Public Private Partnerships (PPP) are used for differing reasons across a range of industries. PPPs in the water sector have successfully mobilized private operators to turn around failing public companies and expand access to water services. In the building sector, PPPs have transferred responsibility of construction and estates management to private companies, leaving government departments to focus on their core activities (Grimsey and Lewis 2004). Increasingly policymakers are exploring PPPs as a means to improve their public hospitals. However, the performance goals and policy context for hospitals differ considerably from those in which PPP models evolved (Grimsey and Lewis 2005; Brinkerhoff and Brinkerhoff 2011). Discussions about PPPs in the health care sector are often hampered by confusion about what the term means, with multiple models grouped without distinction on the umbrella PPP term (Field and Peck 2003). Lacking a clear vocabulary, health policymakers find it difficult to sort out what these “imported” models offer and it is difficult to understand which models are likely to address the performance problems for which a specific PPP is contemplated (Ng and Loosemore 2007).

We review the PPP models most frequently applied in other sectors, and increasingly in hospitals, and use configuration analysis to group them into categories with analytically important distinctions among them. We propose a typology of hospital PPPs to permit clearer communication and more sound analysis. Clearer specification of their characteristic mechanisms also illuminates the problems that each PPP type has been “built” to address. Establishing analytically meaningful categories allows researchers to compare “like with like”. We hope that this typology will support much needed evaluative research in this field.

**Defining PPPs**

PPPs are a form of contract between a government and a private entity in which the private partner undertakes the long-term provision of publicly beneficial services. Initial injection of capital by the private partners is a key component of many, though not all PPPs. What critically distinguishes a PPP from a service contract is the duration and intended distributed benefit.

**Box 1. Definition of PPP**

“A more or less permanent cooperation between public and private actors, through which the joint products or services are developed and in which the risks, costs and profits are shared.”

An important source of confusion about what a PPP is and what it is intended to deliver to the health system derives from the different perspectives of two groups of professionals. One group has a background in infrastructure PPPs – and they seek to bring the benefits of this model to the hospital sector. In infrastructure sectors, PPPs are implemented mainly as a means to mobilize private capital, transfer investment risk, and consolidate the finance, construction, and maintenance activities into a single contract for easy of management by government, with ensuing gains in efficiency by the private operators. Often the advantage of an infrastructure PPP is that financing can be recouped by direct billing of service users, bypassing government budgets entirely. The infrastructure model proponents view the mobilization of private finance as the critical component of a PPP, central to the benefits of the model, and the focal point for contractual attention (Brown 2007).

The second group comes to PPPs from health services and is engaged with PPPs as a means to bring private management expertise, flexibility, and care delivery models to hospital operations. This group focuses on service contracting, responsiveness, and efficiency in both the conceptualization and assessment of PPPs. Hospital operation and management experts view the incorporation of better management systems from the private sector as central to improving health services, and as the core benefit, and focus, of a hospital PPP (Dorgan et al., 2010). Because of the differing perspectives, the collection of hospital PPPs implemented around the world includes examples that each group view as having been undertaken for the wrong reasons, and often as being inappropriately designated a PPP. As we will explain below, we believe that the commonalities of partnership arrangements and duration of engagement justify the inclusion of partnerships as defined by both groups in the same, shared, PPP designation. That said, we believe it is critical for policy-maker, analyst, and economists to distinguish the structural features and objectives that drive each transaction.

### Hospital PPPs vs Infrastructure PPPs?

The documentation on infrastructure PPPs is growing, and the models, risks, benefits, contract structures, and financing issues are understood (Brown 2007). Since at least the 1800s, governments have sought to encourage private investment in areas of public benefit through mixtures of land grants or long-term leases (railways, toll highways), monopoly grants (canals), and enduring purchase commitments (water and electricity). The pricing of assets, loans, and share of income or fee waivers have all grown more sophisticated, but an infrastructure PPP today is very similar to those from a century ago. As in the days of railway PPPs, profits are gained largely through better management, use of zero-cost land leases, and monopoly or quasi-monopoly control of a resource used by many purchasers. For the government, these PPPs are attractive because the risk and effort of investment is taken on by a private entity. Society as a whole benefits from having the new infrastructure or utility services that otherwise would not exist.

The mechanics and sources of gains in infrastructure PPPs translate imperfectly to hospitals and healthcare. Acknowledging minor variation between hospital PPP models, there are six key issues that are common to hospital PPPs and make them different from their infrastructure homonyms:

- **Government, not individual, is primary purchaser of outputs:** Infrastructure PPPs commonly collect fees from multiple consumers – drivers on a highway, passengers on a railway, factories and homes receiving water or electricity. By contrast, hospital PPPs typically receive nearly all of their income from government in the form of scheduled lease payments or unit service payments. This simplifies, constrains, and adds risk to the income stream of private operators in hospitals.

- **Partnership risks are political rather than marketplace:** As a result of the government primacy in purchasing noted above, the risks of hospital partnership success are often more due to uncertainty about long-term compliance with payment obligations, than market demand projections. For this reason the borrowing costs for hospital PPPs are usually higher than the cost of infrastructure financing.

- **Measurability of outputs:** Infrastructure PPPs deliver highly measureable outputs, whether power, water, road access, or otherwise. Inpatient services are immensely varied based on the condition, co-morbidities, and patient characteristics and largely unobservable (Preker et al. 2000).

- **Variability of outputs over time:** During the 20 to 30 year life of a typical hospital PPP the population served by the facility can be expected to change in composition, wealth, age, and illness. This is particularly true in low- and middle-income countries (LMICs), where both demographic and epidemiologic transitions may be occurring simultaneously, contemporaneous...
Table 2: Major differences between hospital PPPs and infrastructure PPPs

<table>
<thead>
<tr>
<th>Infrastructure PPPs</th>
<th>Hospital PPPs</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government vs Private purchaser of output</strong></td>
<td>Private buyers/payers</td>
<td>Government (or social health insurers) buy all or most services</td>
</tr>
<tr>
<td></td>
<td>Government does not enter long-term service purchasing relationship as part of transaction</td>
<td>Government enters into long-term service purchasing relationship as part of transaction</td>
</tr>
<tr>
<td><strong>Business risk vs Political risk</strong></td>
<td>Borrowing costs reflect estimated risk of demand for infrastructure services by total market of potential payers</td>
<td>Borrowing costs reflect risks associated with single or multiple government payer agencies</td>
</tr>
<tr>
<td><strong>Measurability</strong></td>
<td>Comparators for benchmarking cost of facility availability services are somewhat limited</td>
<td>Comparators for benchmarking cost of services often extremely limited</td>
</tr>
<tr>
<td><strong>Variability of outputs over time</strong></td>
<td>Products stable over time</td>
<td>Products highly variable due to variety in demographics and disease</td>
</tr>
<tr>
<td></td>
<td>Service delivery technology and organizational models change slowly</td>
<td>Service delivery technology and organizational models change rapidly</td>
</tr>
<tr>
<td><strong>Ratio of investment to operating capital</strong></td>
<td>High ratio of capital to operating costs</td>
<td>Low ratio of capital to operating costs</td>
</tr>
</tbody>
</table>

Source: Authors’ analysis

with rapid economic development. All of these will affect the medical service mix, or outputs, of the hospital. By contrast, in infrastructure PPPs variation in output volume is normal, but output mix is constant.

**Variability of technology and organizational configuration over time:** The pace of change of medical service delivery is increased every year due to changing regulation, reimbursement systems, technology, and better information. Across the OECD there are large changes each year in the inpatient-outpatient mix, the duration of stay for each service, with new technology leading to changes in diagnostic and treatment protocols, and care shifting from doctors to nurses to physician assistants, and sometimes back in the other direction. The unpredictability of these shifts, together with the high proportion of overall project cost that is due to operations, is unique to hospitals PPPs.

**Ratio of investment capital to operating capital:** Over the life of a hospital clinical, laboratory, pharmacy and medical services represent 65 per cent of annual operating costs and ancillary services (food, support, IT) another 17 per cent. Facility maintenance and amortized construction costs are less than one fifth of total budget (EBRD2007). For infrastructure operations, the cost of design, construction, finance and maintenance are the large majority of total costs. This means private involvement in design, construction, and maintenance of hospital entities has a lower potential for efficiency gains than in infrastructure projects. In hospitals, the majority of the potential efficiency gains come from service provision.

The implications for governmental obligations and transaction gains or costs are summarized in Table 1.

The defining aspect of hospital PPPs is the relationship between public and private partners which cannot be fully planned out in advance, and which therefore necessitates on-going active discussion and renegotiation during the lifetime of the partnership. For this reason, the challenges of contract management are much greater, and the benefits to government accrue from the private participation in finance and facility provision are often less...
Building upon the typology presented here, we expect that differing models of PPP will be suited to application in a variety of situations depending upon the specific facility and system need: the public and private capacity to fund the PPP; the governmental capacity to contract and oversee; private capacity to implement, and the legal and healthcare system infrastructure in which the PPP is applied. To fully understand the tradeoffs between differing models, and the context appropriate to each, a more compete analysis of experiences within each model is needed. Only at this point will it be possible to define success for each PPP type, and to both build and test a model of the criteria that will make a PPP likely to succeed or fail. The typology presented here is an advance towards this goal.

Dominic Montagu is an assistant professor of epidemiology and biostatistics and lead of the Health Systems Initiative at the Global Health Group of the University of California, San Francisco. His work is focused on private delivery of health services in developing countries and on market function for health services and health commodities. He holds Masters degrees in business administration and public health and a doctorate in public health from the University of California Berkeley. Dr Montagu has worked extensively in Africa and Asia, and teaches on the private sector in developing countries, and on regulation of private hospitals and public/private partnerships at UCSF, UC Berkeley and on behalf of the World Bank Institute.

April Harding is an economist and health systems specialist with the World Bank Institute. She is a sought-after speaker, author, and policy adviser on the private health sector, public/private partnerships, as well as hospital reform and governance. April has provided policy advice and analytical support to more than 20 governments of transition and developing countries on these topics. She recently returned to the World Bank from the Center for Global Development, where she undertook research examining five global health programs, child health, TB, malaria, family planning and HIV/AIDS, looking at how these programs interact with the private sector in their implementation, and how this contributes to their success or failure. Her findings are presented in her book “Private Patients: Why Health Aid Fails to Reach So Many, and What We Can Do about It” (forthcoming 2012, Brookings/Center for Global Development). She served as a contributing editor at Health Affairs, where she helped the journal develop their global health coverage. Prior to joining the World Bank, April was a research fellow at the Brookings Institution. She received her doctorate in Economics at the University of Pennsylvania.
Private hospitals and health care

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