EVALUATING THE IMPACT OF PRIVATE PROVIDERS ON HEALTH AND HEALTH SYSTEMS

An independent report by the Institute of Global Health Innovation, Imperial College London

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EVALUATING THE IMPACT OF PRIVATE PROVIDERS ON HEALTH AND HEALTH SYSTEMS

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FOREWORD

In 2013, the President of the World Bank, Jim Yong Kim, challenged us to "be the generation that delivers universal health coverage". There are few who would disagree with that sentiment, and we have made significant progress in the intervening years. The inclusion of universal health coverage (UHC) in the Sustainable Development Goals is both cause and symptom of a wider global movement.

Whilst the argument for UHC has been won, what this means in reality is less clear for many countries. If we fail to provide the levels of care needed to fulfil the promise of UHC then the progress we have made will be meaningless. As the Director General of the World Health Organization, Dr Margaret Chan, put it "the challenge now before us is implementation… resources in every country fall short of what is required to meet all needs".

Almost all countries suffer from a lack of resources and fragmentation in their health systems – and this threatens UHC progress. We need to make use of all available healthcare expertise to deliver safe, high-quality care to a many people as possible. All players, including private providers, need to pull together to achieve our goal.

Many who are uneasy about the role of private providers say there's rarely enough accountability to protect patients and health systems. On that, I agree – which is why this report is particularly timely. There is a real need for a simple framework to understand the impact – both positive and negative – that private providers can have. Without concerted efforts to track and improve impact, the private sector will never be able to reassure the critics. However, the evidence is clear that the private sector can have a positive impact and contribute to efforts towards UHC, but only if they work in partnership with their health systems and demonstrate a commitment to increasing access and quality of care.

This report brings a much-needed focus to the effect providers can have on the wider health ecosystem, as well as the impact on patients. I commend and thank CDC Group for showing leadership in commissioning this report. But the real test will be whether CDC Group and the wider sector adopts this and makes impact assessment a reality in development investment.

Professor the Lord Darzi of Denham, OM, KBE, PC, FRS
Director, Institute of Global Health Innovation, Imperial College London

At Narayana Health we are engaged in a passionate journey to establish ourselves as the low-cost, high-quality healthcare service provider in the world.

We are convinced that 'quality' and 'lowest cost' are not mutually exclusive when it comes to healthcare delivery. In fact, we are well on our way to demonstrate that we are not running our institution as just another numbers-only business but are attractively placed to create an affordable, globally-benchmarked quality-driven healthcare services model.

This means engaging with governments to help them achieve their affordable healthcare promises made to their constituencies in the push towards universal health coverage.

In this context we welcome Imperial College London's Health Impact Framework and are pleased to have contributed to its development. Like us, the framework specifically seeks to address a provider's contribution to the overall healthcare system, and not just its direct impact on patients. Both are critical.

If we are to deliver on the promise of affordable healthcare, taking this to the doorstep of millions, then we need to challenge ourselves and each other, making impact something that is openly measured, reported and improved.

We thank our colleagues at Imperial for involving us in this important initiative and we hope that by publishing their assessment of Narayana Health – both our strengths and areas where we could do better – we will set a new benchmark for impact reporting across the private sector in developing markets.

Dr Devi Prasad Shetty
Founder and Chairman of Narayana Health

EXECUTIVE SUMMARY

At the request of CDC Group plc (referred to as 'CDC'), the Institute of Global Health Innovation (IGHI) at Imperial College London has developed and tested a framework for understanding the impact private providers can have on the patients they treat and the health ecosystems to which they belong. This independent report is aimed at policymakers, private providers and development investors, with recommendations for how to maximise positive impact and minimise the risk of harming patients, fragile health systems and efforts to achieve universal health coverage (UHC).

This report has emerged out of a desire to better understand the impact of investments by CDC, an investor with a development mandate. The potential applicability of this piece of work is much wider. This report contains insights, not only for health investors and policymakers trying to work constructively with the private sector, but also for the private sector itself.

The role of the private sector in health

A significant proportion of global healthcare is delivered by private providers; a diverse group including large hospital groups and small clinics, formal and informal, non-profit and for-profit business models. Here, we focus our analysis on larger, formal, for-profit hospital networks. By filling the gaps in an underdeveloped public sector, private providers can play a role in helping low and middle income countries (LMICs) work towards UHC. However, in reality, there is not strong evidence for how best to achieve this. Private actors can also have a negative impact on the health ecosystem in which they operate. Investors, policymakers and private providers alike should be mindful of the risks, which include: stripping the public sector of its workforce; over-treating patients to generate more income; and undermining the case for universal, publicly-financed healthcare.

Development finance institutions (DFIs) such as CDC are well positioned to complement public sector oversight of the providers they invest in, through monitoring impact on patients and the health system. Given the potential, it is surprising that there is little in the way of clear guidance on how to monitor and evaluate that impact. There is a need for a simple, shared framework to understand the impact of private healthcare providers in LMICs.

Research approach

Between July 2016 and January 2017, IGHI developed and tested a framework to understand the impact of private healthcare providers. Researchers carried out a review of the literature and conducted in-depth interviews with 33 experts from around the world from academia, development investors, non-governmental organisations (NGOs), providers and governments. The intention: to settle on the simplest framework that captures the diverse ways in which private providers can have a positive and negative impact on patients and health systems.

In order to ensure the framework would prove useful and applicable, a team of IGHI economists, academics and policy experts tested it with Narayana Health, a major private hospital chain in India. Over the course of one week, two teams of researchers met with leaders and operational staff in the head office, a local hospital site and external regulatory organisations – collecting data and soft intelligence. This exercise allowed IGHI to further refine the tool and prove its usefulness and applicability in a LMIC setting.

A framework for understanding the impact of private health providers

Without exception, the experts interviewed by the IGHI team agreed that the impact of private providers cannot be assessed only by how well they care for their patients. Their effect on the broader health ecosystem, often fragile in LMICs, should also be carefully considered, and positive outcomes for the whole health system built into any investment. The framework therefore includes both the 'patient' and 'ecosystem'.

Patients are best served by providers offering high quality care in an accessible way. High quality care is safe, effective and a positive experience for the patient. If there are minimal financial, physical and cultural barriers to treatment, then care is also accessible.

Ecosystems are best served by private providers that give more than they take from the local workforce,

training a new generation of doctors, nurses and other professionals. Private providers must be responsible actors and leaders within the wider health ecosystem, working to improve the health of the whole population and allowing and even encouraging government oversight, regulation and transparency. Ideally, they should operate as part of the public health system, as well as facilitating the diffusion of new and innovative approaches.

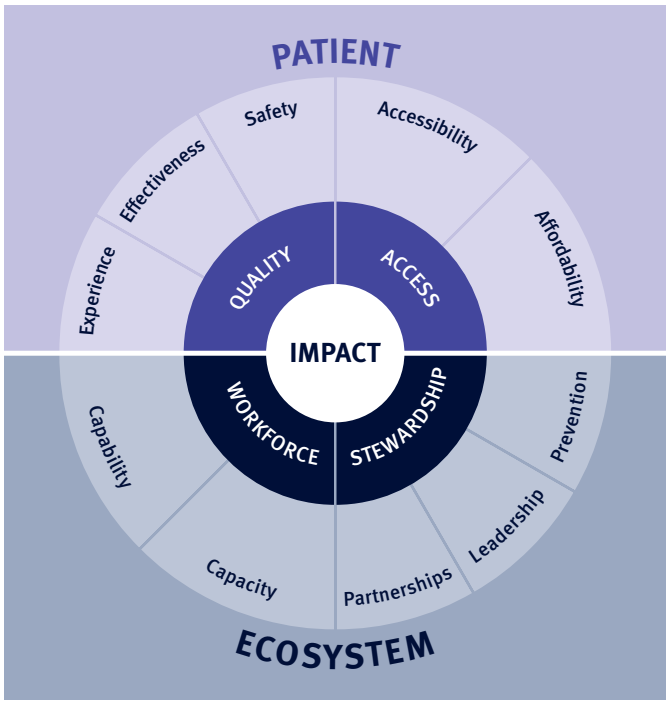

FIGURE 1: The Health Impact Framework

Next steps for the sector

If innovative private sector-driven approaches are to complement UHC, there must be a concerted effort to constructively address past criticisms.

For **private providers of care**, the challenge is clear – to ensure a net positive impact whilst minimising risks. Robust evaluation and continuous learning and development, combined with an open approach, may help lead the way for other providers. An open approach can help improve the sector as a whole, and begin to assuage the concerns of those who continue to feel uneasy about the role of the private sector.

If innovative private sector-driven approaches are to complement UHC, there must be a concerted effort to constructively address past criticisms.

Development investors and finance institutions must be responsible for holding healthcare providers to account, and for making wise investment decisions. Where possible, improving impact should be a condition of continued funding. Investors should actively support companies to improve their performance and take a leadership role in promoting impact assessment.

Government policymakers, donors and NGOs should clearly define the role private sector providers can play in helping to achieve UHC – success is most likely when the private sector works in tandem with the public sector, within a strong and transparent regulatory setting.

This work aims to contribute to a better understanding of the impact of the private sector, and adds to the slim body of work on this subject. However, further work will be necessary to develop both the methods and infrastructure for measuring and attributing impact. Policymakers, investors and research funding bodies should invest in research to better understand the impact of private providers.

The private sector is an unavoidable force in modern, globalised healthcare delivery. This research demonstrates its potentials and pitfalls in achieving UHC in an affordable way. Government and investors need to be capable of engaging with private providers, particularly in holding them accountable to high standards of behaviour and care.

INTRODUCTION

The global movement towards UHC means there is a greater need for more health care providers to achieve full population coverage. The new sustainable development goal (SDG) for health applies across higher, middle and lower income countries (HICs, MICs and LICs) giving a renewed focus on improving the quality and quantity of healthcare provision globally. However, the international community has seen a worrying global stagnation of health aid, raising concerns about the long-term sustainability of traditional bi-lateral health aid models (Dieleman et al. 2014). This is further exacerbated by the fact that three quarters of the worlds' poor live in MICs, which are often ineligible for the kind of aid that would have in the past supported the development of sustainable healthcare systems.

There is an urgent need for new innovative models of development, and governments are increasingly looking to development investment as an alternative. This means that investment is targeted towards supporting viable private businesses in developing countries, or mobilising private capital, for maximum impact on economic growth that benefits the poor (Kingombe et al. 2011). In the UK, CDC, a DFI leads the government's attempts to progress the development agenda through investment in private businesses in Africa and South Asia.

CDC straddles two worlds: commercial investment and development impact. This unique position means it must incorporate the principles of development into investment. Though its modus operandi is to use economic growth as a development tool, CDC also has a responsibility to avoid investments that cause harm to patients and health systems. Ideally, investments would have a net positive impact beyond job creation. Few sectors are as risky as healthcare in this respect, with lives at stake and complex systems prone to private sector distortion. The potential gains, however, are significant. By investing in health, investors, as well as policymakers, could make a significant difference to the lives of people and the health of populations in LMICs – if done responsibly and well. The 2016 Lancet Series, *Universal Health Coverage: markets, profit and the public good* explored the challenges of mixing public and private provision.

This report examines the potential for impact in health beyond the scope of CDC's current focus – boosting economic growth and job creation. It aims to provide support to CDC and other investors in this space and equip them with the tools they need to improve the impact of their investments in private health providers. There are other criteria for assessing the impact of official development assistance (ODA) and development investment – this framework is not intended to replace or incorporate those, but to add to them.

In commissioning an independent report from the Institute of Global Health Innovation (IGHI), CDC has taken a first step towards a more nuanced and

BOX 1: **What is meant by 'the private sector'?**

Since there are widely divergent views in the literature, a clear definition of the private sector is needed. Strictly defined, private sector organisations can be for-profit or not-for-profit. The latter group includes non-governmental organisations, faith-based groups, foundations, social enterprises and charities. For-profit organisations can be motivated by a combination of profit and social motives. The private sector can be involved as payers (e.g. insurers) or providers (e.g. hospitals), or in associated industries such as pharmaceutical provision. Private providers can be multinational or national; hospitals, clinics or individuals. There are also a significant number of informal providers in LMICs, such as unqualified 'quacks', traditional healers or birth attendants (Saltman 2003; Maarse 2006; Basu et al. 2012). Private providers can also participate in public-private partnerships (PPPs) with government or not-for-profit organisations.

This report focuses on the formal, for-profit private providers of hospital-based healthcare in LMIC, because at present, development investment is targeted here. This may include private providers in a PPP arrangement.

impact-focused approach to investment. There is a real opportunity here for CDC to make an impact – improving the lives of the patients served by their health investments and showing leadership in using development investment to improve impact.

In commissioning an independent report from the Institute of Global Health Innovation (IGHI), CDC has taken a first step towards a more nuanced and impact-focused approach to investment.

This independent report is focused on the subject of CDC's health investments – large, private for-profit providers in LMICs. But whilst this report was catalysed by CDC, it is not just for investors. It also provides a useful framework for policymakers to understand the potential risks and benefits of including the private sector in health provision. Perhaps most importantly, it is about providers, the impact they do have, and the impact they can have.

The Institute of Global Health Innovation (IGHI)

The IGHI is a global research institute at Imperial College London, working to identify, develop and diffuse high-impact, global healthcare innovations to improve the health of people and reduce health inequalities in developed and developing countries. The Institute achieves this by harnessing interdisciplinary research strengths across various fields of science, technology, policy and business. The Institute, led by Professor the Lord Ara Darzi, is aimed at developing cutting edge solutions to the challenges faced by the global healthcare systems, in order to create transformational improvement in the quality and equity of patient care, population health and wellbeing. The Institute has proven expertise in global health policy development, technological innovation, medical robotics and healthcare design.

Centre for Health Policy (CHP)

The CHP is a research centre at IGHI, with the aim of translating evidence-based research into the best healthcare practice worldwide. The CHP's vision is to catalyse the development, uptake and diffusion of innovative, evidence-based health policies around the world. It harnesses international events and forums to raise the profile of key healthcare challenges and to amplify the impact of the Institute's diverse research outputs. The Centre's work is focused on health policy development, the diffusion of innovation, patient safety, e-health and informatics, health economics and quality outcome metrics.

The Global Health and Development (GHD) Group joined IGHI in September 2016 as a unit within the CHP. This team of health economics and global health experts contributes to better health around the world through the more effective and equitable use of resources, and has major projects in China, India, South Africa, Vietnam and Thailand. The team provides both advice and practical support to governments, healthcare payers, clinicians, academics and other local agencies overseas to build capacity for evidence-informed health policy and to design and use methods and processes to apply such capacity to their local country setting. The team was formerly based within the National Institute for Health and Care Excellent (NICE) in the UK.

CHAPTER ONE

WHY INVEST IN HEALTH?

- Health is a sound investment, as the micro- and macro-economic impact is substantial.
- Whilst the macro-economic impact of individual actors in a system is hard to quantify, the evidence in favour of health sector investments is compelling.
- Some of the most economically effective development investments are in the treatment of non-communicable diseases (NCDs) and surgery – strong specialities for the private sector in LMICs.

Healthcare investment can create jobs in the health sector and ancillary services, but it also has a much wider impact on economic prosperity (Jamison et al. 2013) – and better health is an important precondition for social as well as economic development. Health and wealth are inextricably interlinked; there is a powerful, positive effect of health on wealth at all structural levels, from the household to national level (Yamey et al. 2016).

The evidence

The economic benefits of better health can be seen throughout the course of life, from birth through to adulthood. Effective pre- and post-natal care gives babies a better chance of a healthy start in life, and healthier children grow up to be healthier adults. Health translates to better cognitive development and children staying in school longer, enhancing their employment chances and leading to higher wages (Fink et al. 2014; Hoddinott et al. 2013; Fernando et al. 2010; Venkataramani 2012; Currie et al. 2013; Walker et al. 2011; Vogl 2012). For example, in Uganda a malaria eradication programme was associated with an average of six months increase in schooling for children, a 40% improvement in the likelihood of paid employment for men, and a 5–20% increase of income for all adults (Barofsky et al. 2015).

In adulthood, poor health can lead to lost wages and reduced household income; sick adults are more frequently absent from work and are less productive when they are in work. This is compounded by the cost of seeking healthcare, and represents a significant economic burden for many households in LICs and MICs, often forcing cuts to essentials such as food (Habyarimana et al. 2010; Levinsohn 2011; Alam et al. 2014; Jaspers et al. 2015; Engelgau et al. 2012; Counts et al. 2015; Kankeu et al. 2013; Heltberg et al. 2015; Dhanarai 2016). For example, in India, households affected by cardiovascular disease spend more on care, rely more on selling assets to pay for it and have lower employment rates (Karan et al. 2014).

Improving the health of the population also has a clear and positive effect on GDP. An estimated 12% of economic growth in LICs and MICs from 1970

BOX 2: **What is meant by 'investment'?**

Investments in health can take a variety of forms:

1. Governments dedicating a proportion of the domestic budget to spending on healthcare.
2. Donors and aid agencies providing resources to health systems.
3. Governments or donors investing in health outcomes outside of healthcare or health systems, for example, strategies to reduce road accidents.
4. Development investors or private equity firms providing financial backing to healthcare organisations.

This section sets out some of the evidence around the effects of the first two types of investment. Much of the evidence in support of the economic and health benefits of health investment is concentrated on these types of investment. However, this report is primarily focused on the subject of healthcare organisations in receipt of financial backing from investors, so for the remainder of the report, the final definition should be taken.

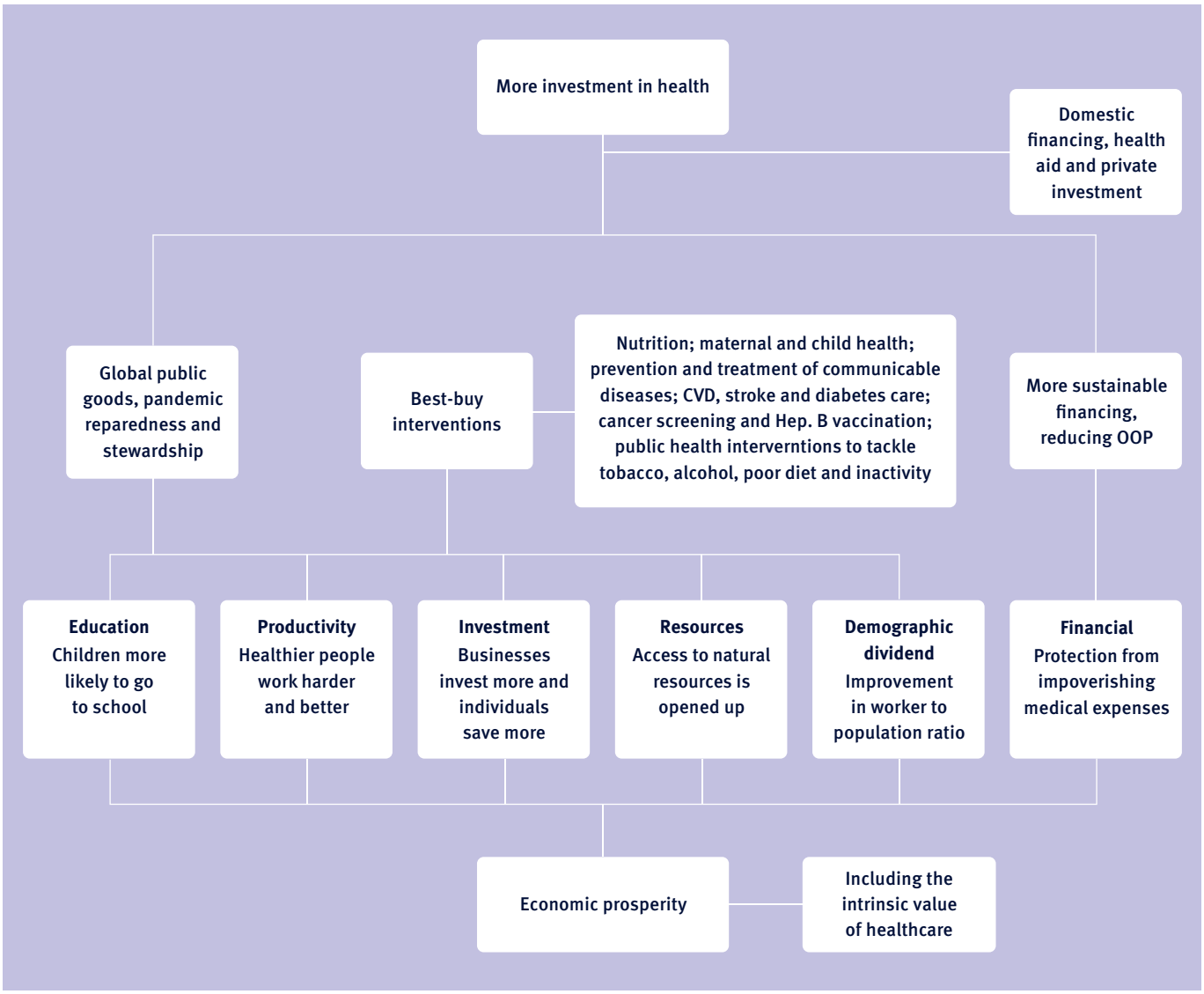

FIGURE 2: How health investments translate into economic prosperity

Source: WISH Investing in Health: The Economic Case (Yamey et al. 2016)

to 2000 was due to a reduction in the rates of adult mortality (Jamison et al. 2005). This demonstrates the power of large-scale programmes and investments to have a noticeable impact on the future and fortunes of a country. The World Innovation Summit for Health 2016 Investing in Health Forum explained how health investments translate into economic prosperity (Yamey et al. 2016). Figure 2 above sets out the rationale.

Benefit beyond GDP

As well as clear impact on economic growth, there is an intangible value to being in good health and living longer that is unrelated to productivity and not reflected in GDP. Analysis by the Copenhagen Consensus Center found that, when taking into account the value people place on health, the list of the top ten most economically sound investments is dominated by health, for example strengthening surgical capacity and expanding tuberculosis treatment (Copenhagan Consensus 2012). Using the same methods, the Lancet Commission *Global Health 2035*, found that every $1 spent achieving a grand convergence in health from now to 2035 would yield a return of $9–$20. A grand convergence means lowering avoidable maternal and child mortality, and deaths

from infectious diseases down to universally low levels (Jamison et al. 2013).

While the benefits of health investment can be hard to measure for governments, the task is even more challenging for development investors and private providers who aim to assess the macro-economic impact of individual providers. This is reflected in a significant gap in the evidence. However, thinking about some of the micro-economic benefits of high quality, accessible and affordable healthcare can help providers and investors focus on contributing to a healthy economy and workforce.

Investing for universal coverage

By thinking about how they can contribute to wider health system goals, investors and providers can begin to understand whether they are contributing in a positive way. The SDG for health put a global spotlight on UHC. A House of Commons International Development Committee report into the implementation of the SDGs confirms the UK Government's commitment to its delivery. Achieving the SDGs requires significant financial investment and the report states that "private sector investment will also be essential for countries wishing to make progress towards the SDGs" and advises that investment organisations should "actively consider whether its work will have a positive impact on the achievement of the SDG" (House of Commons 2016). Whether private sector involvement in all SDG areas is helpful or necessary is a controversial issue, however it is clear that the private sector does already have a strong role in health delivery.

CHAPTER TWO

THE ROLE OF THE PRIVATE SECTOR

- For LMICs to achieve UHC, care provision needs to be significantly expanded.
- The private sector can play a role in helping countries achieve UHC.
- The private sector is already widespread in LMICs, much of it informal and un-regulated.
- There are many potential risks to involving the private sector – there are examples of unregulated providers in particular undermining quality and efficiency, and where there are significant out-of-pocket (OOP) payments, the poor risk exclusion or financial impoverishment.
- Policymakers and investors can go some way towards mitigating these risks by ensuring private providers work with governments where there is a clear health strategy; align to local health needs; and fill necessary gaps in provision.
- There has been little research into the role of the private sector – and there is a clear need for more structured thinking.

Can private providers help achieve UHC?

The argument in favour of UHC is supported by a strong body of evidence (Moreno-Serra & Smith 2012; Jamison et al. 2013; Yates and Humphries 2013), with public financing playing a dominant role in expanding financial coverage. The more pressing challenge is how to deliver UHC in practice, expanding coverage of high quality services and developing capacity throughout health systems.

The financing gap for UHC is substantial. Chatham House estimates that a basic healthcare system costs $86 per capita per year and that, in 2012, 61 countries failed to meet that level of government health expenditure (Røttingen et al. 2014). The most recent studies on the projected cost of the SDG for health estimate that the annual funding gap for 2015–2035 will be between $69–89 billion (Schmidt-Traub & Shah 2015; Jamison et al. 2013; WHO 2011). There could certainly be a role for the private sector to help fill this gap.

However, simply filling a gap is not enough. Services must be of sufficient quality to make a difference (Boerma et al. 2014), and must avoid significant cost escalation for government health spending. The International Finance Corporation (IFC) agrees that the private sector must be "appropriately managed and regulated" to reach the required standards (IFC 2009).

While this debate is predominantly being played out in LMICs, lessons can be learned from high-income countries (HICs) that have succeeded in delivering UHC. The Commonwealth Fund report 'International Profiles of Health Care Systems, 2015' analyses the ownership of acute hospital providers in 15 countries. With the exception of the United States, all these countries have achieved UHC and most have done so with a significant proportion of private providers (Mossialos E et al. 2015). Figure 3 sets out the public/private split for those countries for which data are available.

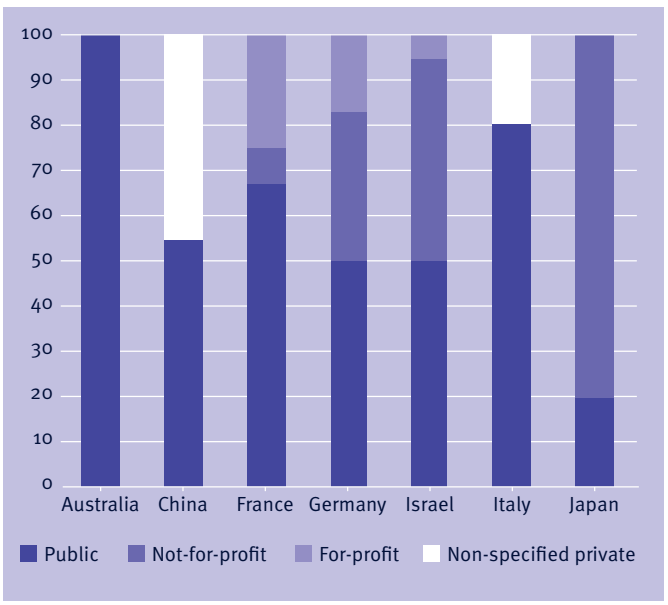

FIGURE 3: The public/private provision split in HICs with UHC
Source: Mossialos E et al. 2015

MICs have also seen major advancements in health coverage, incorporating private providers in those efforts, including Thailand (Hughes & Leethongdee 2007; Tangcharoensathien et al. 2014; Tangcharoensathien et al. 2012) and Turkey (Atun et al. 2013; Horton & Lo 2013). Figure 4 below shows other countries which have made significant progress towards UHC with a strong private sector.

What is the scale of private healthcare provision in LMICs?

The fragmented public sector in many LMICs has led to a large and diverse private sector. According to IFC figures, more than half of all healthcare in Africa is administered by private providers (IFC 2009). Oxfam's analysis (Marriott 2009) clarifies the situation by explaining that a significant proportion of these providers may be informal, un-regulated pharmaceutical vendors, which are outside of the remit of this report.

	1. PRIVATE BEDS AS A % OF TOTAL (Hanson 1998)	2. UHC INDEX (100=HIGH) (Wagstaff et al. 2016)
BRAZIL	39.0	81.6 (2006)
COLOMBIA	20.3	83.7 (2010)
PHILIPPINES	45.2	75.2 (2008)

FIGURE 4: Countries achieving UHC with a strong private sector presence

Using recent Demographic and Health Survey (DHS) data to update the Oxfam and IFC analyses, Figure 5 shows that private healthcare providers account for around 50% of all treatment for diarrhoea, cough and fever in children in sub-Saharan Africa – which is in line with the IFC report. In South Asia, a very different picture emerges. The DHS data suggests that almost 80% of all care across different demographic groups is provided by the private sector. The private sector exists as a significant presence in LMICs. Whilst this does not mean that the private sector is always a helpful contributor, or that private sector activities should necessarily be scaled up, the task is to identify how to secure the best and most progressive outcome for UHC, governments and patients.

The risks of private sector involvement

Some have argued that the very existence of high quality private care for the middle classes risks undermining the basis for the financing and risk pooling structures needed to support public health systems and UHC (Mossialos et al. 2002). However, even taking private provision as a given, critics have presented evidence that private healthcare delivers lower quality care (Basu et al. 2012), outcomes, and access (Mackintosh & Koivusalo 2004). Box 3 sets out some of Oxfam's key arguments (Marriott 2009). It is not clear, however, to what extent these problems are driven by informal care, rather than private provision more generally – the quality of care offered by informal providers is unlikely to be representative of larger players that would be in receipt of development investment. However, in many LMICs, the regulation of even large formal care providers is inadequate, for example, in India (Balarajan et al. 2011).

Reliance on OOP payments characterises much of the private sector and increases socio-economic polarisation (Schmidt-Traub 2015). There is very little evidence to suggest that for-profit providers are successful in expanding access to the poor on a large scale – a systematic review of the literature found only a handful of robust impact evaluations that considered pro-poor measures of socio-economic reach (Patouillard et al. 2007). Providers adopting social principles, partnerships with government or social insurance schemes have a higher chance of success (Tung & Bennett 2014).

In a study of 15 sub-Saharan African countries, Oxfam showed that only 3% of the poorest fifth of the population seek care from private doctors. In Asian LMICs, Rannan-Eliya & Somanathan (2006) find that the poor generally rely on a subsidised public sector or simply forgo healthcare, whilst the rich pay OOP.

Excluding informal care, the poorest rely more on public than private care everywhere except South Asia (Basu et al. 2012, Prata et al. 2005). This paints a worrying picture for equity of access, with the existence of private provision creating a two-tiered system. Access to the private sector seems to be driven more by the way

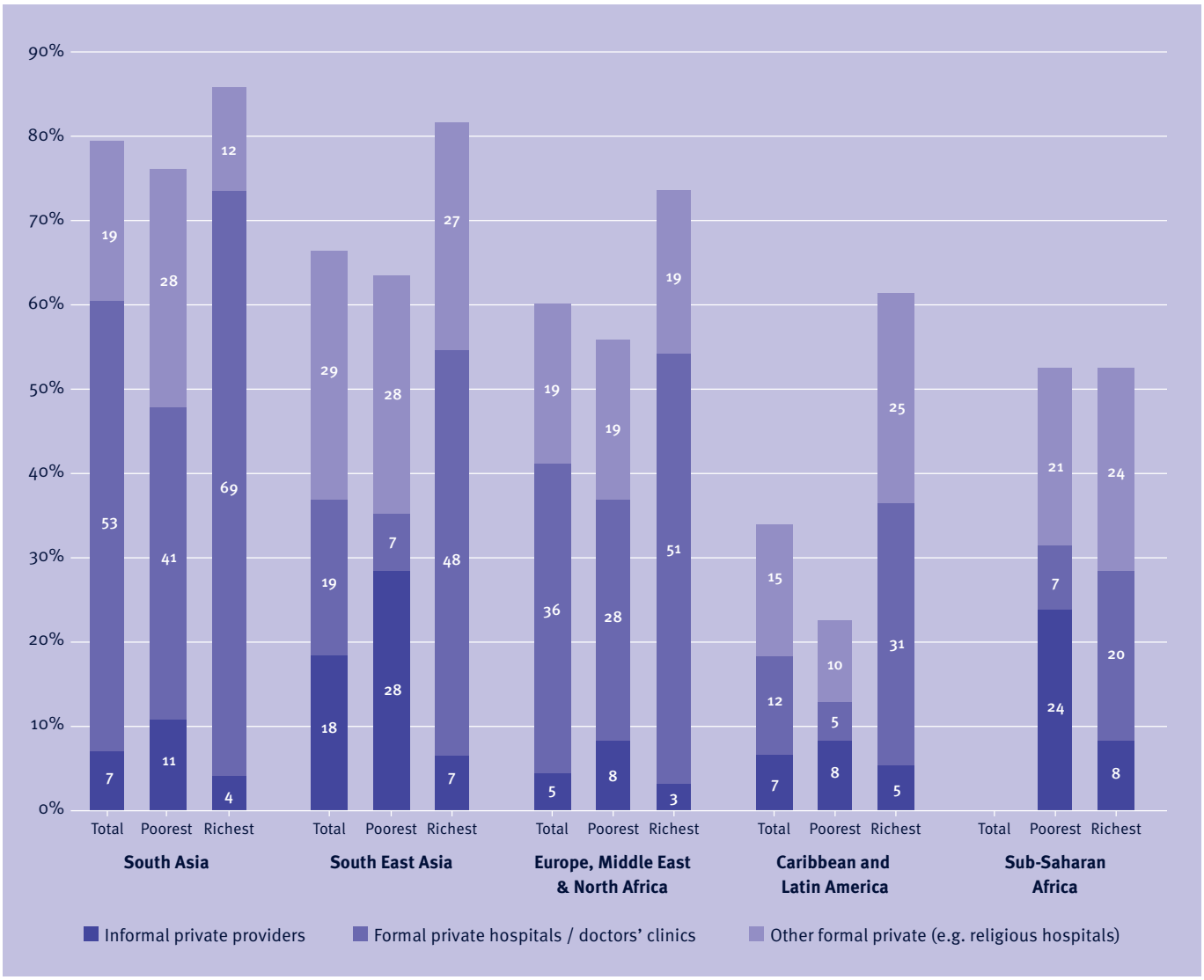

FIGURE 5: Private sector provision of treatment for diarrhoea & fever/cough in children under 5 (by region, provider-type and income group)

Source: National Demographic and Health Surveys (DHS), conducted between 2000–2008

Notes: The data shown is a summary of sources of healthcare chosen by respondents with children under 5 reporting treatment in the prior two weeks for diarrhoea and/or fever/cough. 'Poorest' and 'richest' refer to the poorest and richest quintiles of the regional populations respectively. These numbers should be interpreted with caution as this is based on self-reported utilisation data and that the understanding/definition of the types of providers may differ between countries.

healthcare is paid for, than by the mix of private and public provision. In systems that rely heavily on OOP, the poor face a higher risk of exclusion from formal healthcare services altogether – public or private (Mackintosh et al. 2016).

Private providers can also have destabilising systemic impacts. Financial incentives can lead to providers generating more income through overtreatment. The example of Netcare in Lesotho demonstrates some other potential systemic risks, as set out in Case Study 1.

A recent Lancet series summarised the challenges of mixing public and private in global efforts towards UHC and financial protection in LMICs, highlighting just how little is known about the operation of private providers and the difficulty in measuring their impact. It also acknowledges some of the complex trade-offs. For example, whilst corporate providers often focus on treating the more affluent, exacerbating inequalities, this has in some cases resulted in higher self-imposed standards of quality (McPake & Hanson 2016; Mackintosh et al. 2016).

What are the conditions for success?

Governments are ultimately responsible for the health of their populations and private providers should fit into the local strategy for achieving UHC and extending services to the poor. Where there is no clear strategy and a chaotic regulatory environment in post-conflict environments or the poorest of LICs, providers have a responsibility to self-regulate and to ensure they understand and address the health needs of the local population. Countries such as Brazil have made great strides towards UHC with a significant private sector contribution in the form of hospital and GP provision (Figure 4).

A central issue for private sector providers and their investors is the extent to which their services are *additional* or add value to what would have otherwise occurred. In most cases, to achieve UHC, governments should be investing first and foremost in primary care provision and preventative measures. In reality, often there are not enough public sector providers to offer a complete package of healthcare. The private sector may be able to add value by providing the secondary and tertiary care that the public sector has no or little provision for.

A provider's impact will be shaped by how well it integrates within the local health system. Private providers operating completely independently of government, local public health structures and other providers will find it difficult to prove that they are helping to address local health challenges. In practice, this means having an open dialogue with government and working in partnership with other providers on areas of common concern, such as medical education or communicable disease strategies.

Low quality private sector players, particularly in sub-Saharan Africa, tend to exist in an environment where both public sector service provision and the regulatory framework are weak (Morgan et al. 2016). Where there is a strong public sector and a complementary, well-regulated private sector – Sri Lanka being a good example – the quality of both private and public healthcare is comparable to HICs (Rannan-Eliya et al. 2015). However, there is evidence that high OOP payments are rife in Sri Lanka, and this is having a negative impact on equity of access. Concerns have also been raised about the reliance the private sector has on the public sector for human resources, and the impact this is having on that sector (Govindaraj et al. 2014).

BOX 3: **Private sector risks**

- Private sector growth has been associated in many countries with high costs and low efficiency.
- There is evidence that some private sector providers offer lower quality care.
- Regulating private sector providers can be more difficult and expensive than public sector ones.
- Private provision is often less accessible and affordable, increasing inequality by excluding the poor and marginalised, a group which tends to disproportionately include women and girls.
- The private sector is in direct competition for what is often a small workforce pool.

(Marriott 2009)

CASE STUDY 1: **NETCARE**

Lesotho is in the midst of a health crisis which began in the 1990s. Between 1990 and 2016, the average life expectancy in the country fell from 60 to 53.7 years of age (WHO 2015), driven by a high incidence of communicable diseases, mainly HIV and tuberculosis. Under-investment in essential services had reversed progress. The government hoped to remedy the situation and develop the nation's healthcare capacity. The Queen Elizabeth II (QEII), the country's only referral hospital, was one of the targets for investment.

The government pursued an 18-year PPP agreement with Netcare, a private hospital group, stewarded by the IFC to co-finance, build, manage and run a new hospital. An early study indicates that the PPP delivered more clinical services and services of higher quality and achieved significant improvements in patient outcomes compared to the government-managed network (McIntosh et al. 2015). While these gains are striking, problems with the management of the PPP, its financial sustainability, as well as its integration with the rest of the health system have come to light.

Significant cost escalation has been attributed to deficiencies and unjustifiable risks for the government of Lesotho in the financial model underpinning the PPP, poor projections of patient demand, and a doubling of the cost of the unitary fee in the closed preferred bidder negotiations (Marriott 2014). Inadequate government expertise and capacity to monitor and enforce the PPP contract is an ongoing concern (Vian et al. 2013). Inadequate investment in Lesotho's primary care services means not only that rural patients are without quality services but that patient demand remains high at the more costly tertiary hospitals. Government payments to Netcare have increased substantially since the contract was signed (Webster 2015), with the government locked in to a long-term contract.

Whilst this is a well-cited case, it highlights the potential negative effects PPPs can have on the finances of a nation's health system. It is of primary importance that governments are not exposed to undue risk in contracting with private providers, and that and the potential impact on other parts of the sector need to be understood, accounted for and given robust levels of oversight.

A positive role for the private sector

In the best-case scenario, private providers can fill gaps the public system struggles to fill, as well as bring new innovative approaches to the health system.

Supporting the state to meet core population health challenges, involvement in government schemes or PPPs can provide accountability and keep the private sector in line with public sector efforts – as seen in the Brazilian state of Bahía (see Case Study 2).

In LMICs, the development of low-cost solutions is sometimes spurred by resource scarcity. Aravind Eye Hospital in India is a good example, with both LV Prasad Eye Institute in India & salaUno in Mexico (Centre for Health Market Innovations 2015) examples of other providers following suit and adopting the innovation (see Case Study 3 for more details). Perhaps most interesting has been the diffusion of the model to other surgical procedures, illustrating the power of the demonstration effect to drive industry-wide change. Inspired by the Aravind model, Narayana Health in India has been able to decrease the cost of cardiac bypass surgery to $1,500 per operation, compared to $144,000 in the USA, $27,000 in Mexico and $14,800 in Colombia, whilst maintaining quality (Woolridge 2010; Madhaven 2014).

Ideally, DFIs should seek provider organisations from LMICs focused on expanding and harnessing low-cost technological and business model innovations, able to deliver safe effective care, whilst simultaneously expanding access to traditionally underserved groups by cross-subsidisation. This approach can improve impact when accompanied by a rigorous approach to due diligence, monitoring and evaluation (Battacharyya et al. 2010). This strategy should allow investors to ensure a positive impact on society. However, there is a real need for stronger evidence on the impact of the private sector, and developing a rigorous impact framework is a key step towards generating the necessary evidence.

CASE STUDY 2: **HOSPITAL DO SÚBURBI**

The Brazilian state of Bahía has been chronically underserved, despite significant national progress. Access to care and the quality of healthcare services is poor for the state's 14 million residents. This is typified by the city of Salvador, which has a particularly low Human Development Index relative to the rest of Brazil (IFC 2013), and high unmet need. A PPP was initiated with the Hospital do Súburbi in Salvador. The IFC supported the Bahía government's private sector procurement strategy by undertaking technical and feasibility studies on their behalf. This culminated in 2010 with two companies – Promedica (a Brazilian healthcare firm) and Dalkia (a French management firm) – forming a consortium, completing a new 373 bed hospital in 2012. The hospital provides a range of emergency services, which have created a foothold for public health development in the area. This was the first PPP in health in Brazil, and it relieved the "bottleneck" of under-provision of healthcare (IFC 2013; Webster 2015).

The seemingly intractable problems in Bahía's health system have been shown to be surmountable thanks to an effective PPP, which has emphasised the use of key performance indicators (KPIs) in contract management. Quantitative and qualitative KPIs account for 70% and 30% of conditional payments respectively (Júnior et al. 2012). This case study shows the role of effective contracts and accountability mechanisms in shaping successful PPPs. Harnessing these opportunities has the potential to alleviate the pressure on local health ecosystems.

CASE STUDY 3: **ARAVIND EYE HOSPITAL**

India has the largest blind population in the world and 75% of cases are due to cataracts. Aravind Eye Hospital was conceived in South India in 1976 with the aim of serving a population of 15 million people with services to cure blindness, regardless of ability to pay. Aravind specialises in delivering low cost cataract operations at a high volume (Kumar et al. 2000).

The high cost of cataract operations means access to cataract services is out of reach for most of the Indian population. By reducing the cost of surgery to an average of $30 compared to the national cost of $75–100 (Cawston 2012), access has been greatly improved. The business model innovation hinges on the low price of intraocular lenses and equipment developed by a US-based non-profit organisation – Project Impact – in the early 1990s. Widening access for poorer patients has been achieved with cross-subsidisation from the wealthiest patients who pay above the marginal cost of treatment. Impressively, 50% are treated for free or at a subsidised rate of $10 (Ramdorai & Herstatt 2015).

Intensive training of post-graduates in key ophthalmic procedures ensure that junior doctors are performing cataract surgeries in their first year, enabling task shifting from high-cost senior consultants to lower-cost personnel. Patients are arranged into an "assembly line" for surgery. Preparatory work is carried out by nursing staff, which allows doctors to focus on surgery, and as one procedure finishes the next patient is prepared. This ensures productivity and good utilisation of equipment. Doctors perform 25–40 operations a day allowing the hospital to deliver almost 7,000 operations a week (Cawston 2012). The combination of a lean operating model and high-throughput brought high-quality eye care to hundreds of thousands of patients (Rangan 1993). Reducing the cost of appropriate care using tools such as cross-subsidisation can increase access to the poor and help achieve UHC.

CHAPTER THREE

A FRAMEWORK FOR UNDERSTANDING THE IMPACT OF PRIVATE HEALTH PROVIDERS

- At a patient level, providers can have an impact on the quality of care, encompassing safety, effectiveness and patient experience. They can also work to improve equity of access, making care affordable, and reaching out to marginalised populations.
- At a system level, providers can have an impact by training the next generation of health workforce, as well as by minimising the loss of staff from the public sector and from the country in general. They should also be a responsible provider, operating within regulatory structures, aligning to local priorities, showing leadership and helping to prevent as well as treat ill health.
- There are many other ways in which private providers can have an impact: by delivering efficient care; on health at a population level; on the economy; on other sectors; and facilitating the diffusion of innovative approaches. These are important impacts, but hard to measure at an individual provider level.

Methodology

To develop a health impact framework, the IGHI research team developed an approach comprising three distinct features: literature review, qualitative interviews, and testing. The team used an exploratory methodology, allowing for flexibility in developing the framework, and providing the space to change direction as the study progressed.

PHASE 1 Developing the framework
Literature review

PHASE 2 Refining the framework
Qualitative interviews

PHASE 3 Testing the framework
Data analysis and interviews

Phase 1 – Literature review

A literature review was conducted at an early stage to evaluate the scope of the subject, to critically evaluate the current literature base, and develop an initial framework. It explored three areas:

1. **How best to structure and develop a framework for understanding health impact.** Exploring existing frameworks provided the foundation to collate relevant information. The Donabedian and the logical framework approach are examples of frameworks used to categorise impact variables (Donabedian 1988; Örtengren 2004).
2. **Identifying the objectives of a health system.** Providers impact on the wider health ecosystem. Therefore understanding the objectives of health systems, for example UHC, allows a measurement of alignment to system goals.
3. **Role of the private sector in LMICs.** Since the private sector is heterogeneous in nature, a critical assessment of the various roles of the sector was conducted to highlight where the impact might be positive and where it might be negative.

Phase 2 – Qualitative interviews

A purposeful sampling strategy approach was taken allowing the research team to delve into information-rich sources. The aim of the interviews was to test the initial framework with a set of experts and providers. Thirty-three global health policy experts and providers were targeted with eight from LMICs. See Appendix E for the biographies of expert interviewees.

All expert interviews were conducted by a team of five IGHI researchers – Hester Wadge, Dr Matthew Prime, Alexander Carter, Rhia Roy and Arthika Sripathy.

Interviews lasted 45 to 65 minutes over the phone and two researchers were present at each call. A unique opportunity to meet with high-level healthcare provider executives at the World Innovation Summit for Health (WISH) in Qatar arose allowing the team to further review the framework.

The team tested, challenged and developed the initial framework, drawing out and introducing main themes from the interviews. Iterative changes were subsequently made to the framework. This approach is called a 'retroduction'.

Phase 3 – Data analysis and interviews

The framework was tested in a LMIC setting at Narayana Health, in India – both to test for impact and to stress-test the framework itself. Consent was taken to conduct the study, and the results are available in Appendix D. Testing was undertaken by four IGHI researchers (Hester Wadge, Joachim Marti, Rhia Roy, Arthika Sripathy) using semi-structured interviews, guided by the framework. Over the course of one week, they met with leaders and operational staff in the head office, a local hospital site and external regulatory organisations – collecting data and soft intelligence. The findings from the interviews were triangulated with evidence provided by Narayana Health. Data were captured using field notes and analysed using the retroductive approach, leading to further changes to the framework. For example, the team learnt that having a pre-conceived list of priority indicators was unhelpful. Taking a more open, outcomes-focused approach to interviews and data collection was found to be more helpful.

Validity

The content for the literature review was sourced from peer-reviewed journals. The 33 qualitative interviews proceeded until saturation point was reached. Validity of the testing phase was ensured using in-depth semi-structured interviews, developing the framework through the phases and triangulating with data where possible.

Limitations

This is a completely new framework, which has only been fully tested with one provider. Further testing over a longer period of time would enhance its validity. More testing with providers and experts from other LMICs would be particularly useful, given the potential benefits of using such a framework in this context. The framework has wider potential applicability, so a great deal of flexibility has been built in in order to accommodate variations in health systems and providers. For example, some countries will have different levels of government regulation which can impact on the available data and levels of accountability. More work is necessary to refine the framework for use in different contexts. There are potentially more far-reaching ways a provider can have impact, which are not captured in the framework simply due to the lack of robust metrics or the difficulty in proving causality. Further work to capture the wider economic and population health impacts of individual actors could further strengthen this framework.

The scope of impact assessment

The necessity for investors like CDC to demonstrate tangible impact is clear. Whilst investors may be adept at development through job creation, concerns proliferate about the effective management of public development funds and possible unintended effects of impact investments that may counter the developmental mandate.

> **It remains a significant challenge for CDC to demonstrate its ultimate objective of creating jobs and making a lasting difference to people's lives in some of the world's poorest places. Given the Department's plans to invest further in CDC, a clearer picture of actual development impact would help to demonstrate the value for money of the Department's investment.**
> NAO, 2016

There have been numerous frameworks developed to understand and evaluate the impact and performance of health systems (Murray & Frenck 2001; Handler et al. 2001; Roberts et al. 2003; Leatherman et al. 2010) as well as a number focused on certain aspects of health systems, such as financing or access

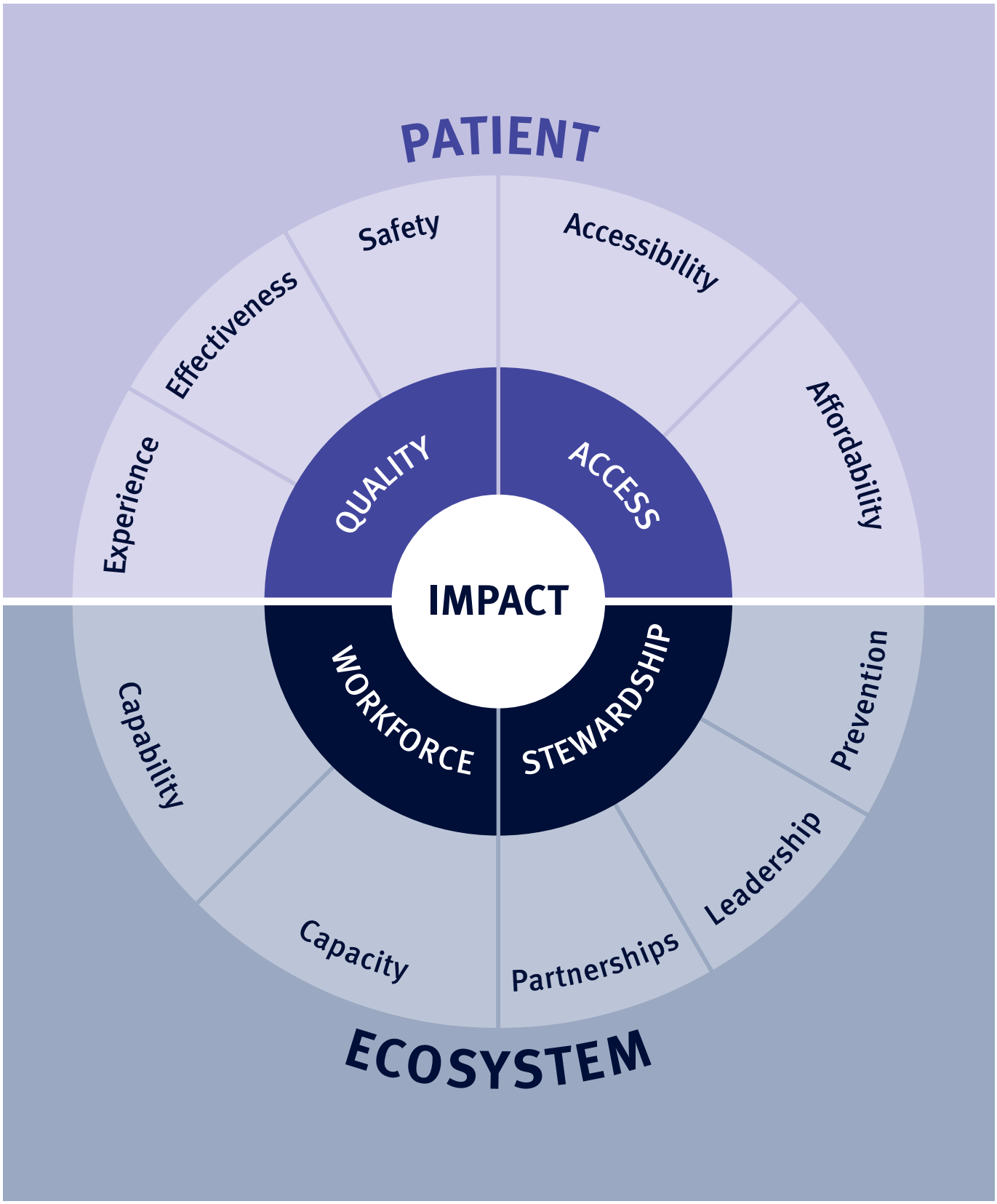

FIGURE 6: The Health Impact Framework

(van Olmen et al. 2012). However, understanding the impact of individual private providers requires a different approach, accounting for the limitations of one actor to affect change on the same scale, differing motivations and responsibilities.

To build an impact framework that is meaningful for the private sector, it is important to first understand how individual providers interact with the local healthcare landscape, and where their impact might be felt.

Private providers can be impactful in many different ways. Perhaps most obviously, a private provider might be commercially successful or **profitable**, impacting beneficially on its shareholders. These considerations are already central to the operation of for-profit organisations and their investors, and much has been written on the subject. Therefore, profitability is out of scope of this framework.

Efficient care delivery is an essential pursuit if health systems are to deliver effective, safe and high quality care for growing populations. When looking at an entire health system with a limited budget, efficiency is a necessary condition of positive impact. Wasteful policies and behaviours mean there is less resource available. When considering a single provider, the same considerations apply, but only where that organisation is accountable for a population or operating within a limited budget and without the ability to generate profit. For private providers, efficiencies can be translated either into profit or better, more accessible care. The goal of greater impact can be achieved if these efficiencies are translated into, for example, outreach projects of higher-quality care, or by generating the profitability required to scale the business, reaching more people and having systemic impact. In this respect, the various potential positive outcomes of efficiency are more important than efficiency for its own sake. Efficiency itself does not need to be considered in isolation, but rather as a means to an end. Therefore, efficiency is not listed as an outcome in this framework, but should be considered when assessing the provider.

Aspects such as the impact on the **economy**; on **other sectors** such as education; and **international** impacts are very hard to measure, especially when trying to isolate the impact of a single player. However, for all of the challenges in measuring these factors, they are still crucial. In developing a manageable health impact framework, it was important to ensure that the dimensions for measurement were feasible and realistic. If data collection and analytical tools improve, investors and companies should consider incorporating these wider impacts into the framework in future.

In terms of what is important and possible to measure, it is important to look first to the **patients** served by the provider – are they receiving high quality care regardless of age, race, gender, biological sex and income level? What is the provider doing to reduce inequalities of access to care? The way a provider behaves also impacts on the ecosystem in which it sits – is it delivering services relevant to the needs of the population and contributing positively to the workforce? Both of these factors are relatively easy to capture and measure, so form the basis of the framework in Figure 6. A chart listing potential indicators and processes for measuring and identifying impact across all dimensions can be found in Appendix B.

Patients

Is the organisation serving its patient population well?

Measuring an organisation at this level should be relatively straightforward given the wealth of internationally recognised guidance and standard measurements, however some initial effort may be necessary to establish reliable data reporting mechanisms. A qualitative approach to understanding the internal systems in place should be reinforced where possible with quantitative data.

Why not focus on 'population' health instead of the individual 'patient'?

Achieving overall population health is the objective of a health system, and this toolkit assesses an individual provider. A provider is, however, a part of the ecosystem and should be aligned to the needs of the population. This alignment is assessed in the next section on ecosystem impact.

Quality

Delivering quality care is the overarching objective for many health assessment frameworks – the WHO,

Institute for Healthcare Improvement and the OECD have all established their own quality frameworks, adding to a body of evidence on impact that also includes notable academic works, such as Donabedian's model (1988) and country specific models like the one set out by Lord Darzi in High Quality Care for All (2008). However, the sheer volume of these can be overwhelming for any provider. Finding commonality within these frameworks helps to highlight which dimensions are agreed to be the most important. The three consistently cited dimensions of healthcare quality are **safety**, clinical **effectiveness** and patient **experience**, and there was consensus on this in the expert interviews carried out by the IGHI team. There was a clear warning from many of the interviewees that data validity might be poor across the public and private sectors in LMIC settings, especially where accountability structures are scarce or weak.

Safety

The primary objective of healthcare has always been to 'do no harm'. Ensuring patient safety requires measures aimed at "the avoidance, prevention and amelioration of adverse outcomes or injuries stemming from the process of healthcare" (Vincent 2010). In standard practice, this involves the use of established clinical safety protocols and incident reporting systems. Clinical safety protocols should be embedded within internationally recognised clinical practice guidelines and checklists, and updated regularly. A provider should be able to demonstrate which are being used, when and how. During many of the interviews carried out by the IGHI team, interviewees noted the importance of providers using established clinical audits and analysing mortality and morbidity rates.

Effectiveness

Simply put, clinical effectiveness is 'what works', whether measured by the relief of symptoms, quicker recovery or longer life (PubMed Health 2015). Although it may be unreasonable to expect all hospitals in LMICs to be offering the most up-to-date treatments, there is a basic requirement for systems to ensure clinical governance and staff engagement, as well as measurement of patient outcomes. Whilst the human cost of ineffective care is clear and of primary importance, there is also an argument that poor quality care is less efficient and bad for business. Publicly available data on clinical effectiveness is particularly important, both to hold poor providers to account and to allow patients to make informed choices. It will take the combined leadership of policymakers, investors and providers to push for greater transparency.

Whilst the human cost of ineffective care is clear and of primary importance, there is also an argument that poor quality care is less efficient and bad for business.

Another dimension of effectiveness is appropriateness; ensuring that the right incentives are in place to reduce supplier-induced demand – in other words clinicians carrying out inappropriate procedures for financial motives. Having appropriate outcome-based incentives and payment structures for clinicians is key here, as certain fee-for-service payment structures may lead to overtreatment. A strong emphasis on using health technology assessment approaches was a feature of the interviews carried out by the IGHI team. Health technology assessment is the formal evaluation of procedures, drugs and devices to ensure clinical and cost effectiveness.

Experience

The concept of patient experience relates to the service user's subjective perception of care, which can include the extent to which their physical, intellectual, emotional and familial needs are met (Gerteis 1993; Department of Health 2011). Improving patient experience may involve designing organisational structures and processes to place patients at the centre, ensuring continuity of care and information flows. Patient experience is often measured using satisfaction surveys, but can also be observed in the amount of time and money invested in things valued by patients, such as transparency, smooth handovers and other experiential factors. Many of the experts interviewed by the IGHI team advised that patient experience surveys, if undertaken, should go through validation processes, and highlighted the importance of transparent complaints mechanisms. Patient experience research in LMICs is in its infancy – and so academic understanding of patient expectations in contexts beyond HICs is limited.

Access

In the context of healthcare, 'access' is defined as the extent to which financial, organisational, geographical and cultural barriers are minimised for patients (Gulliford et al. 2002). Nearly all of the experts interviewed by the IGHI team stressed the importance of equality of access as an objective and suggest that providers and their investors should understand who in the population does not have access to care and what services they cannot access. Health systems should work towards offering equal access to equal care for those who are in equal need (Oliver & Mossialos 2004).

> **Health systems should work towards offering equal access to equal care for those who are in equal need.**
> (Oliver & Mossialos 2004)

Commercial providers, especially hospitals relying on OOP payments, can tend towards favouring higher income patients, thus undermining the basic tenets of equitable care. Whilst it may be necessary for commercial viability to attract paying customers, providers can help improve access to care by extending services to poor, rural or minority segments of the population, achieved through physical expansion and financial inclusion.

Accessibility

This entails the physical proximity of necessary and culturally acceptable healthcare, reaching those in rural or remote contexts and reflecting the diversity of the population in the staff at all levels (Gulliford et al. 2002). Improving access by removing cultural barriers opens care to previously un-served populations. Whilst few hospitals would admit to discriminatory policies, constant vigilance is required to ensure institutional prejudices are not allowed to flourish.

Investment in outreach programmes, such as rural clinics, mobile kiosks or telemedicine facilities, can improve physical accessibility. It is worth noting that, in many LMICs, inadequate levels of provision are the norm (and in these countries there may be provision gaps even in dense urban areas). Whilst addressing these gaps can enhance overall access, exacerbating inequalities between rural and urban, rich and poor, men and women, or minority groups remains a potential risk.

Affordability

Whether a patient can afford treatment depends on the absolute cost of treatment, associated costs (such as travel and time off work to seek care), who bears the cost and a patient's level of wealth (Gulliford et al. 2002). Financial protection is ultimately an issue that must be tackled within the financing function of the health system by institutional payers such as governments and insurers. Governments have a responsibility to establish schemes for extending healthcare to the poor, and to remunerate providers appropriately. However, explicit strategies to minimise OOP payments (especially for low income families) by reducing the cost of treatment can also contribute to reducing medical impoverishment, particularly in a LMIC setting (McIntyre et al. 2006). Whilst many of the interviews carried out by the IGHI team focused on the need to establish programmes explicitly targeting the poor and those below the poverty line, interviewees also suggested that strategies should be established to ensure that middle income families who do not qualify for subsidy programmes are not met with catastrophic costs that pull them down into financial hardship. Strategies to increase affordability may include participation in government health insurance and subsidy programmes, such as the Indian government's health coverage scheme for those below the poverty line, as well as internal cross-subsidisation and engagement with donors.

Providers should work with government and other providers to ensure all get treatment, not just the easiest cases but the full spectrum, including the most complex cases with many co-morbidities. There should be acknowledgement that having a complex presentation of symptoms may present patients with affordability issues, and there should be pricing strategies to ensure patients can access the necessary care, regardless of complexity.

Ecosystem

At a macro-level, is the organisation contributing to the broader health system in a positive way?

Measuring the wider impact of individual providers is a particularly challenging task, and many providers and investors tend to avoid monitoring this area entirely. Development investors typically track impact across eight or more metrics with a focus on patient level and quantitative measurement (GIIN 2017). A broader focus on the ecosystem impacts would add value and nuance to impact assessment. To keep the framework realistic and implementable, a more qualitative assessment of prospective impacts might be necessary. Two impact dimensions were found to be of particular importance: workforce and stewardship.

Workforce

The WHO drew attention to a global health workforce crisis with the "*exodus of skilled professionals*" from LMICs (WHO, 2006). The report identified sub-Saharan Africa and South Asia as the two regions with the most critical shortages of staff. In addition to the emigration of professionals from these countries, there are also problems with the movement of public sector workers into the private sector, and rural workers to urban areas.

A common view is that this labour market dynamic is inevitable, and that it is down to the public sector to manage. Where remuneration rates in the public sector are significantly below market, it could be argued that there is little the private sector can do. Individual providers that try to benchmark to public sector pay rates may be unable to compete with other private providers. Coordinated efforts by private provider associations to benchmark pay may be one solution, although there is little evidence of successful examples in practice. Despite these challenges, there are realistic ways for private providers to be mindful of their impact and make positive contributions, through training and education, and taking steps to reduce 'brain drain' by training up new clinical staff, adding to the workforce pool which both the public and private sector can benefit from, and recruiting from countries with fewer staff retention problems. However, it should be acknowledged that there will always be some workforce movement. A realistic bar is for providers to put more into the public system than they take.

Nurses in particular, although forming the largest part of the workforce, are often under-utilised and prone to greater retention challenges. Valuing and investing in the nursing workforce will be essential to achieving UHC and the SDGs of improving health, promoting gender equality, and strengthening economies (APPG on Global Health 2016).

Capability

Workforce capability refers to the ability of staff to work to a high standard. In practice, this is most easily measured through the breadth and quality of training offered. There are often shortfalls in the quality, appropriateness and diversity of training in LMICs, especially for medical specialities. Large private providers can make a significant impact by offering clinical training and collaborating with local medical and nursing schools. By increasing the number of healthcare professionals in the ecosystem, they may be able to offset the resources they may have taken from the public sector. However, in some countries where there is extremely high demand for medical education, such as India, there has been a proliferation of lower quality private colleges, and concerns have been raised about the impact these might have on care, as well as the value for fee-paying students. Strict adherence to medical education regulation is essential (Davey et al. 2014; Choudhury 2014).

Private medical and nursing schools can play a role in improving standards and capability across the board, offering courses aimed at public sector staff and working in partnerships with public training facilities to address staff shortages across the board. In particular, academic medical centres and teaching hospitals can play a critical role in the development of human resources for health. Some of the experts interviewed by the IGHI team suggested up-skilling junior medical and nursing staff to allow for task shifting – a more efficient way to deliver care which may reduce the need to recruit more senior, specialised staff from the local workforce pool. Moreover, a common perception that medical training in private facilities may be of a lesser quality than in

public facilities can be addressed by accreditation and licencing of programmes, as well as by partnering with international universities.

Capacity

Capacity refers to the appropriateness of the size of the workforce to meet the needs of patients and the health system.

Active policies for responsible recruitment of workers are necessary to prevent the private sector poaching much-needed resources from a stretched public sector. Whilst the recruitment of public sector workers is almost inevitable, and the impact this will have will vary greatly from country to country, robust measures to address the balance should be put in place.

Dual practice by clinicians, dividing their time between public and private service, is a common phenomenon that arguably allows some level of specialist retention in the public sector. Whether to allow dual practice proved controversial with some of the experts interviewed by the IGHI team as there may be adverse incentives at play, for example, to compromise on service quality in public facilities, and instead incentivise referrals to the private sector. However, allowing clinicians to work part-time for the public sector could be something for private providers and policymakers to consider. For example, in Malawi, public sector doctors are allowed to set up after-hours private surgeries (Banda & Simukonda 1994).

Close monitoring of staff retention rates and sources of recruitment can enable providers to understand their impact on the capacity of the health system. Brain drain is perhaps best documented across national borders. It is understandable that people will be drawn to countries that offer better pay and quality of life, and this is a problem that will not be solved by a single provider alone. However, large private providers, with the resources to pay competitive salaries, may be better placed to prevent emigration of local workers and attract medical diaspora back to the country from countries with less of a capacity issue. This is a complicated issue with many players, and whilst one player cannot hope to fix the problem in isolation, all players should be involved in concerted and integrated efforts to address the issue and ensure the public sector has enough staff to function well.

One of the experts interviewed by the IGHI team cited the concept of using 'circular migration', allowing doctors to train and work abroad with view to returning – from both HICs and LMICs. Programmes that encourage circular migration would be a positive step towards addressing this international crisis.

Stewardship

In countries where public governance and regulation of private sector healthcare providers is weak, there may be significant provider fragmentation and poor quality of private healthcare (Lagomarsino et al. 2009). In these contexts, responsible investors should think carefully before investing and should ideally support companies with distinct strategies or initiatives that improve system integration and stewardship. Some helpful strategies suggested by the experts interviewed by the IGHI team include: complementing existing systems by addressing unmet needs; self-regulation, such as accreditation schemes; showing leadership in the spread of innovation; and participating in health promotion activities.

Partnerships

No provider can serve the population well in isolation. Partnering with government, regulatory and accreditation organisations and other providers is an essential part of responsible health provision.

No provider can serve the population well in isolation. Partnering with government, regulatory and accreditation organisations and other providers is an essential part of responsible health provision.

A provider's ability to have a positive impact can be assessed in terms of the alignment of its services with the needs of the local population. Assuming that public healthcare providers are oriented towards local public needs, comparing public hospital priorities in the local area with those of private providers may offer an indication of alignment.

Countries with a strong government-backed system of regulation will be best placed to ensure private providers are delivering quality services in alignment with

the needs of the population. In the absence of a strong regulatory relationship, the burden of oversight rests with providers and their investors. Providers should seek out voluntary systems of oversight and accreditation, and their investors should take a particularly active role in monitoring impact.

Centralised data collection and publication is one of the best ways for policymakers to ensure transparent system stewardship. In countries without public reporting of performance data, voluntary disclosure by individual private providers is probably not a realistic proposition. However, private providers can work together through local provider associations to begin a discussion on how to coordinate mutually agreed data disclosure.

Whilst working closely with governments is to be commended, relationships should always be conducted with integrity and transparency, to avoid lobbying or undue influence.

Leadership

Providers should aim to be leaders in their field or local area – devising new approaches or technology, facilitating cultural change, or putting tried and tested approaches into practice to good effect, such as telemedicine. Innovation can happen in any aspect of provision, from a device that makes procedures safer, to a new way of managing the workforce. Evidence that the innovation has spread to other providers is key to scaling and spreading impact – inspiring the development of similar products or processes. This is known as the demonstration effect (Cheung 2004), and is hard to measure quantitatively. However, evidence from the academic literature and conversations with the provider and other players in the system should point to anecdotal and qualitative evidence of the diffusion of innovation. It is also worth noting that the demonstration effect works both ways. Behaviours leading to negative impacts can be copied by others in the health system, and so providers should be vigilant in ensuring that the innovations they promote are having the desired effect. This can and should be assured through robust independent research.

Prevention

Active non-tokenistic involvement in public health initiatives – such as participating in health promotion programmes and patient education – is a good sign of a responsible provider. Another key question is how providers contribute to the resilience of the local health system to deal with health shocks and pandemics. At the very least, providers should do what they can within their walls to ensure the physical and mental wellbeing of staff and patients, such as making sites smoke-free and offering healthy food choices.

Private providers can be prone to the moral hazard of antibiotic overuse. This risky behaviour can lead to antimicrobial resistance (AMR), the effects of which could be global in scale and more likely to impact on the public sector. All responsible providers should put in place explicit strategies to prevent overprescribing.

There is a global recognition that care needs to move away from hospitals towards more cost-effective primary care. Corporate providers usually find secondary and tertiary care more profitable, but may want to adapt to include elements of primary or preventative care. Providers that are investing in and expanding their operations into primary care networks may be most resilient, sustainable and impactful. Preventive care initiatives, such as diagnostic health camps and educational workshops in local communities, are also evidence of impact.

Unacceptable provider behaviour

Due to the qualitative and flexible aspects of the framework and assessment process, impact assessment needs to be done with rigor and some degree of independence to avoid cherry-picking of evidence and to give balance.

Whilst there may be limited evidence in some areas, this should not discourage impact assessment or investment in the private sector outright. Impact assessment should be an exercise in measurement, qualitative understanding and improvement, and providers should work towards improving impact.

NAME	INITIATIVE TYPE	COUNTRY	ESTABLISHED	HEALTH FOCUS	SIZE	IMPACT EVIDENCE
	Chain of hospitals or clinics	India	1997	Cardiology & other specialty services; primary health care in urban and rural areas	450,000 outpatients 30,000 admissions 4,000 cardiac surgeries. 12 hospitals and a number of clinics with a total of 1,600 beds.	
Centro Ginecologico Integral (CEGIN)	Network of providers	Argentina	1989	Gynecology	40,000 patients per year. 60 independent health providers in the network.	
Dentista do Bem	Network of providers	Brazil	2002	Dentistry and dental health education	1,300 dentists, over 27 states.	
Kisumu Medical and	Training	Kenya	1995	Reproductive health	204 providers in 5 provinces. 65 private; and 139 work at least part-time in missions or the public sector.	
LifeSpring Hospitals Private Ltd.	Chain of hospitals or clinics	India	2005	Maternal and child health	About 50,000 outpatient and inpatient consultations per year. 9 hospitals with 20 beds each.	
Lumbini Eye Institute	Chain of hospitals or clinics	Nepal	1983	Eye care	Provides 25% of eye care in Nepal, 260,000 patients and 30,000 surgeries per year. 1 main hospital, 3 secondary hospitals and some primary clinics.	Affordability
	Chain of hospitals or clinics	India	2004	Primary and secondary care	400,000 patients. 14 hospitals.	Accessibility Experience
Ziqitza	Ambulance provider	India	2005		Around 50,000 patients per year. 90 ambulances.	

FIGURE 7: Examples of private providers with positive impact

Sources: Tung & Bennett 2014; Battacharyya et al. 2010

However there are some behaviours or warning signs that should make investors think twice about giving financial support to a private provider:

- Putting patient safety at risk or carrying out unnecessary care.
- Providers with no strategies in place to extend their services to poorer populations or extend access to marginalised groups.
- Those with a significant deleterious effect on the public sector workforce pool.

Examples of impact

Examples of private providers potentially delivering positive impact in Figure 7 point to some of the evidence in the literature to give a high-level illustration of how impact can be achieved across each dimension. These examples have been sourced from two large-scale reviews of private sector innovators. Whilst these examples are interesting and highlight some examples of positive impact, the literature is characterised by a dearth of robust evidence from the private sector, and these examples may be self-selecting and unrepresentative of the sector more widely. This means that the academic literature presented here is unlikely to capture the full extent of the positive (or for that matter, negative) impact of the private sector. More transparency and academic evaluation of private sector impact is certainly needed.

Applying the framework in practice

This framework provides the basis for a nuanced qualitative assessment of the impact of a for-profit private provider, supported by quantitative data where available. It should be used to guide discussions and data collection exercises with key stakeholders from within and outside the organisation. These conversations should reflect the organisation's priorities and local health needs. Each of the four core dimensions of impact should be investigated. A data collection tool is included in Appendix C.

There is a hierarchy of impact evidence – from having the right systems in place, to evidence of long-term results (see Figure 8). It is also important to consider both negative and positive impact, to determine whether there is a net benefit.

The outcome of the assessment through the framework is a narrative report outlining areas of good impact and priorities for improvement. This framework cannot be used to draw robust comparisons between providers or to give a 'score' to a single provider and there are no weightings to the relative importance of different dimensions of the framework.

At a provider level, the framework can be used to manage impact at board level, as well as to point providers to areas in which they should improve their data collection and improvement strategies. The framework can also be used by development investors to assess the impact of their investments, as well as to assess companies before investing. Policymakers can use this report to guide their thinking on the private sector, and can use the framework to leverage provider and investors to achieve greater impact.

There are two core challenges when evaluating the impact of individual providers:

1. **Measurement** of impact, and attribution of outcomes to specific providers is difficult where data availability is limited.
2. Identifying the right way to **incentivise** providers to monitor, report and enhance impact.

Measurement

The framework is only as helpful as the available data. When beginning to think about improving impact, it is inevitable that there will be significant gaps in the availability of good quality data. Whilst most hospitals will be collecting and monitoring KPIs, the quality of the data should be put to the test – and if possible, verified by external sources.

Whilst independent quantitative data should be sought where possible to validate impact claims, this is ultimately a qualitative exercise.

Information about processes and inputs, proxy measurements and anecdotal evidence can be used where full, verified outcomes data are not available.

Providers should, however, always work towards more accurate data collection and transparency of outcomes data. Consultations with external stakeholders such as local government or patients should ideally be conducted independently.

Whilst independent quantitative data should be sought where possible to validate impact claims, this is ultimately a qualitative exercise. The outcome should be a narrative report considering all aspects of the framework, and the actionable output should be a list of recommendations to improve impact. Consideration was given as to whether weighting should be given to different aspects of the framework, allowing assessors to devise an overall score. However, the current evidence base does not support this, and an approach underpinned by judgement, nuance and adaptability to the needs and circumstances of each provider is recommended.

Incentives

Policymakers and health investors can benefit from a wide range of levers: regulatory, financial and contractual to encourage impact assessment, data collection and transparency. Private providers themselves should recognise that having a measurable positive impact on patients and the health ecosystem can boost their brand, giving a competitive edge, reassuring patients, inspiring their staff and helping secure further investment.

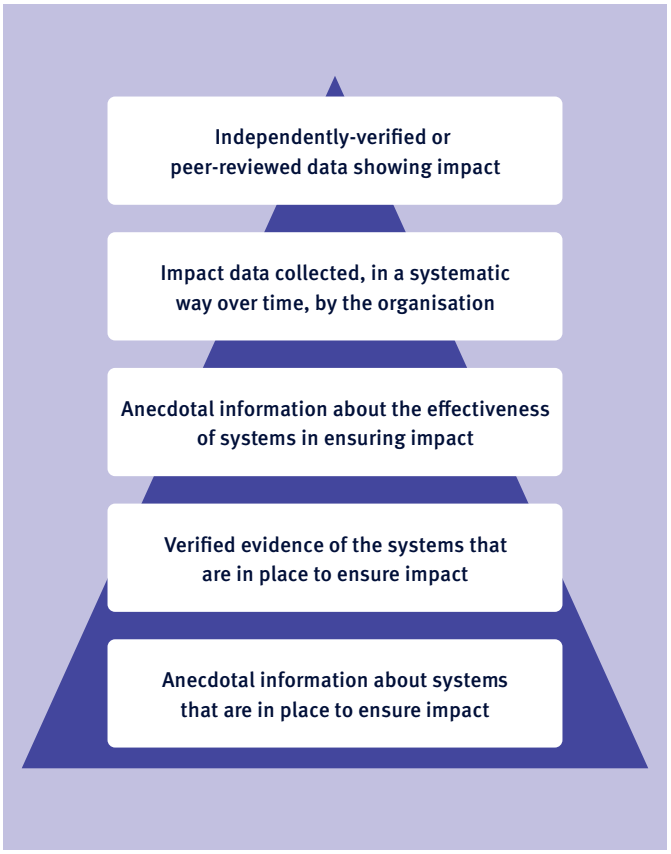

FIGURE 8: The hierarchy of impact evidence

CHAPTER FOUR

NEXT STEPS FOR THE SECTOR

- Investors have a key role to play in empowering the private healthcare sector to be more impactful.
- Policymakers should also take note – oversight and regulation of providers is essential to assure impact, retain accountability and align private practice with public need.
- We would encourage private providers, and in particular their boards of directors, to take ownership of this framework, and use it to drive change and improvements in their organisations.
- This report and framework are an important and necessary first step: much more effort is required by investors, policymakers, researchers and providers themselves to fully understand the impact of the private sector in health.

Recommendations for development investors

Investment in health can lead to economic growth and employment, and well-managed private sector providers can maintain profitability whilst contributing positively to health systems and efforts to achieve UHC. However, strong oversight and a positive interaction with the rest of the health system are important prerequisites for assuring private sector impact in health – and investors can be an important facilitator of this.

The development and adoption of the framework described in this report is a positive first step. Few, if any, investors employ such a structured and evidence-based approach to impact assessment. We recommend investors such as CDC should:

Before investing

- **Develop an explicit strategy for investment in health provision**. This should be based on evidence and on considerations of the local context and include a clear explanation of the 'route to impact'.
- **Take a global leadership role in impact assessment**. The industry would benefit from a more active debate on how impact should be defined and measured, as well as from a clear articulation of how best to support global priorities such as the Sustainable Development Goals (SDGs).

When making an investment decision

- **Carry out due diligence on the impact of potential investment targets**. The potential for impact should be a core component of the due diligence process. The framework presented in this report could easily be adapted for this purpose.
- **Clarify expectations of impact and transparency with target companies**. There is a significant risk that, without having the appropriate contractual levers in place, the impact framework will not be used broadly or meaningfully. We suggest that companies should sign a pledge to collaborate on sharing impact data with their investors as a pre-condition for investment.

After investment

- **Use the framework as the basis for regular impact reviews.** This will allow providers to demonstrate improvement over the course of the investment period.
- **Actively support companies to improve their performance.** Impact evaluation should be used to identify areas of improvement as part of a constructive relationship with providers, and investors could provide assistance, for example, to develop a strategy for improving the accessibility of care.

Recommendations for policymakers

Policymakers in many LMICs are considering how best to incorporate private providers into their strategies to achieve UHC. When considering the best way to contract with private providers, policymakers might be justifiably cautious and keen to avoid some of the pitfalls that have been outlined in this report. The framework can be used to help design oversight mechanisms for the private sector – whether in designing an incentive or payment regime, a regulatory system or a service specification.

We propose three key recommendations for policymakers in LMICs:

- **Clarify the role of the private sector in achieving UHC**. Policymakers should outline a clear vision for UHC, using the levers and partnership options available to enforce good provider behaviour: this should be the prerequisite for the involvement of the private sector.
- **Develop strong public institutions and governance**. Policymakers need to learn from the experiences, positive and negative, of others that have achieved UHC, and invest in oversight and regulation.
- **Create a level and transparent playing field to maximise quality of care**. All players should be required to publish KPI, irrespective of whether providers' ownership is public or private.

Recommendations for other stakeholders

NGOs, donors and research organisations might also find this a useful framework to assess the potential development risks and benefits of working with the rest of the private sector.

- **Champion the wider use of impact assessment**. Use this report to challenge providers, investors and in-country policymakers to improve their record on impact assessment and improvement.
- **Support further research into this area**. The contribution of health investment to economic growth, the role of the private sector in health and methodologies to assess the impact of investment are all areas which would benefit from an increase in research focus and funding. Box 4 below sets out in more detail some unanswered questions for further research.

BOX 4: **Further research**

- LMICs' health systems are hugely varied, and the framework may need alteration for use in different countries or aspects of healthcare. Testing and developing this framework for use in other contexts would be a helpful next step – including providers in sub-Saharan Africa.
- Developing a framework for understanding private health financing organisations would help investors and policymakers better understand and manage the considerable potential risks and opportunities. Exploring innovative approaches for extending mandatory or universal coverage, especially for those in communities typically underserved by provision, might help to encourage providers to move into smaller urban and rural areas.
- A thorough mapping exercise of a local health economy would add a much richer and more granular understanding of the impact of a single player on the ecosystem – including their impact on population health and other sectors. This could take the form of a detailed gap analysis.
- In some LMICs, uncovered populations, such as middle-income patients, are not wealthy enough to meet the high cost of private care, but are not poor enough to qualify for government programmes. This can lead to catastrophic costs resulting in middle-income families either falling below the poverty line or opting to not seek out health care. Further work to understand how this group interacts with the private sector is necessary, as well as testing the efficacy of private sector strategies to prevent this.
- Detailed mapping of international and domestic movement of doctors and nurses, and systematic testing of strategies at the provider and government level to reduce harmful migration of skilled workforce.

Recommendations for private providers

The framework itself should be read as a recommendation, a call to action for all private providers. It is likely that most will have given some thought to impact, particularly on the patients they care for; the users of their service. This report challenges providers to think about whether that is enough – and whether there are other areas of impact they also need to consider.

We propose four key recommendations for private providers:

- **Use the framework for self-evaluation**. Build impact thinking into board-level planning, and aim for objectivity and impartiality. For a provider to get a deeper understanding of the impact they are having on patients and the local ecosystem, a degree of distance might be helpful. Providers could commission a third party to carry out an assessment to bring a fresh perspective. It would certainly pay dividends to gather the views of a wide range of organisations within the local health ecosystem.
- **Invest in improving the measurement of impact**. There is a wealth of resources, guidelines and tools available to support providers in measurement and data collection. A table collecting some of the most helpful resources is included in Appendix B.
- **Think about impact before expanding to new markets**. When a provider is establishing itself within a new health system or expanding to other areas, specialties or markets, this framework could guide an impact component to the gap analysis, alongside commercial viability and competition considerations.
- **Spread the word and show leadership in impact**. Providers should build positive impact into the way they communicate their value and contribution to the wider world – becoming known as conscientious, high quality providers, adding value and putting the welfare of patients and the health ecosystem first. In doing so, they can lead the way, and encourage patients and governments to demand more of their healthcare.

With policymakers and development investors working together to create an environment that is conducive to achieving positive impact, and private providers taking ownership of their own impact, we can hope to see significant improvements in patient care, population health and health systems.

APPENDIX A – GLOSSARY

Acute provider
A secondary care provider where patients receive active short-term care such emergency, urgent and/or trauma care. This may be a hospital or care in the community.

Additionality
The extent to which a process or outcome was achieved at all, to a larger scale, or earlier following an intervention, that would otherwise not have happened. Measuring additionality involves reference to the "counterfactual" which identifies what would have happened without the intervention. The difference between this and the observed outcome provides a measure of the intervention's "additionality".

Antimicrobial resistance (AMR)
"The ability of a microorganism (like bacteria, viruses, and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others" (WHO 2017).

Development investment
Investment targeted towards supporting viable private businesses in developing countries and/or mobilising private capital, for maximal impact on economic growth that benefits the poor (Kingombe et al. 2011).

Ecosystem level
These involve interventions and outcomes that have significant systemic impact, and that directly improve the overall functioning and performance of the health system.

Financial accessibility
"A measure of people's ability to pay for services without financial hardship. It takes into account not only the price of the health services but also indirect and opportunity costs (e.g. the costs of transportation to and from facilities and of taking time away from work)" (Evans et al. 2013).

Gap analysis
The process of identifying the difference ('gaps') between the current state/performance of the health system and a desired state (for example, through comparison with a desirable benchmark), and then setting objectives on how available resources can be utilized to best address those gaps.

Net positive impact
Clearly demonstrable good outcomes, on balance, when considering both beneficial and detrimental factors across all dimensions.

Patient experience
The service user's subjective perception of care, which can include the extent to which their physical, intellectual, emotional and familial needs are met. Improving patient experience may involve designing organisational structures and processes to place patients at the centre, ensuring continuity of care and information flows.

Patient safety
Prevention of clinical errors and adverse effects to patients associated with healthcare due to lapses in communication, patient management or clinical performance (NQF 2004).

Physical accessibility
"The availability of good health services within reasonable reach of those who need them and of opening hours, appointment systems and other aspects of service organization and delivery that allow people to obtain the services when they need them" (Evans et al. 2013).

Public-private partnerships (PPPs)
"A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance" (World Bank Group 2014).

Quality
The effectiveness, appropriateness, safety and patient-centeredness of health care.

Retroductive methodology
Iterative, thematic approach to building and developing hypotheses.

Stewardship
The "careful and responsible management of the well-being of the population" by i) generating intelligence, ii) formulating policy direction, iii) developing implementation tools, iv) building partnerships, v) ensuring a fit between policy objectives and organisational structure and culture, and vi) ensuring accountability" (WHO 2002).

Universal health coverage (UHC)
A health system state where "all people can use the promotive, preventive, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship" (WHO 2000).

Workforce
This refers to the four common types of healthcare workers: physicians, nurses, allied health professionals and community health workers.

APPENDIX B – SUGGESTIONS AND RESOURCES FOR MEASURING IMPACT

This table contains suggested indicators and other kinds of evidence that assessors might want to explore when applying the framework. These should be taken as a guide – the indicators and processes set out below may not be applicable for every provider. Providers may have alternative ways to understand and measure impact. The table also points to some helpful and publicly available resources to support providers in impact measurement.

	AREAS TO ASSESS	RESOURCES FOR MEASUREMENT
PATIENTS		
Quality		
Safety	**Things to look for:** • Use of recognised and evidence-based clinical practice guidelines, such as checklists; infection prevention and control guidelines • Robust incidence and adverse reporting systems • Regular reviews of guidelines and processes • Evidence of response to incidence reports • Safe staffing levels, clinical staffing ratios set according to need • Checking professional qualifications of staff **Metrics:** • Surgical mortality rate • Percentage of post-surgical complications • Mortality from general anaesthesia (for more information on surgical Metrics: http://apps.who.int/iris/bitstream/10665/44185/1/9789241598552_eng.pdf) • Change in incidence reporting over time • Safe staffing ratio (for more information on how to set an appropriate safe staffing ratio: https://pathways.nice.org.uk/pathways/safe-staffing-for-nursing-in-adult-inpatient-wards-in-acute-hospitals)	WHO Patient safety resources for implementers – includes models and guidelines, checklists, and reporting systems http://who.int/patientsafety/implementation/en WHO Safe surgery guidelines and tools, including checklists http://who.int/patientsafety/safesurgery/en AHRQ Summaries of quality measurements and measure sets https://qualitymeasures.ahrq.gov AHRQ Patient safety factsheets https://ahrq.gov/research/findings/factsheets/errors-safety/index.html Safety attitudes questionnaire https://med.uth.edu/chqs/surveys/safety-attitudes-and-safety-climate-questionnaire SafeCare for measuring quality in basic healthcare providers www.safe-care.org

	AREAS TO ASSESS	RESOURCES FOR MEASUREMENT
Quality (continued)		
Effectiveness	**Things to look for:** • Clinical audits, regular mortality and morbidity reviews, including appropriateness of care • Implementation of appropriate feedback and regular feedback loop between staff and hospital • Existence of patient satisfaction surveys • Readmission rates • Transparent communication of effectiveness data • Appropriate use of medical informatics and electronic medical records and internationally recognised coding for collecting patient data • Structural and organisational incentives to drive high quality care, including pay-for-performance or bundled payments for care episodes • Benchmarking across providers **Metrics:** • Lower hospital mortality rates • Lower readmission rates • Lower number of returns to higher level of care (e.g. from acute to intensive care) following discharge • Patient reported outcomes measures	AHRQ quality and effectiveness factsheets www.ahrq.gov/research/findings/factsheets/quality/index.html COHSASA hospital and hospice standards (RSA/Africa focus) accredited by ISQua www.cohsasa.co.za/health-care-standards-development ISQua guidelines on development of standards with the aim of patient safety, continuous quality improvement and patient-focused care www.isqua.org/accreditation-iap/reference-materials EQ5D health outcome measurement www.euroqol.org Patient Reported Outcome Measure: Oxford Hip Score http://orthopaedicscore.com/scorepages/oxford_hip_score.html Lancet Levers for addressing medical underuse and overuse: achieving high-value health care http://thelancet.com/journals/lancet/article/PIIS0140-6736(16)32586-7/fulltext The International Consortium for Health Outcomes Measurement (ICHOM) www.ichom.org King's Fund Patient Reported Outcome Measures www.kingsfund.org.uk/sites/files/kf/Getting-the-most-out-of-PROMs-Nancy-Devlin-John-Appleby-Kings-Fund-March-2010.pdf
Experience	**Things to look for:** • Patient satisfaction surveys, used to improve services • Visible complaints procedure • Transparent redress mechanisms and action taken to address problems • Patients representatives invited to board meetings • Code of ethics or a statement of patient rights • Clear policies for obtaining informed patient consent **Metrics:** • Change in number of patients who would recommend the provider to a friend or family member	Health Foundation report on measuring patient experience http://health.org.uk/sites/health/files/MeasuringPatientExperience.pdf AHRQ summaries of quality measurements and measure sets https://qualitymeasures.ahrq.gov Inpatient experience measurement www.nhssurveys.org/survey/1472 NHS Friends and Family Test measuring patient experience http://nhs.uk/NHSEngland/AboutNHSservices/Pages/nhs-friends-and-family-test.aspx

	AREAS TO ASSESS	RESOURCES FOR MEASUREMENT
Access		
Accessibility	**Things to look for:** • Expansion to non-urban areas, mobile units, health kiosks, medical advice call centres, telemedicine, and mobile diagnostic devices • Availability of female doctors or chaperones • Services available for lesbian, gay, bisexual, trans, queer (LGBTQ) patients in a way that is sensitive and without stigma • Availability of translators and information available in multiple languages • Extended opening hours **Metrics:** • Travel time between care setting and city outskirts and/or rural setting • Ratio of female doctors	Harvard factsheet outlining how to assess geographical access http://research.gsd.harvard.edu/hapi/files/2014/10/HAPI-ResearchBrief-Geographic-Healthcare-Access-102814-FINAL.pdf AHRQ Minority health factsheets www.ahrq.gov/research/findings/factsheets/minority/index.html Cultural competency factsheets www.ahrq.gov/research/findings/factsheets/literacy/index.html
Affordability	**Things to look for:** • Positive participation in government subsidy programmes • Explicit strategies to minimise out-of-pocket payments • Significant proportion of below the poverty line patients **Metrics:** • Number of patients who fall below the poverty line after treatments • Proportion of patients in low income groups	WHO Global Health Workforce Alliance resources from 2006–16 www.who.int/workforcealliance/knowledge/en WHO Global Health Workforce Network resources from 2016 onwards www.who.int/hrh/network/en

AREAS TO ASSESS		RESOURCES FOR MEASUREMENT
ECOSYSTEM		
Workforce		
Capability	**Things to look for:** • Contracts with public providers to provide training for public sector staff • Proportion of local medical trainees • Skill mix reviews • Formal programme for staff personal development, continuing education and training • Training on infection control • Para-skilling programmes, including nurse practitioners and community health workers **Metrics:** • Number of nurses undertaking greater responsibility since joining • Lower infection rates	WHO Global Health Workforce Alliance resources from 2006–16 www.who.int/workforcealliance/knowledge/en WHO Global Health Workforce Network resources from 2016 onwards www.who.int/hrh/network/en
Capacity	**Things to look for:** • Limit on recruitment drives in the public sector • Review of HR flows to and from the public sector • Recruitment of staff from abroad **Metrics:** • Total number of staff trained by provider colleges	WHO factsheet on brain drain www.who.int/workforcealliance/knowledge/resources/hrh_braindrain/en

	AREAS TO ASSESS	RESOURCES FOR MEASUREMENT
Stewardship		
Partnerships	**Things to look for:** • Analysis of demographics and local burden of disease • Delivering services appropriate to local need • Participation in voluntary and government accreditation schemes • Self-regulation mechanisms • Participation in well-managed affordable PPPs • Membership of professional associations • Corporate governance standards • Accreditation approvals	USAID: MEASURE Health Information System Strengthening Resource Center www.measureevaluation.org/his-strengthening-resource-center/resources for country data www.measureevaluation.org/resources/tools/health-information-systems for tools and guidelines MSH: Financial Management Assessment Tool (FINMAT) for health service providers http://projects.msh.org/resource-center/finmat.cfm WHO: African Partnership for Patient Safety – network of hospitals, with tools to help providers assess themselves and improve patient safety www.who.int/patientsafety/implementation/apps/en iDSI: Principles for developing clinical Quality Standards in low and middle-income countries www.idsihealth.org/knowledge_base/principles-for-developing-clinical-quality-standards-in-lmics
Leadership	**Things to look for:** • Demonstration effect, as evidenced in academic literature • Introduction of new treatment or procedure to local market	Duke innovations in healthcare database www.innovationsinhealthcare.org/innovators
Prevention	**Things to look for:** • Immunisation programmes and other public health interventions • AMR strategy – including rates of antibiotic prescribing benchmarked against international recommendations • Smoke free hospitals • Contribution to health system resilience, facilities adaptable for pandemics • Primary care provision	WHO resources to support chronic disease reduction and prevention www.who.int/chp/about/integrated_cd/en
OTHER		
		Duke Global Health Institute guidelines on Monitoring Organizational Reach and Influence; Selecting the Best Economic Analysis; Efficient Use of Time and Resources http://globalhealth.duke.edu/evidence-lab iDSI: Reference case for economic evaluation www.idsihealth.org/knowledge_base/the-reference-case-for-economic-evaluation OUP: Handbooks on Health Economic Evaluation www.herc.ox.ac.uk/downloads/handbooks-in-health-economic-evaluation

APPENDIX C – DATA COLLECTION TOOL

LEVEL	OBJECTIVE	DIMENSION	NO DATA	ANECDOTAL INFORMATION ABOUT SYSTEMS THAT ARE IN PLACE TO ENSURE IMPACT	VERIFIED EVIDENCE OF THE SYSTEMS THAT ARE IN PLACE TO ENSURE IMPACT	ANECDOTAL INFORMATION ABOUT THE EFFECTIVENESS OF SYSTEMS IN ENSURING IMPACT	IMPACT DATA COLLECTED, IN A SYSTEMATIC WAY OVER TIME, BY THE ORGANISATION	INDEPENDENTLY-VERIFIED OR PEER-REVIEWED DATA SHOWING IMPACT
Patient	Quality	Safety						
		Effectiveness						
		Experience						
	Access	Accessibility						
		Affordability						
Ecosystem	Workforce	Capability						
		Capacity						
	Stewardship	Partnerships						
		Leadership						
		Prevention						

APPENDIX D – NARAYANA HEALTH CASE STUDY

Introduction

Narayana Health

Narayana Health (NH) is one of many hospital chains in India's health system. It has hospitals from Kolkata to Bangalore serving all socio-economic groups. It has attracted patients from overseas, and has a reputation as a leader in the field of cardiovascular disease. Despite being an Indian-based hospital it has attracted international investors, such as CDC Group, demonstrating its reputation globally.

NH has a strong reputation as being the premier cardiac hospital in India. Its founder, Dr Devi Shetty, has been at the forefront of India's health provision and policy development. He is known globally as a leading cardiac surgeon who has developed policy innovations such as insurance schemes for low-income agricultural workers.[1]

Indian health system

India's health system is a mixture of private and public, with health expenditure representing only 4.7% of total GDP. Of total health expenditure (THE), 70% is from private sources; the vast majority of this (89%) consists of individual out-of-pocket payments (World Bank 2016). The rising cost of healthcare has not been matched either by increases in the government budget or by improved healthcare coverage, with the proportion of THE from public sources increasing only gradually from 26.1% in 2000 to 30% in 2015. Though public sector care is available to all citizens, and the government has committed to expanding healthcare services as part of India's UHC agenda, insufficient provision has driven patients to seek care privately. This contributes to the high levels of out-of-pocket payments, which typically have regressive implications (Downey et al. 2017; Asante et al. 2016). Globally, a dominant private health sector in a country is typically associated with very high individual out-of-pocket expenditure (Mackintosh et al. 2016).

The reliance on private care is of concern especially given that the health system is largely unregulated, particularly in rural areas where a large proportion of private providers are understood to be either unqualified or underqualified (Powell-Jackson et al. 2013; Patel et al. 2015). Government oversight is fragmented, with a lack of functional agencies or regulatory frameworks to enable full responsibility for the overall quality of healthcare. Potentially significant legislation which could support national regulation has been held in Parliament pending approval for up to a decade, including the Medical Devices Regulation Bill (2006) and National Commission for Human Resources in Health Bill (2011). At present state level authorities, local government and insurance schemes are mandated to hold providers accountable for the quality of care. However, accountability mechanisms are weak and under-used, although may be stronger in cases where there are financial levers (Patel et al. 2015; Downey et al. 2017). For example, when a hospital may have to submit quality reports to an insurance company rather than to a regulatory body.

Ischemic heart disease remains the top disease burden, followed by lung disease, stroke, and diarrhoeal disease. The rate of years of healthy life lost through poor maternal and neonatal health continues to be high (Global Health Data 2016).

Methodology

We are grateful to NH for allowing us to test our health investment impact framework with them. On-site testing was undertaken by four IGHI researchers (Hester Wadge, Joachim Marti, Rhia Roy, Arthika Sripathy), using semi-structured interviews guided by the framework. Over the course of one week, they met with leaders and operational staff in the head office, a local hospital site and external regulatory organisations – collecting data and soft intelligence. The findings from the interviews were triangulated with evidence provided by the hospital. Data were captured using field notes and analysed using

1. Narayana Health: Dr Devi Shetty. From: www.narayanahealth.org/about-us/board-of-directors/dr-devi-prasad-shetty.

the retroductive approach, in which an initial conceptual model is challenged and subsequently developed through primary research. These findings thus led to further changes to the framework.

Based on what we were able to observe during the week-long visit, and additional data sent by the hospital at our request, NH has exceeded our expectations of what a private provider can do within such a challenging regulatory environment. However, we have also found areas in which we feel NH could further develop its thinking.

Framework dimension – Patient
Quality

Safety

NH has demonstrated serious attention to patient safety. The organisation asserts that it measures itself against developing countries' benchmarks as well as the safety indicators included in the Health Impact Framework. Where no evidence is found on which to base benchmarking exercises, wards use internal comparisons between NH hospitals to measure performance. To assure quality, NH conducts regular mortality and morbidity reviews, as well as incident root cause analysis exercises.

There is an incident reporting procedure, and there is evidence that it is used. However, the rule that incidents must be reported within 48 hours may put staff off reporting older incidents; this guideline is clearly intended to encourage timely reporting, but potentially could be relaxed to increase reporting rates. The reporting form itself is quite detailed. Whilst this helps to ensure all the information necessary for tracking cases is collected, the added bureaucracy might act as a disincentive to reporting. Patients are also able to report incidents, with a dedicated hotline available and guaranteed anonymity.

While overall an appropriate incident reporting system is in place, staff are not able to report incidents anonymously. Introducing this option might ensure that staff worried about retribution can raise concerns without negative consequences.

Observed strengths

- Robust safety policies and care given to safety across the organisation.
- Goes above and beyond benchmarking against developing countries.
- Very receptive to patient feedback and incident reporting.

Potential areas for improvement

1. NH could benchmark itself against more than just developing countries. NH has already set a higher standard for itself, in some cases using indicators from the Health Impact Framework, and should continue to do so.
2. NH could consider introducing the option for staff to report incidents anonymously and relaxing the 48-hour time limit for reporting.
3. NH could make incident reporting a less onerous process – potentially incorporating incident reporting into the Electronic Medical Record (EMR).

Effectiveness

NH already collects a significant amount of data to assure effectiveness. Data are collected on length of stay, infections, antibiotic usage, readmission to intensive care and the emergency room, and re-intubation rates. Whilst there is a great deal of data collection, little happens automatically or digitally, leaving this open to the risk of misreporting. Where data are collected electronically, the quality and completeness of information and coding is monitored.

Without access to more granular clinical and confidential information, it is not possible to say whether the care offered by NH is always appropriate. What can be said is that much attention is given to ensuring uniformity of procedures – in both quality and cost – across the chain.

Whilst there is no evidence of formal health technology assessment (HTA) approaches to ensure treatments are cost-effective and appropriate, formulary meetings happen regularly to decide on which drugs are appropriate to use. This usually includes one branded and one generic option. India currently has no formal ongoing HTA programme, but it is increasingly recognised as a necessity and institutionalised in newly mandated bodies (Kumar et al. 2014; Downey et al. 2017). The

WHO advises that HTAs are important for understanding the "social, economic, organisational and ethical issues of a health intervention or health technology".[2] For NH, an established innovator, introducing HTAs would be a way of ensuring that the technology and interventions used are appropriate and effective for the patient. This would bring it in line with international recommendations, and set best practice and show leadership on a national level.

One potential cause for concern was the fee-for-service payment contract for most of NH's more senior doctors with the right to admit patients – the payment being based on inpatient and outpatient appointments, procedures and revenue generated. While non-admitting doctors are salaried, diagnostic tests are excluded from the calculations, and there are checks and balances in the form of a peer review process to ensure care is appropriate, there is still a risk that fee-for-service payments could introduce incentives for doctors to over-treat (Reschovsky et al. 2006). It is therefore worthwhile for NH to consider the extent to which this could be happening, alongside exploring alternative payment models that might reduce this risk.

At present, due to market norms, senior doctors in India expect a remuneration package that has a fee-for-service component; any changes should thus be made cautiously and be based upon evidence. The first step should be to gather quantitative activity data to identify whether there is any difference between the practice of doctors on salaries and fee-for-service contracts within NH. The results of this analysis should inform revisions of the fee structure for doctors.

Observed strengths

- Extensive data collection.
- Comprehensive plans for digitising medical records and data collection.
- Use of generic drugs and standardisation of procedures.

Potential areas for improvement

1. NH could integrate more data collection into EMRs, moving away from the reliance on manual data reporting.
2. NH could establish a pilot HTA programme, based on WHO guidelines.
3. NH could strengthen its current peer review approach, conducting in-depth analyses and audits to better understand treatment appropriateness and differences in practice between salaried doctors and doctors on a part-fee-for-service contract. While fee-for-service contracts are common in the Indian healthcare system, if evidence is found that an alternative approach could work better, then NH might choose to consider alternative payment structures.

Experience

Patient satisfaction is a core priority for NH. Outpatient surveys are distributed on paper regularly, and if a ward scores three or below on a five-point scale, an investigation is triggered. These surveys ask about waiting times, quality of care and communication. Inpatients are asked their opinion in person. Most of the concerns raised by patients are around 'service' factors, such as waiting times or food – rather than concerns about quality.

There are clear and well-advertised processes for patient complaints – with very quick escalation processes.

Observed strengths

- As an organisation, NH appears very responsive to consumer and patient needs.
- The complaints escalation process encourages quick and effective responses to concerns.

Potential areas for improvement

1. NH could conduct qualitative and in-depth interviews with patients to verify satisfaction rates and develop a more granular level of understanding of patient experience.

2. WHO Health Technology Assessment: www.who.int/medical_devices/assessment/en/.

Access

Accessibility

NH has a strong corporate social responsibility (CSR) programme, delivering mobile clinic outreach programmes and telemedicine to rural populations. However, the core business is delivered through large multi-speciality hospitals in urban areas.

It appears that NH has given some thought to ensuring its services are accessible to women and those who speak different languages. Female doctors and chaperones, and staff who can speak local dialects are available. Beyond compliance with diversity legislation, NH does not appear to have given much thought to cultural accessibility, or how to overcome the inherent biases and difficulties that are faced by marginalised communities.

It is positive to see that NH is an affirmative action employer, however, there is space for a more proactive approach. NH should consider establishing cultural accessibility policies that go beyond their legal requirement.

Observed strengths

- There appears to be a real drive and passion for CSR programmes, and through this, NH is gaining a deeper understanding of the needs of the wider population.
- Much consideration has been given to how to treat female patients with dignity.

Potential areas for improvement

1. Geographical accessibility programmes could be incorporated into NH's core business model, rather than just CSR.
2. NH should consistently review its overall framework to ensure it identifies and addresses any potential accessibility issues faced by marginalised groups.

Affordability

NH was established to extend cardiac surgery to greater numbers, through streamlining of processes, cutting and cross-subsidising costs. NH has demonstrated significant care and innovation in this area.

Dr Devi Shetty helped the government to establish an insurance scheme for agricultural workers – Yeshasvini. NH also participates in the government's Below Poverty Line (BPL) scheme. These account for between 10–30% of total patients – and help keep volumes high. There is a cap for treatments under these schemes, and patients must pay out-of-pocket if they exceed the package. If there is a discrepancy between cost of care and coverage, then NH seeks donor support. Details of the recipient of donations are passed on to donors, which could lead to preferential treatment for those who might be deemed to be more 'deserving'.

The majority of the rest of the patients pay out-of-pocket. There seems to be cross-subsidisation from the richer patients to the poorer, although the extent of it is unclear. It is commendable that NH makes efforts to treat all those who come in through their doors, regardless of their ability to pay. However, there is little evidence available to understand the real impact of this, and whether patients are avoiding catastrophic medical expenses.

Observed strengths

- Cross-subsidisation, securing donations and participation in government schemes undoubtedly contributes to greater affordability and accessibility for poorer patients.
- NH has shown considerable leadership in this area, helping to establish a scheme for agricultural workers.
- By continuously looking for ways to cut the costs of care, NH can remain profitable whilst delivering some price reductions to patients, which increases affordability.

Potential areas for improvement

1. NH could review processes for securing funding for patients above the poverty line in need of financial support, to ensure there is no possibility of discrimination.
2. NH could move towards diagnosis-related group (DRG) style standardised pricing for greater transparency and international comparability.

3. NH could carry out analysis to understand the proportion of patients who have previously been deemed able to pay, but who later are treated under a government scheme – to understand whether any patients are being pushed into poverty by treatment costs.

Framework dimension – Ecosystem
Workforce

Capability

The breadth of NH's reported educational programmes is impressive, with a range of undergraduate and postgraduate courses for medical, nursing and allied health professionals (AHPs) students. The number of courses and students is increasing.

There is quite a strong national regulatory framework for medical education and all programmes are approved by the National Board of Examinations. The medical education programmes are affiliated with Karnataka State University, as well as universities in Minnesota, Addis Ababa and the Indira Gandhi Open University Course, which provides training for public sector healthcare workers.

The nursing college has applied to provide a nurse practitioner course, which will help with the up-skilling of nurses and much-needed task-shifting.

Students with financial difficulties can apply for support through the CSR programme. There are programmes to reach students from rural and tribal areas – for example 50 students from tribal areas are currently taking a nursing diploma funded by Tata Steel. However, whilst these outreach programmes have seen some measure of success, nursing remains firmly a female profession, with only 7–8% of students at the NH Bangalore nursing college being male. Many complex cultural factors have an impact on the rate of men entering nursing, of which NH are aware. Though cultural change is not solely the responsibility of any one organisation, NH is in a good position to have a positive impact here. NH could encourage more male applicants to the nursing college, using outreach models similar to their rural and tribal programmes.

Staff development and satisfaction are also a priority for NH. There is continuous professional development for doctors and additional training provided, for example on the correct usage of antibiotics. Annual staff surveys are conducted, however the interpretation of the answers is sometimes questionable – 91–93% reporting that overall they are happy working for NH is reported as 91–93% satisfaction rates, when the more granular questions about satisfaction are generally sitting at about 80%.

Observed strengths

- A good range of medical education – with anecdotal evidence of an excellent pass rate of roughly 90% for medical programmes.
- Offering training to the public sector is a great way to contribute to the resourcing of the wider health ecosystem.
- Staff satisfaction rates seem to be consistently high, with no major causes for concern.

Potential areas for improvement

1. NH could provide more clarity on the anonymity of staff surveys, hopefully encouraging a more accurate understanding of staff concerns.
2. Better calibration of staff surveys, as well as distributing surveys in multiple languages, could ensure they are being analysed and understood in the right way.
3. In the longer term, NH could help to overcome cultural barriers into the nursing profession by encouraging more men to train as nurses, although the challenges remain significant.

Capacity

It is a peculiarity of the Indian health system that public sector nurses are paid much more than private sector nurses – and the required training is different. This means that NH is unlikely to be depleting public sector nursing stock. In the future, nurses in private sector may have parity of pay – in which case more movement might be seen – but for now this is not an issue. However, in common with the public sector and other private sector hospitals, NH experiences significant nurse turnover rates, with nurses moving to other parts of the country,

or to the UAE, Netherlands, Australia and Canada. In turn, the NH hospital in Bangalore recruits significant numbers of nurses from the southern states of Kerala and Tamil Nadu.

For doctors, the picture is less clear. Generally, doctors seem to spend some time in the public sector then move to the private sector later in their careers, however the rate of appropriation of clinical staff from the public sector is not known, nor the impact this has on the local health ecosystem. The issue of brain drain is complex and will require the concerted efforts of all system players to address. NH needs to more systematically collect information on where its doctors move to and for what reasons, and has stated that it is putting plans in place to monitor this in the future. Exit interviews are carried out, but staff – perhaps concerned about the consequences of honesty – are not always open about their reasons for leaving. The first step to address these issues will be to get an accurate picture of the net movement of doctors to and from the public sector and abroad. Then, once NH has some idea of the impact it has here, it can and should develop strategies to help manage this.

Observed strengths

- NH advertises clinical positions abroad, for example in the British Medical Journal, to encourage the return of doctors from abroad. If doctors are encouraged back to India, this could help with efforts to stem 'brain drain' from India.
- Care is taken to try to understand the reasons for high staff turnover rates, especially nurses.

Potential areas for improvement

1. NH could improve and anonymise the exit interview process. Based on the results, NH could develop programmes to improve nurse and doctor retention.
2. As already planned, NH needs to more systematically monitor the reasons why its doctors leave and their destinations.
3. NH could trial strategies to help manage 'brain drain', including: recruiting from abroad; training new doctors; establishing private-public partnership programmes to feed doctors trained by NH into the public sector.

Stewardship

Partnerships

NH is excellent at partnering with government and other organisations. The local health needs are what you would expect from a middle-income country which is seeing a transition towards more non-communicable diseases (NCDs). As a multi-speciality hospital provider, NH is in a good position to react to many of those needs. NH does go further, running rural diagnostic health camps for government. For NH, these exercises generate business.

NH has a good track record of accreditation and it is evident that they take this very seriously. The accreditation process is underway for several hospitals, so there is still a way to go. NH secures National Accreditation Board for Hospitals and Healthcare Providers (NABH) accreditation in order to provide government scheme treatment. This accreditation scheme requires more intense reporting than Joint Commission International (JCI) accreditation, which is secured in order to attract international business.

NH is also a founding member of both the Association of Healthcare Providers of India (AHPI) and the Yeshasvini insurance schemes for agricultural workers – both of which provide some form of accountability.

NH's strong CSR programme also involves many partnerships, including with Accredited Social Health Activist (ASHA) community health workers and with another company to produce fortified biscuits aimed at reducing iron deficiency.

As evidence of NH's approach to working in partnership to meet the health needs of the population, it has a translational research centre for mouth and neck cancer, which has high prevalence in the area especially amongst low-income patients.

Observed strengths

- NH has taken the initiative to self-regulate and gain accreditation for some of its hospitals.

- NH has a strong relationship with local government and works in partnership on government priorities – for example delivering primary care and diagnostic 'health camps' in rural areas.

Potential areas for improvement

1. NH should continue to get accreditation for all its hospitals.
2. NH could compare notified diseases to prevalence in the area – to see whether NH is meeting the health needs of the population for those diseases.

Leadership

NH has demonstrated what can be achieved with low-cost high-volume cardiac surgery, and this is a notable innovation. However, robust evidence of the demonstration effect, of uptake of these approaches by others in the system, is limited.

One area in which NH has shown real leadership is in the establishment of the Yeshasvini insurance scheme for agricultural workers, and in finding ways to cover the cost of treatment for the poor and uncovered. Dr Shetty has been able to leverage his influence with government and private donors to extend care to some of the poorest in society. As a next step, NH should think about other ways in which they can be a leader – perhaps bringing greater transparency to the private sector by petitioning for publication of outcomes data, or inviting researchers to publish on the impact of NH.

Observed strengths

- NH has shown leadership in its approach to cost-cutting and streamlining procedures.
- The organisation has also led the way in devising imaginative ways to increase access to poor under-served populations.

Potential areas for improvement

1. Researchers could be commissioned to independently map the demonstration effect of NH innovations, to bring more transparency to impact assessment.
2. NH could take a leadership role in promoting openness and transparency, leveraging its relationships within government and provider associations.

Prevention

NH's CSR programme successfully provides a wide range of preventative, screening and outreach programmes. However, this work remains on the periphery of the business. Lessons from the CSR programme could be incorporated into other parts of NH's business, for example helping tackle the causes of heart problems or cancer.

Through its marketing and business generation programme, NH runs 180–200 free health camps each month in rural areas across India for screening and early diagnosis. NH's CSR programme includes awareness campaigns on local TV and radio stations. NH has also advised that it has opened up its CT scanning facility to do population-level screening for heart problems.

NH has an AMR strategy, which is focused on prescribing within the hospital including antibiotic audits and a community based antibiotic programme. However, there is no-one in the organisation who counts health promotion as their job or part of their job.

Observed strengths

- There is a clear understanding of the risks of AMR and policies in place to prevent irresponsible antibiotic prescribing.
- Hospital sites are smoke-free and careful consideration is given to nutrition within hospital walls.

Potential areas for improvement

1. NH could begin to provide more primary care, to tackle local health needs and to potentially expand and generate business.
2. NH could establish a health promotion lead in NH head office, outside of the CSR department, whose role it is to champion preventative, wellbeing and health promotion across the whole of the business.

Conclusion

It is clear why NH attracts patients from beyond its base in Bangalore. Its open door policy gives low-income patients the opportunity to receive care that would otherwise be financially out of reach, especially in a country where out-of-pocket payment surpasses 60% of total health expenditure. The group's attractive social platform goes even further through Dr Devi Shetty, the hospital's founder, who has been at the forefront of many policy innovations that have advanced the cause of low-income families. These include founding the Yeshasvini insurance scheme that has increased participation for rural and urban farmers; donor programmes for uninsured patients; and delivering care to BPL patients.

NH as a leader is well positioned to do even more. Much of NH's achievements have been supported anecdotally or through basic data collection. Its data collection must improve so that NH has the evidence to back up its claims. This is particularly important as NH is clearly a leader locally in pushing and raising standards. By improving and providing transparent data, NH could challenge its competitors to do the same. We have seen steps towards developing electronic health records and integrated data collection approaches, which is very promising.

The Indian health system, unfortunately, does not do much to prevent or treat ill health at the early stages in the community. The primary care system is weak, leaving secondary care to meet the immediate demands of care. NH has shown it is aware of the needs of the population, as evidenced by their investment in mouth and throat cancer – a disease they have found to be prolific amongst low-income men – and through their health camps. There is certainly space for NH to do more preventative and primary care work – which would fill a deep need in the local health system. If NH applies its innovative and imaginative approach to incorporate prevention and community care into the core of its business model, then the impact could be significant.

APPENDIX E – EXPERT INTERVIEWEES

Michael Anderson
Visiting Fellow, Center for Global Development

Michael Anderson is an Independent Consultant on international development issues. From 2013 to 2016 he was CEO of the Children's Investment Fund Foundation, a UK philanthropy focused on the well-being of children in Africa and South Asia. He was previously the Special Envoy for Prime Minister Cameron on the UN Development Goals, and Director General of Policy and Global Programmes at DFID, after serving as the head of DFID programmes in India, the Middle East, and on fragile states. He served on the UN Commission for Life-Saving Commodities and was a member of the Family Planning 2020 Reference Group.

Richard Bartlett
Engagement Manager, McKinsey & Company

Richard Bartlett is a Visiting Research Fellow at Imperial's Institute for Global Health Innovation and Centre for Health Policy. Whilst on secondment from McKinsey from 2011–4, Richard was the Co-Founder and Deputy Director of 'Innovations in Healthcare' (formerly known as the International Partnership for Innovative Healthcare Delivery), a non-profit established by McKinsey & Company, the World Economic Forum and Duke University. Whilst at Duke, Richard oversaw the design and launch of the Social Entrepreneurship Accelerator at Duke, a USAID funded initiative that provides targeted support and curricula to global health entrepreneurs. Richard has authored various reports and case studies on healthcare innovation.

Joy Noel Baumgartner
Assistant Research Professor, Global Health Institute, Duke University & Director, DGHI Evidence Lab

Joy Noel is a Public Health Researcher with 20 years of experience working in low-resource settings to strengthen the delivery of HIV, reproductive health, maternal and child health (MCH), and mental health services. She is Director of the DGHI Evidence Lab whose mission is to conduct rigorous evaluation research in low- and middle-income countries with local partners to inform evidence-based programs and interventions. As a Scientist at FHI 360 for 10 years prior to joining DGHI, Joy Noel led research projects in Tanzania, Uganda, South Africa, Kenya, India and Jamaica.

Victoria Chang
Results Measurement Specialist, International Finance Corporation

Victoria is a Monitoring and Evaluation Specialist. In her current position, she supports projects in various sectors including health, agriculture, energy and SME development to strengthen their M&E framework and processes in order to help operational teams better measure and articulate the development impact. Prior to this, Victoria spent four years in West Africa working on community health, gender and HIV/AIDS issues in Gabon (2001–3) and Guinea (2003–5) as a Peace Corps Volunteer and later with Population Services International, an international public health NGO.

Lord Crisp
Co-chair of the All Party Parliamentary Group on Global Health

Lord Crisp is an independent crossbench member of the UK's House of Lords. He spends much of his time working on global health, particularly in Africa, where he has been particularly involved in developing partnerships and supporting the training of health workers. He is currently leading the development of a global campaign on nursing. He was previously Chief Executive of the NHS in England and Permanent Secretary of the UK Department of Health between 2000 and 2006. He is an Honorary Professor at the London School of Hygiene and Tropical Medicine, a Senior Fellow in the Institute of Healthcare Improvement and a Foreign Associate of the National Academy of Medicine.

David Easton
Director and Head of Consumer Business, CDC
David joined CDC in 2012 and leads CDC's Consumer Businesses team including healthcare. Whilst at CDC, he has led a number of healthcare investments, including Narayana Hrudalaya where he served on the board as well as Manipal-CDC Ventures, HCG Africa and Rainbow Hospitals. Prior to joining CDC, David was an Investment Manager at Bridges Ventures and was Director of Strategy and Investment for the Tony Blair Africa Governance Initiative, a non-profit working to improve government effectiveness and private sector development in post-conflict countries including Sierra Leone, Rwanda, Liberia and Nigeria.

Tim Evans
Senior Director, Health, Nutrition and Population, World Bank
From 2010 to 2013, Tim was Dean of the James P Grant School of Public Health at BRAC University in Dhaka, Bangladesh, and Senior Advisor to the BRAC Health Program. From 2003 to 2010, he was Assistant Director General at the World Health Organization. Prior to this, he served as Director of the Health Equity Theme at the Rockefeller Foundation. Earlier in his career he was an Attending Physician of Internal Medicine at Brigham and Women's Hospital in Boston and was Assistant Professor in International Health Economics at the Harvard School of Public Health.

Amanda Glassman
Chief Operating Officer and Senior Fellow, Center for Global Development
Amanda's research focuses on priority-setting, resource allocation and value for money in global health, as well as data for development. Prior to her current position, she served as Director for Global Health Policy at the Center from 2010 to 2016, and has more than 25 years of experience working on health and social protection policy and programs in Latin America and elsewhere in the developing world. Prior to joining CGD, Amanda was Principal Technical Lead for Health at the Inter-American Development Bank, where she led policy dialogue with member countries, designed the results-based grant program Salud Mesoamerica 2015 and served as Team Leader for conditional cash transfer programs such as Mexico's Oportunidades and Colombia's Familias en Accion.

Girdhar Gyani
Director General, Association of Healthcare Providers, India
Dr Gyani has more than 40 years of experience in the areas of teaching, research and quality accreditation. Prior to his current role, he was Secretary General, Quality Council of India during 2003–12. Dr Gyani has also served as Director of the board of the International Accreditation Forum from 2004–10. Dr Gyani was elected as Director on the Board of ISQua for years 2009–11 and re-elected for years 2011–14. Dr Gyani launched international wing of NABH. Dr Gyani has been nominated as Member of Academic Council of Medical Council of India.

Al-Karim Haji
Vice President, Finance and Chief Financial Officer of the Aga Khan University
AKU is a private, not-for profit, needs blind university that admits students purely on merit. Mr Haji is responsible for the planning and financial affairs of the University and also supports the planning and construction of physical facilities and infrastructure for AKU's campuses and hospitals. He liaises with government officials and multilateral and bilateral funding organisations to secure funding for the University's expansions. Mr Haji is a member of the AKDN Endowment Investment Committee and a Charter Member of The Indus Entrepreneurs.

Matthew Harris
Clinical Senior Lecturer in Public Health, Imperial College London
Matthew's work spans global health, innovation diffusion, primary care and health services research and he has worked for several years as a Primary Care physician in Brazil, as a WHO Polio Consultant in Ethiopia and as an HIV Technical Consultant in Mozambique. He has also spent two years as a Global Health Advisor to the UK Department of Health. In 2014 he was awarded a prestigious Harkness Fellowship from the US Commonwealth Fund where he was a Visiting Research

Assistant Professor at New York University, researching cognitive biases in evidence interpretation in the context of Reverse Innovation.

Dean Jamison
Professor Emeritus of Global Health, University of California, San Francisco
Dean previously served as Professor of Global Health at the University of Washington (2008–13) and as the T & G Angelopoulos Visiting Professor of Public Health and International Development in the Harvard Kennedy School and the Harvard School of Public Health (2006–8). Prior to that, Dean had been at the University of California, Los Angeles (1988–2006) and at the World Bank (1976–88). His last position at the World Bank was Director, World Development Report Office and lead author for the Bank's 1993 World Development Report, Investing in Health. Dean was recently co-first author with Lawrence Summers of 'Global Health 2035', the report of The Lancet Commission on Investing in Health.

Tom Kibasi
Director, Institute for Public Policy Research (IPPR)
Prior to joining IPPR in early 2016, Tom spent more than a decade at McKinsey and Company, where he was a partner and held leadership roles in the healthcare practice in both London and New York. Tom led McKinsey's work on healthcare innovation and financing, presenting at the World Economic Forum in Davos, to the OECD in Paris, and to the World Bank in Washington. Together with Duke University, Tom helped to launch the non-profit 'Innovations in Healthcare'. During his time based in New York City, Tom supported US state governments to implement innovations to expand coverage and improve the quality and accessibility of care as a result of the Affordable Care Act.

Gaurav Loria
Group Head for Quality and Administration, Apollo Group of Hospitals
Gaurav is a Healthcare Management Professional with over 13 years of experience in hospitals, ambulatory care clinics, healthcare IT and consultancy projects. He has championed special market strategy, cost efficiency, revenue generation and process improvement projects across all the departments in hospitals. He is also a Surveyor with Joint Commission International, USA and has an experience in leading the successful completion of real time 40 Joint Commission International and 32 National Accreditation Board for Hospitals & Healthcare Providers surveys at various hospitals.

Edward Makondo
Deputy Director Nursing Administration and Education, Ministry of Health and Childcare Zimbabwe
Dr Makondo lectures on research methodology and management, supervising research projects and programme evaluation.

Anna Marriott
Health Policy Adviser, Oxfam
Anna Marriott is Public Services Policy Manager for Oxfam and leads on health policy for Oxfam's Even it Up! campaign. Anna is the author of several reports on both the financing and delivery of health care in low and middle income countries as well as a frequent blogger on Oxfam's Globla Health Checks – a blog that seeks to challenge the debate on health care financing and delivery. Prior to working for Oxfam, Anna studied and researched in South Africa on social protection and social policy and worked for a range of UN agencies as well as the UK's DFID.

Ric Marshall
Adjunct Professor, Health Service Management Information Development, National Centre for Classification in Health, The University of Sydney
Ric Marshall is an Epidemiologist and former Clinical Psychologist. He has Adjunct Professorial appointments with the Faculty of Health Sciences at the University of Sydney and with the Institute of Global Health Innovation, Imperial College London. In those roles he specialises in Health Service Management Information Development and Healthcare Systems Performance Improvement. He has a long history as an international consultant in case-mix systems and funding reform implementation. Has recently held appointments managing the establishment of the

Independent Hospital Pricing Authority in Australia and the Director of Pricing role for the NHS in England. He was formerly Director of DRG Development in Australia and Chair of Australia's Health Statistical Information Management Committee.

Duncan Maru
Co-Founder, Chief Strategy Officer & Board Member, Possible
In his role as Chief Strategy Officer, Duncan oversees the vision and execution of our work in government partnerships, impact evaluation, and implementation science. The broad spectrum of this work is to ensure that public sector strategy, policy change, high-quality service delivery, and research are integrated and interacting components of Possible's efforts at healthcare transformation. Duncan is a faculty member at Harvard Medical School and the Brigham and Women's Division of Global Health Equity. He also practices part-time on the Complex Care Service at Boston Children's Hospital.

Dorien Mulder
Investment Manager, Medical Credit Fund, PharmaAccess Group
Dorien is educated as a medical doctor and holds an MBA. Before joining the PharmAccess Group in 2010, she worked in healthcare provision, management consultancy, pharmaceuticals and healthcare infrastructure development. She is currently Investment Manager at Medical Credit Fund, which works with local financial institutions to provide loans to health SMEs in combination with technical assistance using the internationally recognized SafeCare standards. The PharmAccess Group is an international organisation with a digital agenda dedicated to connecting more people to better healthcare in sub-Saharan Africa.

Hicham Nejmi
General Manager, Marrakesh University Hospital
Prior to his current role, Hicham has held many senior roles across hospitals in Marrakesh, beginning his career as an Anesthesiologist. Within the hospital he is Chairman of the Pain Committee and Chairman of the Association of Social Works.

Sir David Nicholson
Chair of Abraaj Global Health Fund Impact Committee
In 2014 Sir David was appointed as an Adjunct Professor of the Institute of Global Health Innovation at Imperial College London and also Chair of Universal Health Coverage Forum, World Innovation Summit for Health (WISH) 2015. Sir David is currently a Senior Health Advisor for Abraaj Global Health Fund, and chairs its Impact Committee. Sir David was Chief Executive of the National Health Service (NHS) in England from September 2006 to March 2014. He was awarded the CBE in 2004 and was knighted in 2010, both for his services to the NHS.

Ben Ngoye
Founding director of the Institute of Healthcare Management at Strathmore University
Dr Ngoye is a member of the Board of the Africa Institute for Healthcare Management. He has undertaken various practitioner, management, consulting and advisory roles in the public, private and not-for-profit domains in the health sector in many African countries. Beyond his academic interests, his current research work focuses on performance measurement and decision making in the public sector, with an obvious bias toward health.

Greg Parston
Executive Advisor to Director of the Institute of Global Health Innovation, Imperial College London
At the IGHI, Greg is responsible for global research on diffusion of healthcare innovation and on citizen engagement in health policy. In 1988, Greg co-founded the Office for Public Management, which undertook change management throughout public services. He advised many leaders, including at the National Health Service, British Museum, BBC, Metropolitan Police, Wellcome Trust, Gates Foundation and World Bank. Greg also pioneered use of behavioural simulations in public services; led design of 'The New NHS'; and initiated development of the public interest company in the UK.

Chai Patel
Chairman and CEO, HC-One
In a career which spans 30 years in health and social care, Chai has led and advised some of the largest care providers in the UK. His roles have included: Chief Executive and Architect of the modern Priory Group, the UK's largest independent specialist mental health and education services group; Chief Executive of Westminster Health Care Ltd, one of the largest operators of health and social care services in the UK; and CareFirst, the UK's largest nursing home operator. Chai founded Court Cavendish in 1988 and took it public in 1993. Court Cavendish subsequently merged with Takare plc to become Care First. Chai bought back the Court Cavendish name in 2007 to establish a new health and social care turnaround organization.

Bobby Prasad
Global Chief Medical Officer, Abraaj
Professor Bobby Prasad is a Gastroenterologist and Interventional Endoscopist by training and has been in clinical practice for over 20 years, having worked in senior roles in the UK and US including on faculty at Yale University. He is a Council Member of the World Economic Forum's Industry Agenda Council on the Future of the Health Sector, a Fellow of the Royal College of Physicians of London and the American College of Physicians.

Lubna Samad
Consultant Pediatric Surgeon, Indus Hospital, Karachi, Pakistan; Program Director Global Surgery, Global Health Directorate, Indus Health Network; Lecturer on Global Health and Social Medicine, Harvard Medical School
Dr Samad trained in medicine at the Aga Khan University, and in paediatric surgery at the National Institute of Child Health in Pakistan and the Leicester Royal Infirmary in the UK. Her work in public sector hospitals in Pakistan has informed her understanding of the many individual, social and institutional barriers that result in poor access to quality surgical care. Dr Samad currently leads the global surgery program for the Indus Health Network. She represents the Indus Hospital at the G4 Alliance, which advocates for the neglected surgical patient. She is a member of the Global Initiative for Children's Surgery. She is currently directing the design and implementation of several surgical care delivery and patient safety initiatives in LMIC settings.

Richa Sirohi
Investment Manager, Consumer Businesses, CDC
Richa is an Investment Manager in the Consumer Businesses team at CDC focussing on investments in Africa and South Asia. Through her role at CDC, Richa has been an active investor in the healthcare sector, with investments in Narayana Health and Care Group of Hospitals. Prior to joining CDC, Richa advised on global M&A transactions in the natural resources sector as part of the Investment Banking team of Standard Chartered in the UK. Richa has also worked in the investment team at Standard Chartered's mid-market principal investment fund in India. Richa has an MBA from the London Business School.

Alexander Thomas
Executive Director, Association of Healthcare Providers of India (AHPI)
Dr Alexander Thomas is Founder-Member and Executive Director of the AHPI, Founder-Member and President of the Association of National Board Accredited Institutions (ANBAI), Founder-Member and President of the Consortium of Accredited Healthcare Organisations (CAHO) and Consultant to the World Bank. He is the Member-Secretary of the Task Force on Karnataka Public Health Policy, part of the Karnataka Jnana Aayoga, Govt. of Karnataka. He is a Member of the Board of the National Accreditation Board for Hospitals and Healthcare Organisations (NABH) and is on the Executive Committee and the Governing Council of CMC Vellore.

Ankur Vora
Director of Strategy, Innovation, & Impact at Bill and Melinda Gates Foundation (BMGF)
Ankur joined BMGF in 2013 to lead the foundation's Strategy team. Prior to that, he was the Director of programs at The Children's Investment Fund Foundation (CIFF) in London where he oversaw a cross-cutting portfolio of programs focused on health, nutrition,

education and climate change across Africa and South Asia, and led CIFF's efforts in designing and performance managing investments with grantees. Prior to CIFF, he served as principal at The Boston Consulting Group (BCG), where he focused on healthcare, financial services, and social impact projects. Before that, Ankur was a lecturer of Economics at the University of Chicago.

Suwit Wibulpolprasert
International Health Policy Program Foundation (IHPF); Health Intervention and Technology Assessment Foundation (HITAF); Ministry of Public Health, Thailand
Dr Suwit Wibulpolprasert is a General Practitioner, a Public Health Specialist, an Administrator and a Policy Advocate. He began his career as a Director and a Practitioner in four rural district hospitals in Thailand from 1977 to 1985. Later he was the Director of the Northeastern Public Health College, Director of Technical Division of the FDA, Director of Bureau of Health Policy and Plan, Assistant Permanent Secretary, Deputy Permanent Secretary, and Senior Advisor at the Thai Ministry of Public Health. Since December 2015, he is as an adviser to the Ministry of Public Health on Global Health.

Simon Wright
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Simon Wright is Head of Health Policy at Save the Children. He has worked in public health and service commissioning in the UK National Health Service. He has worked as an adviser to the UK parliament on HIV and health. He worked for ActionAid leading its HIV campaigning and then establishing the European advocacy network, Action for Global Health. He is responsible for Save the Children's global policy and advocacy activities on health and child survival.

Gavin Yamey
Director, Center for Policy Impact, Duke Global Health Institute; Professor of the Practice of Global Health, Global Health Institute, Duke University
Gavin Yamey, MD, MPH, trained in clinical medicine at Oxford University and University College London, medical journalism and editing at the BMJ and public health at the London School of Hygiene and Tropical Medicine. He was Deputy Editor of the Western Journal of Medicine, Assistant Editor at the BMJ, a founding Senior Editor of PLOS Medicine, and the Principal Investigator on a USD1.1 million grant from the Bill & Melinda Gates Foundation to support the launch of PLOS Neglected Tropical Diseases. Dr Yamey serves on two international health commissions, the Lancet Commission on Investing in Health and the Lancet Commission on Global Surgery. He has been an External Advisor to the WHO and to TDR, the Special Program for Research and Training in Tropical Diseases.

Robert Yates
Project Director, UHC Policy Forum, Centre on Global Health Security, Chatham House
Robert Yates is an internationally recognised expert on UHC and progressive health financing. At Chatham House he is project director of the UHC Policy Forum. He has previously worked as a senior health economist with the UK's Department for International Development (DFID) and the World Health Organization (WHO), advising numerous governments in Asia and Africa on health financing policy and health system reforms. Robert is a member of the 'Health for All' Thematic Group of the UN's Sustainable Development Solutions Network.

APPENDIX F – RESEARCH TEAM

PROJECT LEADERSHIP

Gianluca Fontana is a Senior Policy Fellow and Director of Operations at the Centre for Health Policy of Imperial College London. He focuses on creating evidence for health policy, particularly in the fields of patient safety, health analytics and health system performance. In his previous job at McKinsey and Company, he helped start and run the Leading Health Systems Network and the UK Advanced Healthcare Analytics Group. He has advised health systems, hospitals and pharmaceutical companies in over 20 countries.

PROJECT LEADERSHIP

Kalipso Chalkidou is the Director the Global Health and Development team at the Centre for Health Policy, helping governments build technical and institutional capacity for using evidence to inform health policy as they move towards UHC. Kalipso led the establishment of NICE International which she led for 8 years, and, more recently, of the international Decision Support Initiative (iDSI), a multi-million multi-country network working towards better health around the world through evidence-informed spending in healthcare in LMICs.

PROJECT LEADERSHIP

Joachim Marti is a Lecturer in Health Economics in the Centre for Health Policy. His research spans the areas of empirical policy evaluation, decision modeling and behavioural economics. He has particular interests in the use of natural experiments to assess the causal impact of treatments and public health interventions, in combining insights from psychology and economics to better understand individual decision-making, and in improving economic evaluation methods, with a focus on outcome measurement and inequalities.

PROJECT LEADERSHIP

Hester Wadge is a Policy Fellow in the Centre for Health Policy. Her work focuses on eHealth, the economic benefits of health investments and frugal innovation. Previously Hester worked at the Department of Health, where she led the team responsible for advancing the principles of the NHS Constitution and project managing the Department of Health's legislative programme.

RESEARCHER

Rhia Roy is a Junior Policy Fellow in the Centre for Health Policy. She is currently on secondment from the Department of Health where she was Private Secretary to three Health Ministers covering a broad portfolio of policies, which included global health security; AMR; and workforce and medical education. Her current work includes investigating whether patient-held records can be a cost effective method of improving shared decision between patients and doctors.

RESEARCHER

Arthika Sripathy is a Health Economist in the Centre for Health Policy. Her current research covers topics in empirical policy evaluation, decision modelling and global health economics. She has particular interests in health and development policy evaluation in low-middle income countries. She holds a masters in economics from the Paris School of Economics and the London School of Economics, and spent a few years as an economic analyst at the European Bank for Reconstruction and Development and the European Commission.

RESEARCHER

Matt Prime is a Trauma & Orthopaedic Surgeon and Clinical Research Fellow at St Mary's Hospital, London and the Institute of Global Health Innovation, Imperial College. His work focuses on the diffusion of frugal healthcare innovation from low- and middle-income countries to high-income countries, commonly known as reverse innovation. Previously, Matt worked at the Beit-CURE International hospital in Malawi, gaining first-hand experience of the challenges of delivering healthcare in low- and middle-income countries.

RESEARCHER

Alexander Carter is a Research Fellow in Health Economics and Management at the Institute of Global Health Innovation, Imperial College London. His research focuses on the economic impact of quality improvement programs in the English NHS using economic evaluation and policy evaluation methods. Currently, Alex is an advisor at the World Health Organisation, producing strategic planning and costing advice to support health security improvements in low- and middle-income countries.

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