

HEALTH SYSTEMS LEAPFROGGING IN INDIA

A NEED AND A POSSIBILITY

Healthcare in India has seen progress over the last decade, but we still missed out on our Millennium Development Goals (MDG) due to high maternal and child mortality rates. Building a sustainable healthcare system in India promises to be one of the biggest challenges of our times. Emulating the development paths of mature health systems however, is not the answer, since such approaches take too long and are riddled with pitfalls. In order to achieve its health goals, India needs to act quickly and differently.

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India's healthcare system has come a long way

India has made significant strides in healthcare over the last decade, with key indicators of health outcomes showing marked improvement. Life expectancy has increased by almost four years during this period, from 64.4 years in 2005 to 68.3 years in 2015. The rate of infant mortality has declined from 57 deaths per 1,000 live births in 2005 to 37 fatalities per 1,000 live births currently. Utilization of health infrastructure has accelerated—the number of institutional births has risen to 79% in 2015, from 41% in 2005. Notably, India was declared polio-free in 2014, and tetanus-free in 2015.

Both the public and private sectors have contributed to improved health outcomes. Various government initiatives have mobilized communities on health, and enabled increased access to public health services while ensuring higher utilization of available infrastructure. For example, nearly 900,000 female community health volunteers (ASHAs) have been deployed in rural areas to support mothers over the last decade. The coverage of state-sponsored insurance schemes expanded six-fold from 2005 to 2010. The government's flagship Swachh Bharat Abhiyan program aims to provide every household with access to sanitation by 2019.

Private sector innovation, meanwhile, has fostered the emergence of pockets of efficiency—low-cost services at international standards of quality. For example, HCG (a chain of cancer specialty hospitals) optimizes operations through a hub and spoke configuration, housing expensive equipment in its hubs. Similarly, the adoption of well-defined protocols for even relatively complex procedures has contributed to a reduced risk of errors. Pioneering surgical procedures, such as beating heart surgery, and affordable medical devices have addressed local challenges, and helped increase access to healthcare.

Yet, there is significant ground to cover

Despite making substantial progress over the last decade, India has missed its MDG for healthcare, in particular for maternal and child mortality rates. Like other developing countries, India faces the dual burden of communicable diseases and Non-Communicable Diseases (NCD). Among communicable diseases, respiratory infections, tuberculosis and diarrheal diseases remain the leading causes of death. NCDs account for about 52% of total burden and 60% of deaths in the country.



Government expenditure on healthcare—at around 1.3% of GDP currently—significantly lags equivalent budgetary allocations being made by peer countries, estimated to be between 3% to 4% of GDP. Public health infrastructure and staff availability in India are woefully short to meet actual demand. For instance, the country faces a nearly 50% shortfall in the supply of doctors, with the doctor-to-patient ratio of 0.57 per 1,000 being almost 53% lower than the equivalent ratio of 1.2 per 1,000 for the average Asian developing economy. Additionally, there is significant regional variation and inequity, with shortages being most acute in the northern and eastern states. Suboptimal utilization and negligence in the maintenance of scarce public healthcare facilities result in the population relying on expensive private healthcare—an issue exacerbated by abysmal levels of insurance coverage. While both the public and private sectors have undertaken many pilot initiatives using new technologies and operating models, none of these ventures has been designed for scale. Governance for large public health programs remains weak, leading to less than optimal impact. Achieving the desired health outcomes, thus, continues to remain a challenging goal.

Creating leapfrogs for sustainable health systems








For health systems development in India, policy makers must choose one of two paths: the familiar, but lengthy, expensive and unsustainable path chosen by developed economies, or an accelerated pathway that leads to

a sustainable future. Following the well-worn path of advanced countries can lead to spends as high as 17% of GDP, as is the case in the US, with only marginal improvement in outcomes. Emerging economies, including India, would be well placed to follow the second path. These countries have fewer impediments to overcome than developed economies, including fewer sunk costs related to existing infrastructure and equipment, lower fixed costs from not building overcapacity, and a less divided public opinion. They also have at their disposal technological innovations, alternative operating and financing models, and legal frameworks that were not previously available to developed countries.

It is with this idea in mind that BCG collaborated with the World Economic Forum (WEF) over a three-year time frame (the Leapfrogging in Emerging Economies initiative) to develop a holistic understanding of challenges in emerging economies and create strategies to ensure that systems are financially sustainable, while delivering high quality, cost-effective care. For the Indian context, we would recommend scaling up healthcare innovations or leapfrogs as a complementary approach to the ongoing initiatives, which are necessary but not sufficient.

Leapfrogging means using a new technology, operating model, or pattern of behavior to help a system skip development stages that had previously been considered unavoidable. ‘Technology’ encompasses new health-related activities and products. ‘Operating model’ refers to any modification either in the organizational setup, or in the delivery of health-related activities. ‘Behavioral

EXHIBIT 9: PROVEN OR EMERGING LEAPFROGGING IDEAS, MANY IN INDIA

| INNOVATION TYPES | | A | B | C |
|---|--|---|--|--|
| HEALTH SYSTEM CATEGORIES | | TECHNOLOGY | OPERATING MODEL CHANGE | BEHAVIOR CHANGE |
|  | PREVENTION & HEALTH PROMOTION | Arogya World's mDiabetes services providing multi-language informative text messages on diabetes | Health Promotion Board in Singapore brings health into every aspect of a citizen's life | HUL's campaign to promote the concept of good hygiene and drive behavior change |
|  | SERVICE DELIVERY | Biosense's uChek technology for smartphone based analysis of urine reducing cost per test and increasing access | GE-Fortis tele-ICU initiative leverages centrally located expertise; reduces errors by remotely guiding hospitals with shortage of experts | Abdul Latif Jameel Poverty Action Lab study uses non-financial incentives to increase immunization rates |
|  | MEDICAL PRODUCTS | Embrace Global's infant warmer is tailored to rural market requirements | Adopting a pay-per-use model for medical equipment can increase access and affordability | CARE hospitals drive workforce focus on equipment life by emphasizing regular maintenance and safe reuse of devices sold as single-use |
|  | WORKFORCE | MOHFW ¹ 's IVR based Mobile Academy equips rural health workers with required skills | Operation ASHA deploys community health workers with limited expertise to monitor compliance to the TB regimen | Narayana Health's cost awareness policy promotes transparency and rewards process improvement |
|  | INFORMATION | MOHFW's Kilkari voice message service increases awareness of low-income group women by providing maternal health information | NABH ² 's hospital accreditation standards allow for meaningful benchmarking | Traffic light nutrition labeling (in the UK) drives healthy choices |
|  | FINANCING | RSBY ³ uses biometric smart cards to register low-income insurance takers, streamline administration / service delivery and facilitate data collection | Narayana Hrudayala's Yeshasvini program increases access to care for low-income populations while limiting financial risk | Rewarding health insurance buyers for healthy lifestyles by adjusting premiums to lifestyle improves health and reduces cost |
|  | LEADERSHIP/ GOVERNANCE | A nationwide, integrated electronic health record system can improve quality and efficiency of care by avoiding data silos | Intersectoral governance can bring health considerations into all aspects of public policy making in a holistic manner | Imposing excise taxes on unhealthy products (foods, tobacco, alcohol) can discourage unhealthy consumption habits |

Note: 1. Ministry of Health & Family Welfare | 2. National Accreditation Board for Hospitals & Healthcare Providers | 3. Rashtriya Swasthya Bima Yojna

change' pertains to the evolving preferences and conduct of various individual and institutional stakeholders within the ecosystem, such as patients, health workers and payers. Innovation around these three dimensions can enable leapfrogging across the seven different dimensions of health systems specified by the World Health Organization (WHO). A classic example is the introduction of mobile phones across remote areas of India that allowed people living there to reap the social and economic benefits of the connectivity revolution, while avoiding the massive outlays involved in fixed line infrastructure. Many such innovations in healthcare already exist in India—some at scale, as well. (see Exhibit 9)

Overcoming scalability challenges

As described above, many seeds of experimentation and innovation are being planted in the Indian healthcare landscape, and there is potential to scale up these initiatives for creating outside impact. However, in our experience, leapfrogs typically progress rapidly through early development stages to proof of concept, only to fail while attempting to scale up. Scale up is the most challenging stage because it can involve governmental, financial and market roadblocks, more so in healthcare, since the sector is complex, context-specific, and conservative.

So, what does it take to succeed? We studied the evolution pathways of multiple leapfrogs across emerging markets and identified six key lessons:

Anchor innovation in fundamental human behavior:

A leapfrog's defining characteristic should appeal to a universal human trait. This makes any required behavioral change and the leapfrog adoption, easier. For example, social experiments by the Abdul Jameel Poverty Action Lab aim to change behaviors related to immunization in Haryana considering a fundamental human trait—a mother's desire to act in favor of her child. A bouquet of initiatives are facilitating change, including non-financial incentives for completing immunizations, tailored reminders on immunization schedules and getting village networks to spread the word.

Adapt to survive, diversify to thrive: Tailor operating models to local communities. Customize products and services as needed to increase adoption. Arvind Eye Care diversified into manufacturing intraocular lenses with a view to supplying global markets through its Aurolabs subsidiary, capturing 8% of the global market share of intraocular lenses.

Empower communities to shape and own the model:

Encourage community ownership of the model, instead of adopting a 'top-down' approach. This will result in a much higher impact, due to greater involvement of emotionally connected community participants. VisionSpring trains Vision Entrepreneurs from the communities that it serves to operate a micro franchise, traveling from village to village and conducting vision camps, checking eyesight and selling glasses.

Build partnerships: Actively seek partnerships, even outside the healthcare industry and leverage relevant innovations. For example, MicroEnsure (a micro insurance provider) and Airtel have partnered in nearly eight African countries to launch a health incentive plan. Airtel subscribers are entitled to health insurance coverage, provided they spend a minimum amount of airtime. Insurance coverage is directly correlated to the amount a consumer spends on airtime. Airtel pays for insurance premiums offset by the increased utilization of its services. For around 86% of Airtel/MicroEnsure consumers, this scheme was the first time they had insurance of any kind.

Ensure 'design-to-scale': Actively engage with the government to design solutions that target the gap in public healthcare and can scale up effectively within the constraints of the public healthcare system. Operation ASHA utilizes the community to bridge the gap between the disadvantaged and government infrastructure in six Indian states and Cambodia. The organization partners with the government-run Indian National Tuberculosis Prevention Program that provides free treatment and diagnostics and leverages technology and community

health workers to ensure compliance to the TB treatment regimen.

Objectively evaluate progress, and course correct: Set the foundation for rigorous data collection and evaluation during the development stage itself. Robust tracking of key metrics will help engage the concerned stakeholders, and influence changes to care delivery.

From leapfrogging to health system transformation

Successful leapfrogs can provide tremendous benefit to their communities. A well-chosen combination of leapfrogs could also pave the way for an eventual transformation of the healthcare system.

However, sporadically investing in micro-level innovations, and expecting them to independently grow into transformative and inclusive health solutions, is ambitious. The private sector in India remains fragmented. The public sector still controls the lion's share of resources. Yet, budgetary and political constraints limit the state's capacity to be the driver of innovation. Both sides need to work together to overcome their limitations.

Public-private cooperation in healthcare has traditionally been task focused—either to supply subsidized products and services or to build health infrastructure. Traditional modes of PPP suffer from many pitfalls, including mistrust, push of commercial solutions, short-term financing, 'white elephant' assets, and unclear outcomes with lower efficiency.

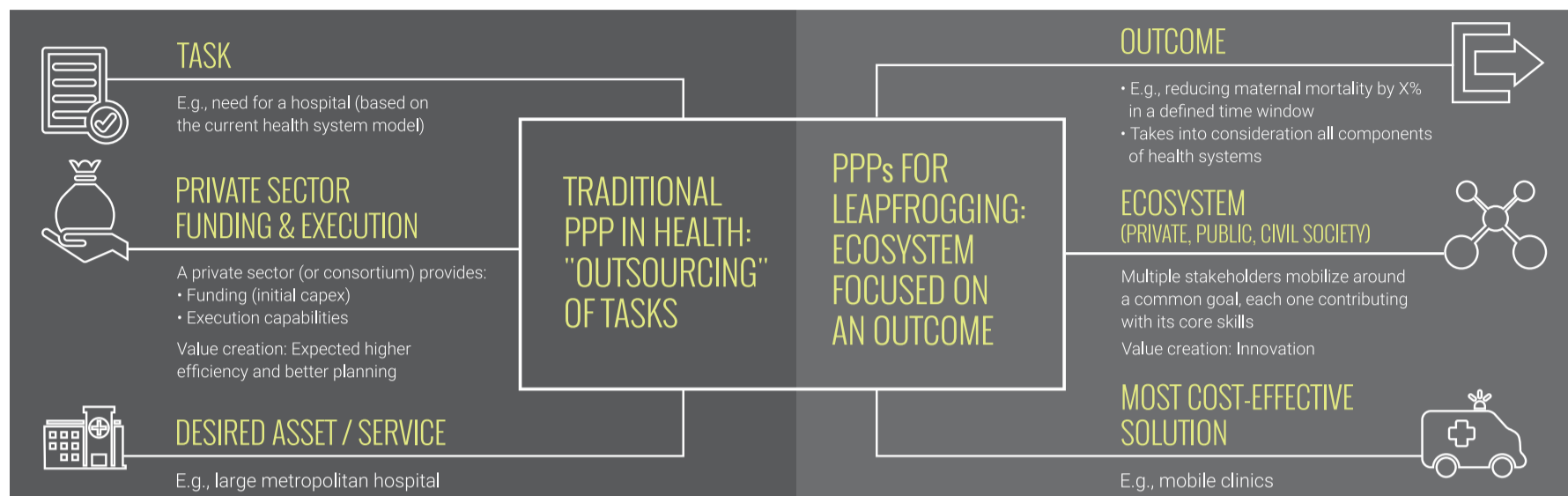
We propose a new approach, an 'ecosystem model', that mobilizes multiple stakeholders around a common, measurable outcome or goal—for example, reduction in maternal mortality rates by a defined percentage within a fixed time period. An approach focused on outcomes would incentivize the concerned stakeholders to collectively brainstorm for solutions, and leverage innovative business models to finance and deliver sustainable results. (see Exhibit 10)

This model is superior to traditional PPPs in three significant ways: it harnesses elements of collective design, financial sustainability, and data-based decision making.

Collective design of 'smart' and holistic solutions by providing a forum for stakeholders to work together. GAVI, Global Alliance for Vaccines, is leveraging new technologies and partnering with the private sector to integrate aspects of supply chain, data management, workforce training, and other assets into an overall immunization strategy.

Financial sustainability achieved through new business models and innovative structures for financing or invest-

EXHIBIT 10: DIFFERENCES BETWEEN PPPs AND ECOSYSTEM MODELS



ing. 'Social impact' bonds have gained traction in multiple capital markets as an instrument to funnel Corporate Social Responsibility (CSR) funding.

Data-based decision making using mutually agreed metrics, tracked throughout project lifecycles, helps prove on-ground results, and identify course corrections. A Project Management Office (PMO) needs to be established to monitor progress, and measure outcomes.

Call to action

India is at the cusp of a triple opportunity to chart its own path to establishing a sustainable healthcare system. It has access to a wide range of technological, process and operating model innovations. In absolute terms, the Government of India and state governments today manage a large healthcare budget. Finally, there is significant potential to invest in new solutions, given the limited fixed costs incurred on existing health infrastructure and entrenched techniques. The 'ecosystem model' is definitely not a 'silver bullet' for curing all the ills of Indian healthcare. It needs to be supplemented by appropriate reforms, robust governance, and a genuine will for change. Nevertheless, the 'ecosystem model' can help mobilize and coordinate a large and diverse community of stakeholders around a shared goal.

The government will continue to be the single most critical stakeholder in provisioning universal healthcare services, but other actors can play an effective supporting role on this front. Under the healthcare system of the future, the government will need to provide the requisite platform for engaging various stakeholders, and support the scaling-up of promising leapfrogs. Meanwhile, the private sector, including hospitals, pharmaceutical and medical technology companies, and non-governmental

organizations (NGOs), will need to focus on developing tailored, low-cost products and process innovations that can help change the way that healthcare services are delivered. Global agencies, on their part, will have to provide financing, expertise and access to their networks, to promote the growth of a sustainable Indian healthcare ecosystem.

A tailored approach is needed to transform India's healthcare system, and key stakeholders must work in tandem toward realizing a common goal. This will ensure the most effective use of India's scarce resources to the benefit of its people. The time to act is now.

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