financial risk
2. Planning/design and construction risk
3. Operating risk (including clinical performance)

By shifting the majority of risk for construction and financing to the private partner, the public partner is able to mitigate the potential for cost overruns or project delays. By shifting operational risk, the public

partner can achieve improvements in cost and service efficiency through performance and contract management. In a PPP project, both the government and the private partner use a variety of

tools and payment mechanisms to manage these risks, and for the government, to manage price and performance (see Table 2).

Unsolicited proposals

From time to time, a private party or consortium of private parties may present the public sector with an unsolicited proposal for a specific project. If the public sector is interested, it may ask the private party to conduct additional studies (which may or may not be reimbursed if the project comes to fruition), or it may create an opportunity for other partners to submit counterproposals prior to consideration.

Although unsolicited proposals may save the government the time and cost of a complex tender process, unsolicited offers may increase costs in other ways. For instance, unsolicited proposals may offer less competitive contract terms than an open process might have; they may address needs that are not the highest priority for the region/country; or they could increase the potential for corruption. To address these potential negative impacts, governments can minimize potential risks by implementing requirements within their PPP regulatory frameworks that apply the same assessment standards to unsolicited proposals as to solicited proposals.

Table 2 – Typical allocation of risk and responsibility across three healthcare PPP business models^{vi}

Types of risk	 Infrastructure-based model	 Discrete Clinical Services model	 Integrated PPP model
Planning/design risks			
Land acquisition and planning	Public	Public	Public
Design	Shared	Private	Private
Changes in planning/approvals	Varies	Varies	Varies
Construction risks			
Construction	Private	Private	Private
Cost overruns	Private	Private	Private
Completion delays	Private	Private	Private
Latent defects	Varies	Varies	Varies
General risks			
Force majeure	Shared	Shared	Shared
Changes in legislation/guidelines	Shared	Shared	Shared
Financing	Private	Private	Private
Operating risks			
Operating and maintenance costs	Private	Private	Private
Equipment	Varies	Private	Private
Demand for services	Public	Public	Varies
Labor and staff issues	Public	Shared	Private
Clinical performance failures	Public	Private	Shared

Source: Health and Economics Analysis for an evaluation of the Public Private Partnerships in health care delivery across EU, European Union, 2013

^{vi} Additional notes on risks: Latent defects—the public sector bears the risk for existing facilities, while the private sector bears the risk for new facilities; Force majeure—includes unplanned costs due to natural disasters or political unrest (insured risks can be transferred to the private sector); Demand for services—risk of low or high demand varies based on changing health trends and contract stipulations, e.g., whether the public or private sector is responsible for referrals; Clinical performance failures—failures related to clinical services can be a risk to the public sector if they go undetected. Under the Integrated PPP model, labor and staff issues may fall to the public sector in cases where some staff are still public employees.

Given the potentially high cost of PPPs, particularly those that incorporate infrastructure, governments need to determine the fiscal impact of projects early on. This includes a clear understanding of capital expenditures, revenue drivers and operating expenses. Financial planning is required to ensure the availability of ongoing revenue streams to cover necessary government payments associated with the project.

Many governments require that proposed PPP projects go through a series of reviews prior to being tendered, to ensure alignment with legal frameworks and strategic plans, and to assess the costs and intended benefits of the project. These reviews help to mitigate potential fiscal risks—especially as projects that default or experience delays in government payments can impact future investor and bank interest. Some governments also engage external advisors to aid them in managing a range of issues related to project structuring, procurement, financing and risk evaluation. Some countries (Turkey, for example), use additional mechanisms such as debt assumption undertakings, in which the government commits to taking on the debt of the PPP private partner should the contract be terminated, as a way of providing guarantees to lenders.¹⁰

Payments and penalties

PPP contracts employ a direct relationship between payment and performance: payment amounts, timing and triggers are used as tools to incentivize the private partner and align behavior with desired outcomes.

Payments to the private partner generally fall under four categories:

- **Availability payment** – payment for making the hospital available to the provider. The payment is usually fixed, and covers the cost of infrastructure as well as maintenance
- **Service payment** – variable payment based on the type and volume of services/procedures performed
- **Capitation** – variable payment on a per-person basis to manage the overall health of a population
- **Payment penalties** – a reduction or delay in payment if contract terms and expectations are not met

PPP contracts generally specify a single payment mechanism to cover both the infrastructure and services provided. In some cases, a mix of payment streams is used to separate the infrastructure portion of the project from the variable costs of service delivery. Typically,

the public sector will not make any payments until key terms in the contract—such as completion of construction—are met. This arrangement incentivizes the private partner to ensure on-time completion of the activities, and meet performance and quality standards outlined in the contract.

Projects that include clinical service delivery involve much more complex arrangements, with payments and payment amounts linked to delivery of services across large populations and/or achievement of better health outcomes. For example, the Integrated PPP model implemented in Valencia, Spain is based on a capitated payment arrangement, in which the government pays the private partner an annual per capita fee to deliver an agreed set of healthcare services to residents of a particular geographic region, regardless of how frequently residents utilize services (see Table 3). Payments are based on the population served, and the private partner is incentivized to deliver services in ways that improve the health outcomes of the population overall in order to reduce patient visits and cost of care. This arrangement thus shifts the risk of managing service demand from the public to the private partner.¹¹ It also places significant additional burden on both parties to become much more precise in defining and setting targets for performance indicators.

Table 3 – Sample payment arrangements for Integrated PPP models

Name of project & location	Availability payment	Service payment	Capitation payment	Payment penalties	Key features of payment arrangements
Jandaloop Health Campus – Perth, Australia <i>(opened 1996, expansion 2011)</i>	✓	✓		✓	<ul style="list-style-type: none"> • Availability payment to cover capital financing, made twice per year • Per unit payment for clinical services (with a maximum payment amount set annually). Some block funding provided for specific services • Limits by which the government can reduce contracted service volume • Additional units at lower average unit cost • Takes into account case mix • A number of facilities are shared by the public and private sector, thus the capital cost of building the facilities was shared based on projected proportional patient usage
Queen 'Mamohato Memorial Hospital – Maseru, Lesotho <i>(opened 2011)</i>	Unitary Payment			✓	<ul style="list-style-type: none"> • Public and private capital expenditure for construction, refurbishment and equipping of hospital and clinics • Annual unitary payment for capital and operating expenses from the Government of Lesotho to the private consortium, based on set inpatient/outpatient volumes • Initiated after hospital opened, requiring separate funding for interim period • Adjusted annually for inflation • Incremental payment for additional volumes • Revenue from co-located facilities shared
La Ribera Hospital – Valencia, Spain <i>(opened 1999, retendered 2002)</i>			✓	✓	<ul style="list-style-type: none"> • An annual cap on profit the private partners can make • Capitated rate increases annually with the Ministry's budgetary increase, adjusted according to Consumer Price Index • 12.5% penalty if the patient turnover rate exceeds 20% • Savings shared from pharmacy savings • During bidding process, bidder required to commit to serving patients at a cost no greater than 80% of the average cost of publicly-delivered care in the region

Source: UCSF/PwC PPP Report Series, 2013-2016

Spotlight on the three most common PPP models

The following sections dig deeper into the three most common PPP business models in healthcare, outlining their structure and objectives, implementation and high-level lessons learned.

1. The Infrastructure-based model

The Infrastructure-based model



PPP model components	Infrastructure + financing + nonclinical services + clinical support services (as relevant)
Private partner responsibilities	Private partner is contracted to design, build, finance and maintain facilities. Delivery of nonclinical services (e.g., laundry, cafeteria) may be included. More advanced projects can include clinical support services (e.g., lab, radiology)
Common PPP model name(s)	Design Build Finance Maintain (DBFM); Design Build Finance Maintain Operate (DBFMO), Design Build Operate Transfer (DBOT), Private Finance Initiative (PFI), Infrastructure PPP, Accommodation model
Examples and implementation	Most common form of healthcare PPP globally. The British PFI model is a highly-cited example

Model objectives

- To improve quality and increase capacity of public healthcare infrastructure to deliver services
- To build or expand/refurbish public healthcare facility infrastructure (e.g. hospitals, outpatient centers, primary care clinics, etc.), typically in a shorter time frame
- To allow governments to access needed capital to finance major infrastructure projects
- To improve the efficiency and quality of delivery of nonclinical services and clinical support services (if included in the project)

How does the model work?

Under the Infrastructure-based PPP model, the private partner is contracted to build, rebuild or replace a public asset, and is responsible for maintaining the infrastructure throughout the life of the contract. In more advanced versions of this model, the private partner is also contracted to manage and deliver specified nonclinical services and (as relevant) clinical support services. Infrastructure-based contracts are usually long-term at 25-30 years, and the private partner is responsible for:

- **Design** – of the facilities based on requirements set by the government
- **Build** – construction of new, or renovation of existing facilities
- **Finance** – financing or co-financing the capital cost
- **Maintain** – maintenance of the hard facilities
- **Operate** – management and delivery of nonclinical services and clinical support services (as applicable); may include supply of equipment

The Infrastructure-based model is widely used around the world. Many variations exist, which may include supply and/or management of services such as IT, and installation and maintenance of equipment, up to and including delivery of clinical support services. In all cases, the government retains responsibility for managing and providing all clinical services. The government typically transfers management responsibility for the land and facility(ies) to the private partner for the life of the contract; however, all facilities revert to government responsibility at the end of the contract period.

At a minimum, the private partner takes on the risk of design and construction, cost overruns, delay in expected completion of the project and maintenance costs. As most payment under this model is provided upon completion of construction (typically 18 to 24 months after the contract is

initiated), the private partner is incentivized to complete construction and/or renovation on-time and within budget. Moreover, because its capital is at risk, the private partner has strong incentives to continue to perform well throughout the life of the contract.

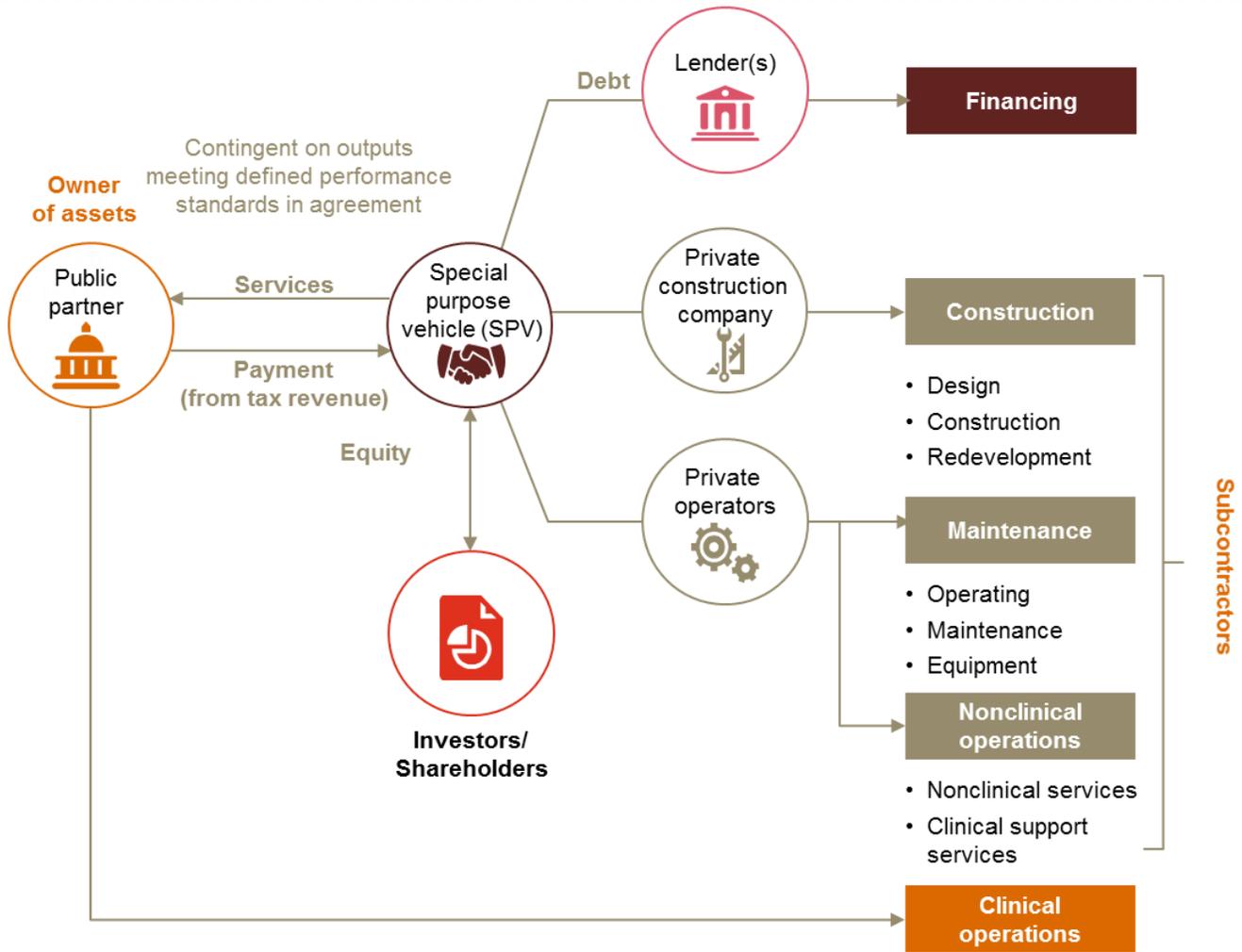
The government repays the private partner for the cost of construction via an amortized annual payment over the life of the contract, bundled with an annual maintenance contract payment. This allows the private partner to take advantage of long-term debt financing opportunities, thus making the project more affordable for all involved.¹²

Projects that bundle operation of nonclinical services into the contract transfer additional risks and responsibility to the private partner for the cost and operation of these services. Nonclinical services often include: housekeeping, utilities

management, information management, grounds maintenance, reception, parking, waste management, laundry and catering or cafeteria services. Because these costs can be quantified relatively easily, they are usually covered through a single annual payment. These service costs are usually re-assessed against the value achieved at regular intervals during the life of the contract—typically every five years.

Finally, some governments engage the private partner to also staff and operate clinical support services, such as laboratory or radiology, as part of the project. These variations represent the most advanced form of Infrastructure-based PPPs, and provide governments with experience in managing more complex service delivery projects.

Figure 6 – Typical structure of Infrastructure-based PPPs



Where do we see this model?

The Infrastructure-based model has been widely used across many sectors as a means of financing large-scale capital investments, such as roads, schools and prisons. The model first became predominant in healthcare in the 1990s when the UK implemented a large-scale scheme to upgrade aging facilities and expand capacity within its National Health

Service (NHS). At least 100 new NHS hospitals were built through this “Private Finance Initiative” within a span of 12 years (thus why the model is commonly referred to as the “PFI” model).² Given the extensive capital requirements involved in the UK scheme, and the government’s previous poor track record in delivering similar projects on time and within budget, it is unlikely that the NHS could have taken on this large of an undertaking in such a short

period of time without engaging additional partners. In many cases, engaging private partners and implementing incentive schemes allowed for better management and resulted in projects being completed on time and within budget.¹³

Since the 1990s the Infrastructure-based model has become the most common form of healthcare PPP and has been implemented on a global scale—including in Australia, Canada, Egypt, Italy,

Japan, South Africa and across Latin America. Canada alone has implemented over 50 hospital PPPs using this model since 2003, valued at 18 billion CAD (roughly 14 billion USD).¹⁴

The UCSF/PwC PPP report series looked closely at projects in Australia, Latin America and Southeast Asia that combine the PFI model with operation of nonclinical and clinical support services. In Australia, most states have undertaken healthcare PPP projects. As of March 2014 there were at least 22 hospital/facility PPPs in operation or in construction, most of which included some element of nonclinical service provision in addition to capital infrastructure. Mexico, which tendered its first PPP pilot program in 2005, has implemented or contracted at least 10 healthcare Infrastructure-based PPP projects. Initially all projects included nonclinical services, such as housekeeping, laundry, security, parking and cafeteria services; however, later contracts incorporated clinical support services, such as laboratory, hemodialysis and medical gases, which had previously been outsourced.^{vii}

The Infrastructure-based model has been successful in providing much needed financing to the public sector for large infrastructure projects. However, transferring risk and shifting the capital cost of construction to a long-term fixed payment to the private partner, means that governments may have less budgetary flexibility during times of fiscal consolidation.

What have we learned?

The Infrastructure-based model is most relevant in contexts where either the public sector needs to build infrastructure, but faces budget constraints in making the up-front investment—or where it lacks the experience or expertise to manage large capital projects.

Political backing easier, with clearly defined outcomes

By relieving the public sector of the responsibility for facility construction, Infrastructure-based PPPs allow the public sector to focus efforts on managing healthcare delivery. Infrastructure-based projects also tend to be relatively easy to garner political and community support for (particularly compared to the Integrated PPP model), as “success”—the opening of a new hospital on time and within budget—is easy to measure.

Results in projects that are easy to deliver, but that may not drive innovation

In building new facilities through a PPP, governments have the opportunity to improve facility design and layout, and may be able to offset project costs through savings derived from more efficient patient flow and patient care/service delivery. However, the incentive systems of typical Infrastructure-based PPPs focus on cost and on-time delivery, favoring large facilities based on standard/pre-existing templates. Even if the government emphasizes project design and service delivery during the bidding process, there are few incentives for the private partner to invest in innovative design if they are not

involved in patient care down the line.¹⁵

New facilities may not be aligned with demand for services

Infrastructure-based PPPs also run the risk of the “white elephant phenomenon” where large and expensive facilities are built for political reasons, rather than to address patient demand, resulting in beautiful new facilities that are largely under-occupied. This phenomenon tends to be more common with Infrastructure-based PPPs compared to those that include clinical service delivery, where the private partner has an incentive to link capacity with future service demand. Given current trends in healthcare and technological advances that support a shift from inpatient to outpatient care, by not linking investments in hospital facilities today with projections of future inpatient need, governments risk over-investing in facilities, and could face long-term contractual payments for facilities that are no longer needed.¹⁶

Bundling of services in the contract allows better management

Historically, hospital Infrastructure-based PPPs have often not included procurement or management of health IT in the PPP contract. Given the rapid pace of IT system evolution, governments have been hesitant, or unsure how, to address the complexity of specifying IT systems within fairly rigid, long-term PPP contracts.² One of the key lessons from Latin America is the importance of bundling medical equipment and IT into the

^{vii} Based on primary and secondary research conducted as part of the UCSF/PwC PPP report series.

PPP contract, however, along with other nonclinical services. For instance, if the public clinical service providers and private partner do not align procurement decisions, the project risks incurring significant costs due to ordering equipment that does not integrate with the IT system, etc. In Chile, medical equipment and IT were initially excluded from a pipeline of hospital PPP projects to reduce project complexity, but

then were bundled into subsequent PPP contracts after it was determined that these services were too integral to hospital operations to be effectively managed separately. Chile developed a comprehensive framework in the form of a standard hospital PPP tender document set that provided general guidance on such areas as building specifications, service specifications, payment

mechanism, reporting standards and IT and medical equipment specifications that should be applied to hospital tenders. This framework included guidance to include IT and equipment in future tenders, with details on roles and responsibilities, procurement process, maintenance expectations and financing requirements.¹⁷

2. The Discrete Clinical Services model

The Discrete Clinical Services model



PPP model components

Clinical services

Private partner responsibilities

Private partner is contracted to **deliver** discrete clinical services (e.g., clinical support services, specialty care services)

Common PPP model name(s)

Operation and management (O&M) contracts

Examples and implementation

An asset light model focused on increasing service capacity for specific clinical services. Model has increasingly been used across India and Southeast Asia.

Model objectives

The Discrete Clinical Services model is used to:

- Improve management of clinical service delivery for specific, high-demand services
- Improve quality of and access to specific clinical services
- Mobilize private sector involvement in the delivery of healthcare services

How does the model work?

The private partner is primarily responsible for:

- **Finance** – financing or co-financing the capital cost
- **Maintain** – maintenance of the hard facilities and equipment needed to deliver specific clinical services
- **Operate & Deliver** – management and delivery of specific clinical services; sometimes including supply of equipment

Discrete Clinical Services PPPs involve a government contract with a private partner to operate and deliver specific clinical or clinically-related services, which are typically performed on premise at public healthcare facilities. These types of contracts exist in many forms and can cover a variety of services, including laboratory, diagnostic, dialysis and other specialist services. The contracts, and their performance management, focus primarily on the number of services provided or patients reached.

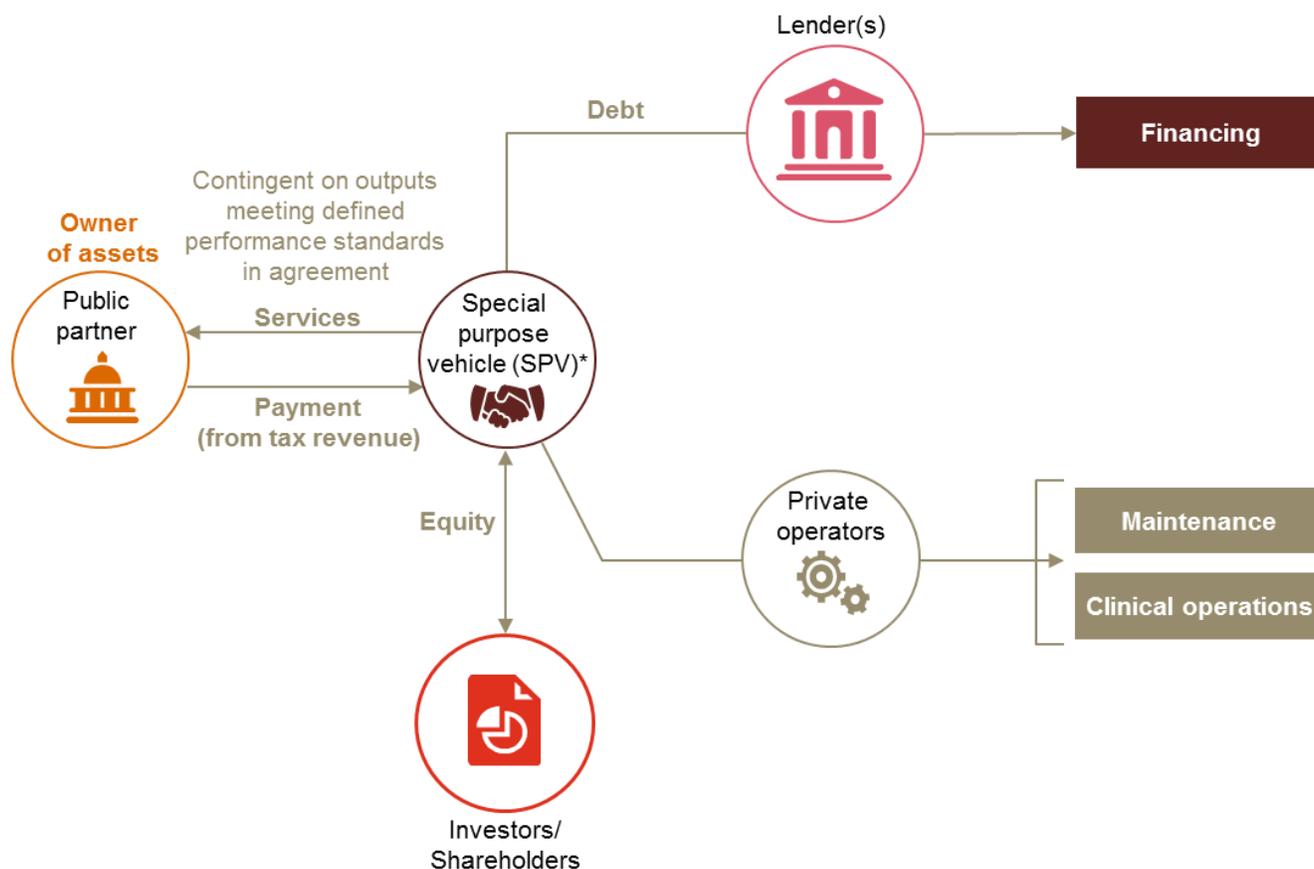
The benefit of these arrangements compared to Integrated PPP projects is that they deliver targeted clinical services in an ‘asset-light’ format—thus reducing cost and complexity. While they are generally higher risk than Infrastructure-based PPPs, they are significantly lower risk than Integrated PPP models.

Discrete Clinical Services PPPs are usually short- to medium-term in duration (less than 10 years) to align with the lifecycle of clinical

equipment, but can become longer-term as contracts are extended.¹² Projects with longer contract terms have greater potential for increased private sector investment, as the private partner has more time to recover its investment.¹⁸ Often, medical device manufacturers will partner with clinical service providers to bid on projects.

There is widespread debate whether these types of contracts fall under the definition of a PPP, particularly if a contract is of short duration and involves minimal private sector capital investment. However, many Discrete Clinical Services PPP contracts are performance-based and incorporate other requirements that are common in larger-scale PPPs, such as maintenance or replacement of clinical equipment. These elements shift additional risk to the private partner—arguing for consideration as PPPs.

Figure 7 – Typical structure of Discrete Clinical Services PPPs



* If a project does not require external financing, an SPV may not be required

Where do we see this model?

Discrete Clinical Services PPPs have been implemented across a range of countries that experience inadequate capacity for specific clinical services.

In India, for example, where the availability of advanced diagnostic services is limited—especially for high-end devices such as CT and MRI—and government capacity to manage more complex projects is

limited, there have been many successful Discrete Clinical Services PPPs. Diagnostic services are good candidates for the ‘asset-light’ model, and generally require lower investment and operational bandwidth, resulting in projects that are less risky to deliver, but which provide clear impact and expand access to care. Radiology diagnostic PPPs in India originated in teaching hospitals, with the Sawai Man Singh (SMS) Medical College Hospital in Jaipur in 2004. Teaching hospitals’ high patient

volumes provide an attractive alternative for private operators to offset patient demand risk. Currently, there are about seven such projects in the country (all of which operate in teaching hospitals) with others in the pipeline.^{viii}

In 2003, hospitals across Romania were similarly under-served in terms of quality of, and access to, dialysis services for existing and new patients, with only 36 hemodialysis machines per million

^{viii} PwC analysis conducted as part of the UCSF/PwC PPP Report Series.

population, compared to 93 and 102 per population in Hungary and the Czech Republic respectively.¹⁹ Following guidance from the International Finance Corporation (IFC), in 2004 the government of Romania awarded contracts to four private operators to operate and manage dialysis centers across eight hospitals, in an effort to increase access to, improve quality of, and simplify the funding stream for, dialysis services. The government paid the private partners a flat fee per hemodialysis treatment, and an annual fee per peritoneal dialysis patient; the private partners were responsible for renovating the dialysis center facilities, providing and maintaining equipment, procuring necessary supplies and managing service delivery—including managing all human resources. According to the IFC, the government saved close to three million euros between 2005 and 2008 through these PPP arrangements.

What have we learned?

Discrete Clinical Services PPPs, if structured with clear performance indicators, offer a lower risk option for the public sector to engage in PPPs, and for private providers to engage in public service delivery—thus potentially paving the way for more complex Integrated PPP models in the future.

Stimulating competition

In countries where governments have historically provided all, or the majority of clinical services, public providers have an inherent competitive advantage in new clinical service projects. In some cases, governments will need to offer incentives such as higher reimbursement rates to spur

interest. Over time as private interest increases, these incentives may be able to be phased out. For example, the UK government initially provided volume and income guarantees to private partners to encourage their interest in competing against other NHS providers for PPPs for selected surgical procedures. At the time, this strategy resulted in the private sector making up 20% of the total market for these procedures, offering patients more choice in accessing care. To support long-term financial management of these projects, the guarantees were removed as part of the second wave of projects, and rates paid were the same as for NHS providers.²

Additionally, stimulating competition among private bidders can expand access, increase efficiency, encourage innovation and result in savings for the government over the longer-term. With increased competition, the government can push for more transparent pricing and the adoption of stricter quality standards across public and private providers—a benefit across all PPP models.¹⁸

Asset-light model that addresses constraints in the public sector

Governments have experimented with the Discrete Clinical Services PPP model to address specific constraints in public healthcare delivery, such as a lack of access to trained staff, or appropriate technology and medical equipment. Discrete Clinical Services PPPs are also a good solution for countries that do not have sufficient government capacity or regulatory infrastructure to manage more

complex PPP models. The flexibility of the model may offer a solution to a range of other service delivery needs in the future.

One consideration with these types of projects is that while the private partner may introduce technology and assets that lead to higher quality care, the government needs to ensure that the new technologies are aligned with local need, government financial limits and long term management capacity: e.g. the most cutting-edge (and usually more expensive) equipment may not be necessary to achieve considerable improvements in quality of care within a particular setting.

Focus on lowering costs and improving quality

Given ongoing debate in many countries around the private sector's role in the delivery of healthcare, PPPs that expand beyond infrastructure to clinical services can face significant public criticism and resistance. PPPs must therefore demonstrate the private partner's ability to deliver clinical services at a lower cost while maintaining or exceeding quality of care. Discrete Clinical Services PPPs that address a clear clinical capacity need, such as diagnostics or dialysis, can provide a relatively low risk, asset-light, lower capital cost opportunity to demonstrate the private sector's ability to positively impact healthcare delivery over the short term, and may help to ease longer-term concerns. Clearly defined metrics, transparent evaluation and publicly available outcomes are also important to document performance.

3. The Integrated PPP model

The Integrated PPP model



PPP model components	Infrastructure + financing + clinical services + clinical support services + nonclinical services
Private partner responsibilities	Private partner is contracted to design, build, finance, operate facilities and deliver nonclinical and clinical services
Common PPP model name(s)	DBOD, Clinical Services PPP, Integrated PPP, Public Private Integrated Partnership (PPIP), Alzira model
Examples and implementation	The most complex of all healthcare PPP models. Widely cited examples across a variety of countries and income levels, including Australia, Lesotho, Peru and Spain

Model objectives

The Integrated PPP model is used to:

- Improve quality of and access to comprehensive healthcare services
 - Improve management of clinical service delivery
 - Improve management of primary care referrals to manage costs and improve community-level health outcomes
 - Mobilize long-term private sector investment in the delivery of public healthcare services
- As with Infrastructure-based PPPs:
 - Improve quality and capacity of public healthcare infrastructure to deliver services
 - Build or expand/refurbish public healthcare facility infrastructure (e.g. hospitals, outpatient centers, primary care clinics, etc.), typically in a shorter time frame
 - Allow the public sector to access needed capital, to finance major infrastructure projects

How does the model work?

The private partner is responsible for:

- **Design** – of the facilities based on requirements set by the government
- **Build** – construction of new, or renovation of existing, facilities
- **Finance** – financing or co-financing the capital cost
- **Maintain** – maintenance of the hard facilities and equipment as applicable
- **Operate** – management and delivery of nonclinical services; including supply of equipment as applicable
- **Deliver** – management and delivery of clinical and clinical support services

The Integrated PPP model is the most complex of all PPP models. In addition to improving or expanding facility infrastructure, this model leverages private sector management expertise to deliver and manage inpatient and outpatient clinical services, often including new or expanded services. Using this model, governments have worked to improve the management of clinical service delivery, and enhance quality of, and access to, care. In addition, by encouraging the private partners to achieve financial efficiencies through improved management practices and systems, the model aims to improve services while remaining cost neutral to both the government (e.g., a similar budget outlay), and to patients, who incur the same or lower out-of-pocket payments as they would in a public hospital, but for improved services.³

Under the Integrated PPP model, the private partner is responsible for all facets of delivering patient care services as outlined in the contract. This typically includes delivering all care within the hospital and refurbishment and management of a small number of referral clinics, giving them ability to coordinate care and manage referrals.

The Integrated PPP in Valencia, Spain went a step further and included all primary care and referral clinics in the health district in the PPP contract, and in some cases included long-term care. Although this decision required

additional levels of community and political buy-in, it allowed the private partner to have control over the full spectrum of services and referrals for the designated population, allowing them to achieve further efficiencies and incorporate more comprehensive health promotion strategies that contributed to overall improved care.

Under the Integrated PPP models, the private partner is also responsible for managing all ancillary support services, including, but not limited to, delivery of clinical and nonclinical support services (laboratory, radiology, housekeeping, cafeteria, etc.) and determining and managing equipment and patient systems required to provide care. The private partner generally staffs and manages the human resources for most or all care services and support services. As noted later in this section, the transition of service delivery staff from public management to the new PPP arrangement is a critical change, requiring significant upfront consideration and change management pre-planning.

By definition, the Integrated PPP model requires a complex set of agreements with the private partner (or private consortium) to manage the components of financing, design, construction and service delivery. At the same time, it is critical that the contract be flexible enough to address key changes, such as shifts in demographics and service delivery needs, over the length of the contract.

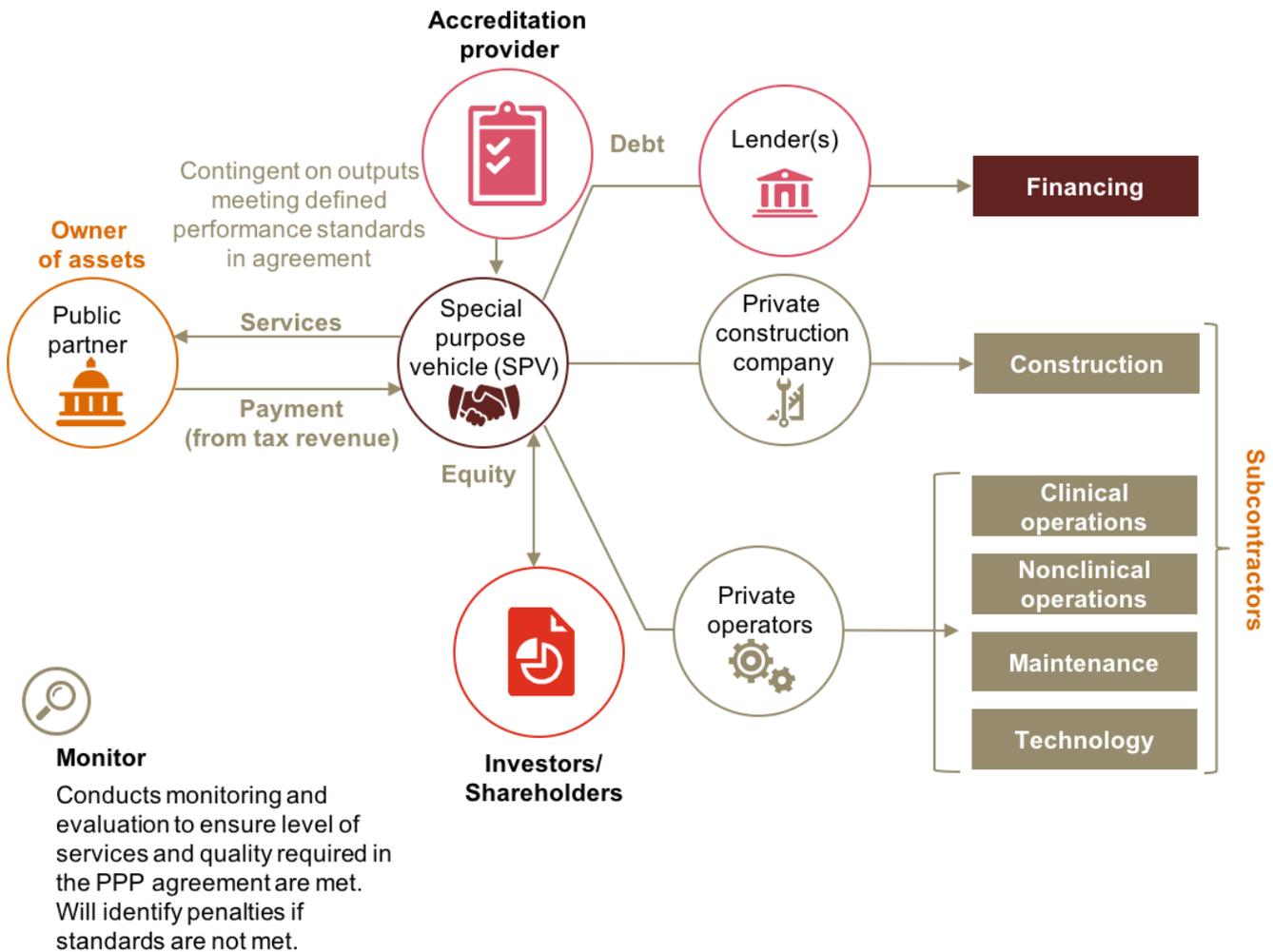
The private partner is not only responsible for assuming the risk for delays and cost overruns in the construction phase as with other types of PPPs, but also for service delivery risks, including managing changes in service demand, achieving strict service quality standards and managing human resources.

Given the significantly different competencies involved in building and operating a hospital, the private partners involved in Infrastructure-based PPPs typically include one set of partners to finance and design/construct the hospital in the short run, and a different partner to manage and deliver healthcare services over the length of the contract.

Most Integrated PPP financing arrangements assume that the private operator will be able to manage costs through achievement of service delivery efficiencies.²⁰

Transferring responsibility for clinical service delivery to a third party represents a major change for governments, as they must shift from being a provider of services, to a more arms-length relationship as a contractor of services and manager of quality via contract and performance management.

Figure 8 – Typical structure of Integrated PPPs



Where do we see this model?

As governments gain experience with healthcare PPPs, more are beginning to experiment with the Integrated PPP model. There are some notable examples across a variety of countries and income levels. The first and third reports of the UCSF/PwC PPP report series provide in-depth analyses of highly publicized projects in Maseru, Lesotho (the building of the Queen ‘Mamohato Memorial national referral hospital), which

was the first PPP of its kind in Africa and the first in a low-income country, and in Valencia, Spain (commonly referred to as the Alzira model), which was replicated across five health districts in the region. The second report in the series, *Lessons from Latin America*, gives an overview of three Integrated PPPs projects awarded in Peru (Hospital Alberto Leopoldo Barton Thompson, Hospital Guillermo Kaelin de la Fuente and Torre Trecca). Peru was one of the first countries in Latin America to undertake the

Integrated PPP model, and to incorporate non-acute care facilities within a project’s scope.

As part of the UCSF/PwC PPP Report Series, research was conducted on three hospitals in Australia which include co-location of public and private services on the same site.

What have we learned?

Although the Integrated PPP model is the least common of the three healthcare PPP models in use today, it offers significant opportunities for countries seeking to implement health reform through greater emphasis on the management, cost and quality of clinical service provision. Integrated PPPs have the highest potential to improve clinical performance; however, they are also highly complex, and governments will need to take stock of their capacity to manage, and their political support to sustain, such projects before embarking on them.

Limited research on improved clinical outcomes

To date, robust evaluation of the efficiency and clinical gains achieved by Integrated PPP projects has been limited. The reasons for this vary and may be due in part to the relative newness of some projects (such as those in Lesotho and Peru). In Valencia, Spain, a major challenge has been the lack of comparable benchmark data on publicly-managed hospitals.

Despite these challenges, there have been recent efforts to quantify clinical outcomes. For example, detailed baseline and follow-up studies conducted by Boston University on the Lesotho PPP project allowed for comparison of the new PPP hospital's performance with that of the original public hospital it replaced. The Lesotho PPP project resulted in an integrated healthcare network with a new referral hospital, three refurbished community clinics and a new clinic.²¹ The study demonstrated that the PPP network treated a

higher volume of inpatient and ambulatory patients, and achieved higher occupancy rates and lower average length of stay. Thanks to the management model implemented by the private partner (Netcare Limited, a for-profit, publicly traded South African healthcare company), the new facilities also had a higher number of clinical staff to support these outcomes. Improved management practices, with clear and improved policies and greater staff accountability, led to higher employee satisfaction and also contributed to the improvements in outcomes.²²

Robust referral management is needed to manage Integrated PPP projects

A surge in demand is common when a hospital becomes better run and quality of service delivery is improved. The Lesotho PPP hospital faced significant cost overruns following its opening, driven by higher-than-anticipated patient volumes. Lesotho's experience points to the need and benefits of including primary care services and robust referral management into Integrated PPP contracts, to allow hospital management to better manage patient care and patient volumes driven by secondary and tertiary care.²⁰ Additionally, inclusion of robust patient care and monitoring IT systems in the project allows for data collection and analysis to support better integration of care delivery.

Importance of identifying and maintaining appropriate clinical standards

An important component of the Integrated PPP model is ensuring the enforcement of clinical quality and performance standards. This area of contract management has

been a challenge for many governments, especially as performance is tied to payment. In many cases, governments have sought the assistance of national or international hospital accreditation agencies to identify appropriate clinical standards and to perform periodic reviews to ensure that quality standards delivered by the PPP facilities remain in line with industry benchmarks.

Inclusion of clinical services has change management implications

Integrated PPP projects require significant change management efforts at multiple levels to be successful. In addition to the shift that governments must make from managing services directly to managing performance by contract, Integrated PPPs also represent a major shift for the public healthcare providers as they come under private management.

The transition from public to private management for healthcare staff/professionals is a significant one. By design, private partners bring new human resource and performance management practices to the project that are significantly different from public management norms, including greater use and enforcement of performance management standards, timekeeping and reporting. Thus training, as well as time and support for staff to adapt to new methods must be built into facility opening schedules to ensure successful transition. In addition, it is useful to engage healthcare staff and providers early in the design of the facility, to help make decisions around layout, operations and selection/design of equipment and systems. Overall buy-in from clinicians on facility design, operations and service

management is critical to the success of Integrated PPPs.¹²

Finally, a major decision for many projects involves whether healthcare staff will transition from public to private employment as part of the project, or whether

the staff will be comprised of a mix of both. There are no standard paths; each project must consider the most effective solution for its situation depending on factors such as the availability and skillsets of providers in the region, existing union and civil service

employment contracts, and potential impact on recruitment and retention caused by potential wage differentials and employment expectations between the private and public employers.

Key enabling conditions for PPPs in healthcare

Review of countries' experience with PPPs in healthcare yields several key lessons and recommendations around the conditions and considerations that enable or threaten the success of PPP projects.

When considering embarking on a PPP, it is critical for governments to consider the project within the context of the needs of the broader health system. Key inputs, including robust information on current and projected healthcare demands and costs, are needed to guide good policy and decision-making around PPP design and the appropriate cost model to employ.

Importance of political will

Political will is arguably the most critical enabling condition for PPPs: cancellation of the PPP development pipeline in Chile in 2014 (those not yet awarded),¹⁷ along with experience in Lesotho, Valencia, and other countries that have, or have tried to implement Integrated PPP projects, reveal how changes in political philosophies when a new political party takes over after an election can have significant impact—up to and including the halting of projects. The private sector will not invest resources and time into bidding on PPP projects if there is low certainty of public sector commitment. Changes in political will thus represent the biggest risk to PPPs, and demonstrate the need for both public and private parties to ensure strong bipartisan support for the project over the long term.

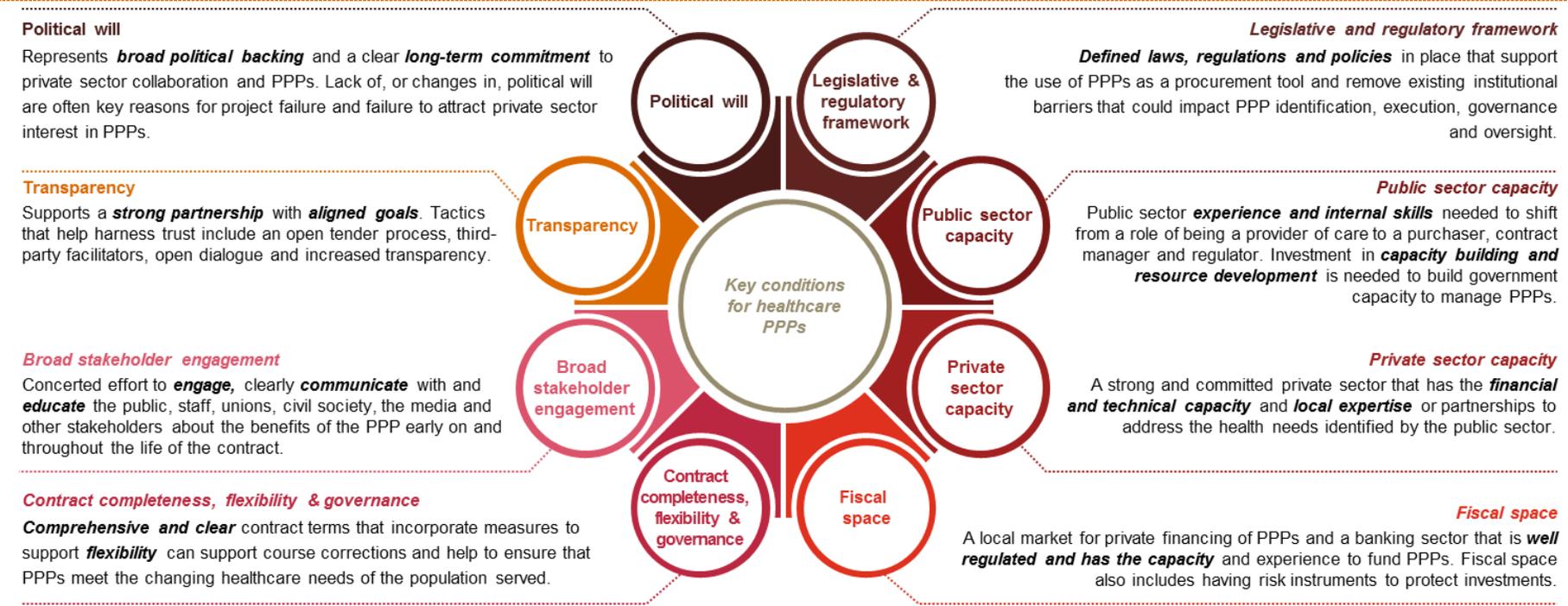
Additional key conditions

Even if a PPP project is aligned with the national/local health strategy and is broadly supported politically, experience and lessons learned point to several additional key conditions that need to be in place to support project success (see Figure 9). Although all of the conditions noted are important, five are explored in greater depth in this section:

1. Legislative environment and regulatory framework
2. Transparency
3. Public sector capacity
4. Contract completeness and flexibility
5. Broad stakeholder engagement

Additional details on other conditions can be found in individual UCSF/PwC PPP reports.

Figure 9 – Key conditions for PPP project success^{ix}



^{ix} PwC analysis



Legislative and regulatory framework

Specific PPP legislation and a supporting regulatory framework are important precursors to the development and planning of a PPP project. Although many countries have pursued PPP projects without set policies in place, having defined laws and regulations to guide how governments enter into PPPs can help to resolve legislative questions and barriers that might otherwise slow the planning process or deter potential investors.

Additionally, strong PPP guidance—including standards for PPP identification, execution, governance and oversight—aid governments in long-term financial and operational management of PPP contracts.²³

United Nations Economic Commission for Europe (UNECE) draft standards (revised February 2016)

The UNECE drafted a standard that aims to establish a set of best practices for the management of PPPs in healthcare, including guidance on the types of PPP legislative and policy frameworks that should be in place, to assist governments that are considering PPPs as a mechanism to strengthen health systems and infrastructure to achieve Sustainable Development Goal 3 (SDG3). Key recommendations include:

1. **Ensure PPP policy and legislation is robust and consistent with other policies** – The policy and legislative framework for a PPP program in the healthcare sector should be consistent with the government’s healthcare, economic and fiscal policies. While the PPP policy assessment should provide a clear framework for development, it should not impose too much legislative rigidity early in the program so that early lessons can be adopted.
2. **Prepare an evidence-based delivery plan** – The plan should set out the process to be followed in subsequent stages of the program’s life. The PPP Delivery Plan should be considered a ‘live’ document, and be subject to strategic review at routine intervals aligned with the periodic reviews of healthcare strategy.
3. **Establish a suite of standard procurement protocols and documentation** – A defined and standard process framework should be established within the PPP Delivery Plan for the scoping, approval, procurement, delivery and management of the PPP program. This framework should be defined based on prior lessons learned from other PPP programs.
4. **Develop a focused specialist office to manage the program** – A “PPP Unit”, a specialist unit, team or department, should be established to manage the development and implementation of the PPP program. This unit requires support from the finance and healthcare ministries, and central and local government and should be sized based on the volume of projects.
5. **Plan program management resources and training** – Prior to program implementation, governments should develop a detailed resource plan outlining the people and costs needed to implement it successfully. The resource plan should cover the development of PPP legislation and policy, the scoping of the program, development of business cases, project procurement, delivery and commissioning and project operations.
6. **Ensure that there is political and civil service support** – Prior to program implementation, the government should conduct a formal assessment of political and public sector/civil service support for the program to identify any objections that need to be addressed and any legislation required to enable successful program delivery.

Governments often develop national PPP frameworks that apply across multiple sectors, and then add specific regulations/stipulations to address the particular needs of specific sectors. As part of the United Nations Economic Commission for Europe (UNECE) draft standard, lessons were drawn from PPP projects across 56 countries. The standard noted that most countries have used existing PPP legal frameworks to inform healthcare PPP projects, rather than developing specific health sector PPP legislation.¹ As countries embark on more complex healthcare PPPs, they may need to develop additional regulations related to the delivery of care.

Experience from Southeast Asia illustrates the wide variety of PPP legislation and supporting guidelines across countries. Indonesia, for example, enacted PPP-specific legislation that sets rules for establishing PPPs generally, but does not provide

specific legislation for social infrastructure projects. Several projects have faced challenges in following the legislation due to subsequent conflicting regulations passed by the Ministry of Health. Malaysia, on the other hand, has not developed PPP-specific legislation but has robust policies and guidelines in place to facilitate PPP implementation of infrastructure facilities and public services. Policies are supported by an agency, known as the Public Private Partnership Unit ("UKAS") which oversees and coordinates PPP projects, and is a unit that sits directly within the Prime Minister's department. Thailand, which has a more active PPP program, has guidelines and requirements in place to support delivery of the PPP program. Its 2013 *Private Investment in State Undertaking Act* is robust—requiring a five-year strategic plan, defined financial sources, feasibility studies related to project costs and risks and a standard contract to facilitate negotiation. The Act requires a fund to be established from which the Ministry of Finance provides seed money to cover the cost of strategic planning and PPP feasibility studies.^x

PPP guidance and protocols typically outline the types of analyses that are needed for PPP approval, including cost benefit, social impact, financial effectiveness and value for money. In practice, these prerequisites are not always completed with the required level of rigor, and can be susceptible to political influence. In Mexico, for example, the Zumpango Regional High Specialty Hospital, often described as the “crown jewel” of Enrique Peña Nieto’s term as governor, has been questioned on whether politics influenced the decision to build a large specialty hospital in a hard to access low urban population location versus selecting a more convenient location or building smaller general acute care hospitals that could have expanded access to care to a larger proportion of the population.¹⁷

^x Unpublished research on PPPs in Southeast Asia conducted as part of the UCSF/PwC PPP Report Series.



Transparency

In many countries, healthcare is seen as a government responsibility, and politicians and the population are uncomfortable with the idea of care managed or provided by private (and particularly for-profit) providers. This has contributed to negative publicity and lack of political and community support for PPPs—even as far as cancellation of PPP projects following the election of a

less supportive government. To avoid and address such resistance, public PPP leadership is advised to be as transparent as possible in its decision making, including engaging stakeholders in, and clearly defining project rationale and associated bidding and contracting terms to reassure the public that their tax dollars will be well spent. Other lessons include ensuring a transparent procurement process with well-developed documentation, publicly-available and -quantifiable criteria and methodologies for prequalification, short-listing, bid evaluation and award.

Ideally, governments should publish as much of the final PPP contract as possible as a way of

building confidence and aiding transparency.

Since responding to a public bid is costly for the private sector, transparency also is important in encouraging private sector participation and boosting confidence that the process will be a fair one. Increased confidence in turn leads to increased competition and the potential for higher-quality and more competitive and cost-efficient bids. In Chile, Honduras and Peru, information on all PPP projects, including tender announcements, contracts and progress reports, can be easily found on public websites. For countries with less-than-stable economies, transparency is even more important to build private sector interest.



Public sector capacity

PPPs require strong contract management from the public sector. This represents a major shift for many Ministries of Health—transitioning from a role of managing facilities and delivering care directly, to one of holding others accountable for delivery, via contract performance management. This shift requires a range of new ministry skill sets, including contract management, legal, finance, risk management and monitoring and evaluation. Integrated PPP models require additional management skills around development and monitoring of metrics on costs, drivers and patient care.

For governments that do not have the necessary skills in-house, building capacity is important and will require investment. Ensuring that these skills are in

place prior to project development is critical for project, tender and contract design and negotiation, and for longer-term implementation. Although skill and capacity gaps are more prevalent at state and provincial levels than at the national level, they represent a consistent challenge at all levels across low-, middle- and high-income countries.

To address these capacity gaps, some countries have brought in external expertise, including from the IFC and the UK Department for International Development (DFID), to help staff and guide the PPP development process while the country builds up local capacity.²⁴ Countries are encouraged to develop clear roles and responsibilities between the advisors and government players, and work to ensure that appropriate knowledge is transferred to the public sector employees to build internal capacity.

PPP units

To manage capacity gaps, many governments have established dedicated PPP units to provide technical assistance and project management support to

government ministries at both national and state/provincial levels. These units, which mainly drive policy and develop guidance, employ staff with specific legal and contracting/contract management skills, to help ministries coordinate PPP efforts and maximize negotiation strength. Reporting structures of PPP units vary, with some reporting directly to the Presidency or Ministry of Finance and others co-located within particular ministries (e.g., Planning, Health, Industry and Trade). A centralized PPP unit, where staff engage with the private sector on a regular basis can be particularly helpful when the same private actors are involved in multiple bids or across multiple ministries. One caveat is that while creating a centralized PPP unit may support better coordination at the national level, doing so can run the risk of not cultivating the necessary broad political support, since critical ministries may be less engaged in development of the project.



Contract completeness, flexibility and governance

A PPP project's long-term success depends on the contract's design and flexibility, strong public sector contract/project management skills and sustained trust between the partners. However, contract management can be a particular challenge, especially as the original conditions set during project planning will evolve over time with changes in health system structure, national or local laws and politics, population health needs and advances in healthcare technology and medical practices.

Once a private player is identified to partner on a PPP, the quality and "completeness" of the PPP contract, along with the ability of the government to manage the contract, is central to the success of the PPP.²⁵ As more governments experiment with clinical service delivery in PPPs, they will face additional contract management challenges related to changes in patient demand, or appropriately accounting for the cost of care.²⁶ As a result, it is important that contracts be flexible enough to

adapt to such changes, with built-in reassessment points and strong governance structures.

The La Ribera PPP in the Valencia region of Spain, a partnership of the Valencia government and a private consortium led by insurance company Adeslas, is an example of a contract that was redesigned and retendered three years into its 10-year contract period. Under the original 1997 contract the private partner received a per capita payment of 204 euros to deliver specialized clinical care to 230,000 district residents at a single hospital. The project faced initial challenges, including difficulty managing patient volumes. Three years into the operations and after a change in government, the government and Adeslas agreed that the project was not financially or operationally sustainable under its original terms. A new 15-year PPP contract was tendered, which increased per capita fees and shifted additional primary care services under the PPP to enable the private partner to better manage costs through service integration, better referrals and strategies to manage the upstream health of the population. This new model was deemed significantly more successful from both financial and patient care standpoints, and was subsequently adopted in four other districts in Valencia.²⁷

Flexibility measures within PPP contracts can also help prevent conflict or failure to meet

contract terms, particularly when changes are outside either the public or private partners' control. This is particularly important in low income countries or countries facing economic distress, where health system conditions may change drastically. Flexibility can take on many forms. For example, to ensure that projects take advantage of rapid advances in technology, many PPP contracts in South Africa require that IT equipment be updated every three years, and medical equipment every five years. In Mexico, contract modifications that meet certain criteria and are within specified financial limits are permitted, as long as there are no changes in risk allocation. In Peru, contracts allow for flexibility in planned infrastructure construction if expansion turns out to be needed. It is important to understand that each of these approaches may have differing impact on the cost and long-term risk transfer of a project.

In many countries with mature regulatory frameworks, governments have developed standard contract templates for PPP projects, which include language around flexibility in specified contract changes. These templates are then adapted to the specific PPP project. In cases where contract renegotiation is not optimal, the regulatory framework should outline an arbitration process if contract terms are not met.

To manage these changes, it is critical that PPP projects establish a strong governance structure, and that parties strive to maintain a sense of trust and transparency. This is particularly true for Integrated PPPs, which must adapt to complex changes in

demographics, disease prevalence, healthcare practices and technology throughout the duration of the contract. Countries have developed a range of governance structures to manage questions and challenges that arise during contract implementation,

usually including independent auditors. These structures, their composition and the frequency with which they meet can have a major impact on the development of sustained trust between partners, and the speed at which issues can be resolved.



Broad stakeholder engagement

Many PPP projects face challenges with gaining buy-in from the public and from public sector employees.

Community engagement

In some countries, the public is reluctant to support PPP projects, believing that any type of partnership with the private sector is a form of privatization. This is especially the case if the country has experienced failed privatization efforts in the past.

Throughout project development and implementation, governments and private partners need to educate and communicate openly with the public, civil society, health staff and the media about the intended objectives of the PPP to address questions or concerns and help ease general apprehension. Transparency efforts, including making information available about the bidding and selection

process, and ensuring robust communication around facility opening and changes in management, can help mitigate public concerns.

The opening of the PPP hospital in Lesotho highlights the downside of insufficient community engagement. In this case, the hospital faced significant negative publicity when it first opened, with local media airing complaints from patients and employees. Although the Ministry of Health and the private partner, Netcare, had disseminated information about the new hospital, patients remained unclear on how to access care (e.g., needing a referral), and whether the hospital was still public or whether it had been privatized. Confusion and resulting long lines as the public tried to access care led to dissatisfaction and backlash against the PPP. Although there is some indication that the negative media may have stemmed from broader dissatisfaction with the government and hesitation over partnership with the private sector, the stories nonetheless caught the attention of the international media and fostered claims that the project was a government boondoggle. Netcare eventually launched a public

relations campaign to address misconceptions, recognizing a need for more comprehensive communication, especially around new referral requirements. The company acknowledged that more extensive communications earlier in the process could have made a significant difference in the initial launch.⁸

Staff engagement

Managing the human resource implications of shifting from a publicly- to a privately-managed facility is especially difficult, and special attention is needed to identify appropriate measures to engage employees (and unions as applicable) early on. If handled successfully, new management practices brought in by the private sector, including improved timekeeping and pay for performance can lead to significant improvements in patient care and financial performance, as well as creating opportunities for employees. Handled poorly,

however, these changes can lead to significant employee and public backlash, work stoppages and delays in facility openings.

Proactive investment in communication, change management, training and proper staff orientation are all areas that can help to integrate existing or new staff in the development and implementation of a PPP. In cases where staff are transferred from the public to the private sector, information regarding changes to their employment status, including career progression, salary and benefits, should be clearly articulated early on, supported by

multiple opportunities for dialogue to address questions or concerns.

Engaging staff from the beginning also has benefits. Many PPP projects have involved managers and line staff from the existing hospital in the facility design process, to inform building layout and workflow. Some, as in Australia, have even included staff in the bid review process. In contrast, in several cases where staff were not involved in project design, key design features were missed, resulting in costly post-construction remodels.

Measuring success

PPP projects are under critical scrutiny by governments, private parties and the public. However, the ability to measure and demonstrate their success against the original objectives of the project is an identified key challenge. While it is more straightforward to assess the success of an Infrastructure-based PPP where the focus is on building a facility on time and within budget, assessing improvements in service, quality, efficiency and health outcomes under Discrete Clinical Services PPPs, and Integrated PPPs in particular, is significantly more complex. Across healthcare PPPs, little work has been done to identify or establish clear metrics to measure clinical performance and impact. Additionally, few projects include formal project evaluation as part of the contract.

The challenge of evaluating healthcare PPP projects is further

compounded by a general lack of published data on past PPP projects. Between the limited number of baseline studies conducted, limited data collection mechanisms and the complexity of separating the impact of a PPP project from other public healthcare delivery initiatives implemented simultaneously, little evidence exists. A review conducted in 2014 analyzing 1,400 publications on PPPs across sectors and spanning a 20-year period highlighted this deficit.²⁸ When PPP projects have made their data available, as in Valencia, evaluation is made difficult by the lack of accessible benchmark data on public hospitals and/or reluctance of the public sector to share data.

The ability to leverage both public and private data to support objective and robust research is needed. In many low- and middle-income countries this may require

building public sector capacity to securely collect and store financial, operations and patient data that can be used in baseline studies. Governments can benefit PPP research by requiring all private healthcare outlets to publish key data, so as not to disadvantage those involved in PPPs. Additionally, governments should seek ensure that a minimum set of defined key performance indicators (KPIs) be developed and applied to any healthcare PPP that includes service delivery, to assess the positive or negative impact of an implemented project. Data from such an effort could provide critical evidence to inform future healthcare investment.³ Several PPP projects have established clear KPIs to be measured against, including in Australia, Valencia and Lesotho—but more work is needed.

Table 4 – Sample measures of success

	Clinical	Access	Quality and efficiency
Sample indicators	<ul style="list-style-type: none"> • Average length of stay (days) <ul style="list-style-type: none"> - Case mix adjusted • Hospital readmission rates <ul style="list-style-type: none"> - Emergency Department % of patients readmitted within 30 days - Inpatients, % of patients readmitted within six months • Hospital acquired infection rates 	<ul style="list-style-type: none"> • Inpatient and outpatient volumes • Occupancy rates <ul style="list-style-type: none"> - Measurement of how referrals are managed or obsolescence 	<ul style="list-style-type: none"> • Built on time (usually for PFIs) • Build on budget (usually for PFIs) • Staff efficiency metrics • Patient satisfaction & experience <ul style="list-style-type: none"> - Wait times - Evaluation of cleanliness - Interaction with staff
Key notes	<ul style="list-style-type: none"> • Case mix adjusted mortality is difficult to measure and to attribute any improvements to the PPP directly to 	<ul style="list-style-type: none"> • Focus should also be on measuring access to individuals/patients who did not have access before the PPP was in place 	<ul style="list-style-type: none"> • Cost efficiency metrics can be hard to measure as most hospitals don't have good cost accounting measures in place • Mixed thoughts on Value for Money metric

Source: Interviews and PwC analysis

The future of PPPs in healthcare

As healthcare systems around the world struggle to manage increasing pressures, including a growing aging population, the burden of chronic diseases, and challenge of keeping up with innovations in healthcare technology as well as the demands of patients who are more knowledgeable about their care, governments must continue to explore new approaches to proactively address these needs. PPPs offer one solution for governments to consider, to leverage private sector financing, expertise and capacity to respond to a range of infrastructure, management, systems and healthcare access/service delivery needs. PPPs also offer the opportunity for governments to transition into a role as commissioner of healthcare services—setting policy and overseeing, regulating and shaping care delivery for their populations, rather than delivering the care themselves.

Shift toward clinical services and integration of care

Looking ahead, healthcare systems will be under ongoing pressure to increase quality and efficiency of care, and find new ways to use data, systems and distributed networks of providers focused more on wellness and disease prevention rather than on the acutely ill. Health systems will need to become more integrated, addressing care needs across the continuum, while utilizing technology to enhance delivery.

PPP models are adapting to these changes. Where early PPPs focused on building and replacing critically-needed hospital infrastructure, Integrated PPPs were the next evolution, adding clinical service delivery and private sector management practices to improve the quality of care delivered, as well as access to specialty care. Integrated PPPs (e.g. Lesotho and Valencia) have also evolved to incorporate PPP-managed primary and secondary care facilities and services. Discrete Clinical Services PPPs go one step further, reducing the infrastructure requirement. As healthcare delivery continues to shift away from acute to outpatient care settings, we can expect to see a decline in purely Infrastructure-based PPP projects, with Integrated PPPs evolving in more stable settings, and more asset-light and technology-focused models becoming more common overall.

Despite the evolution of healthcare PPPs toward inclusion of clinical services, most facility-based models do not extend beyond tertiary care. When they do, they rarely go beyond secondary or primary care. When a government is responsible for delivering care, it is unlikely to introduce changes in its service delivery approach: although it may have new facilities, delivery remains the same. In contrast, service delivery PPPs provide an opportunity to introduce innovative care models that can improve healthcare outcomes and increase the potential for savings by better managing high-cost patients in lower-cost settings.

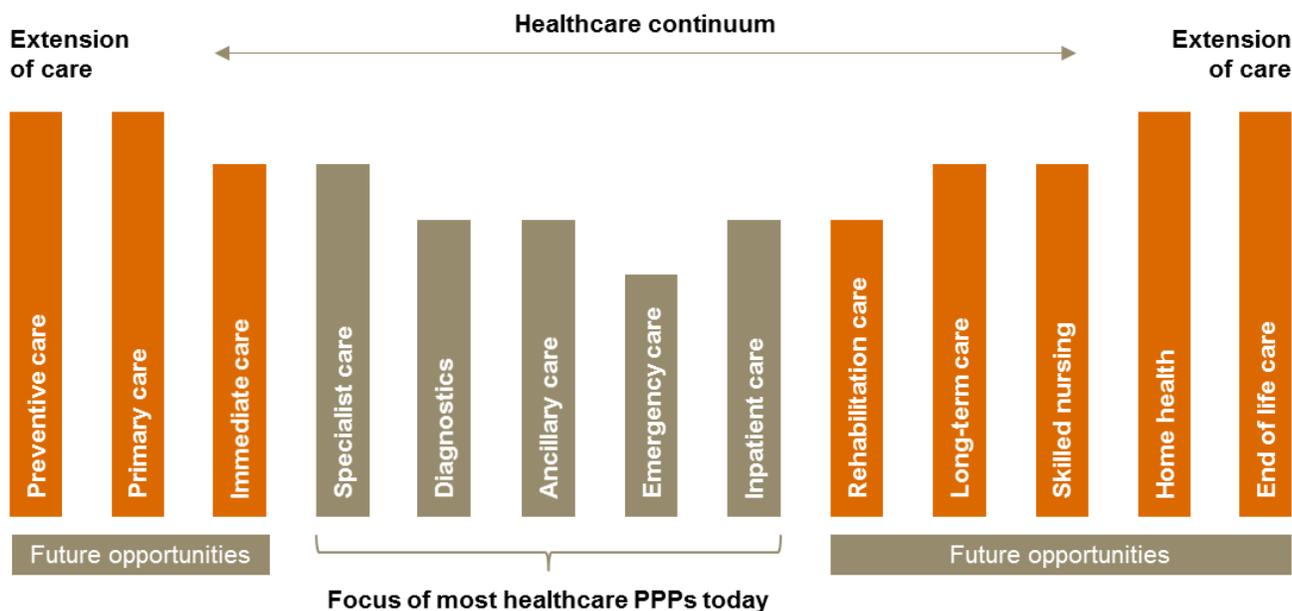
As health systems face increasing patient care costs, especially due to aging populations and the rise of chronic diseases, integrated care services beyond tertiary-only facilities are likely to provide greater impact. PPP projects that are solely focused on hospital facilities can incentivize the overuse of hospital care. A more integrated approach that tracks and manages demand across inpatient and ambulatory settings, and one more focused on holistic services, such as behavioral and social issues, could encourage preventive care efforts that would have a greater impact on health and wellness.

Focus on services across the continuum of care

As healthcare reimbursement based on the quality of care (versus quantity of services provided) becomes more prevalent, PPPs that go one step beyond today's examples and focus on care coordination across the continuum of care have the potential to further a comprehensive care approach that will help to reduce unnecessary inpatient and emergency room visits.²⁰

This trend to look beyond inpatient service PPPs is already beginning. Although not common, a number of PPP projects have been established recently, focused on extended areas of care, such as mental health services and skilled nursing facilities.

Figure 10 – Potential for future PPPs across the healthcare continuum



These examples demonstrate that PPPs can be applied to a wide range of healthcare needs, where private sector skills, experience and access to capital can be used to further health policy goals. As they evolve, the regulatory and governing bodies will also need to evolve their policies, to provide a

degree of oversight over the structure of these PPPs, as well as to address policy issues related to the type of care provided (e.g. from preventative to end of life care).

More advanced and mature healthcare and PPP markets may be better equipped to experiment

with these new types of PPPs relative to lower income countries that are just beginning to explore Discrete Clinical Services PPPs, and PPPs in general. However, this should not stop any country from thinking of creative new models to extend access to care through private sector partnership.

Technology to extend access to care

Technology in healthcare can mean many different things—from administrative business, procurement and communications systems that streamline and speed operations, to eHealth systems that connect providers with patients and patient data (e.g., electronic health records, clinical decision support tools, patient scheduling systems), to software-enabled equipment that can improve the quality of care delivered (e.g., diagnostic machines linked with the electronic health system). With a wide array of solutions, technology can be used to improve the act of delivering care, through to extending how care is delivered (e.g., virtual care and telemedicine).

Given the constantly changing landscape of both healthcare and

healthcare technology, incorporating technology solutions into PPP projects is a complex undertaking, particularly for longer-term contracts that integrate care across multiple levels. Incorporating technology into PPP projects requires a broad array of expertise across clinical, legal, technology and contract management to assess the most appropriate technology components to include in the contract, vs. which should be managed separately.

Decision-makers must also think long-term, to consider how technology can be used to take care delivery to new levels. For instance, how can telemedicine systems be implemented to extend access to care to remote populations with little access to transportation, allowing clinicians to monitor and treat patients in lower-cost distributed clinic settings, or remotely via telemedicine? As low- and middle-

income countries grapple with providing care to remote, underserved populations, they may bring new ideas to the care delivery table that can be adopted in other settings.

In addition, as lower and middle income countries bring in new technologies through PPP projects, they are raising questions about how—and whether—technology developed in, and for, high-income settings should be scaled to lower-income settings. For example, should high-tech operating room suites be scaled down and simplified to address the objectives and resources of a PPP implemented in a low-income setting—or should new technologies/solutions be developed that use less resource-rich environments as their starting point? As greater numbers of countries implement technologies into their care settings, they will drive new markets and innovation.

Conclusion

Healthcare is a constantly changing environment—from shifting demographics, to rapidly evolving therapeutics, treatments and technologies, to emerging diseases, conditions and service demands amid increasingly mobile populations.

PPP design is evolving to address these changing needs. By leveraging private sector expertise, financing, capacity, systems and management discipline, public health systems have been able to take advantage of new technologies and clinical support practices for their populations. Pursuit of PPPs has also allowed governments to gain experience in transitioning from delivering care,

to overseeing it via policy, regulation and performance management—critical experience that over time will allow governments to expand services far beyond traditional public capacity, and manage care across the spectrum of public, private and informally-delivered services.

In determining whether a PPP is the right solution, the most important factor for governments to consider, is that PPPs are not a “one-size fits all” solution. PPPs must be designed within the local context, and be aligned with a country’s national or local healthcare policies and delivery strategy. Care should also be taken to ensure that decision making

around PPP strategy is transparent and inclusive, in order to engage stakeholders across the political spectrum, engage the community and public health providers, and encourage robust private sector participation. Clearly defined and measurable output-based performance standards will need to be defined that specify the end goal that the government wants to achieve through the PPP—rather than specific definitions of how PPP services will be delivered. This will give the private partner flexibility to incorporate new ways of achieving the desired patient and financial outcomes as conditions evolve.

About the authors

About the Global Health Group

The Global Health Group at the University of California, San Francisco (UCSF) sits within the Institute for Global Health Sciences is an “action tank” dedicated to translating major new paradigms and approaches into large-scale action to positively impact the lives of millions of people. Led by Sir Richard Feachem, founding Executive Director of the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Global Health Group spans a wide spectrum of activities ranging from research and analysis, policy formulation and consensus building, to the catalyzing of large-scale program implementation in collaborating low- and middle income countries.

One of the Global Health Group’s programmatic focus areas is the role of the private sector in health systems strengthening. The Global Health Group studies a variety of innovative delivery platforms that leverage the strengths of the private sector to achieve public health goals. The Global Health Group has identified public-private partnerships (PPPs) in general, and public-private integrated partnerships (PPIPs) in particular, as a promising model to improve health systems globally, including in developing countries.

For more information visit:
<http://globalhealthsciences.ucsf.edu/public-private-partnerships>.

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