

Innovative and sustainable healthcare management: Strategies for growth

Conference background note



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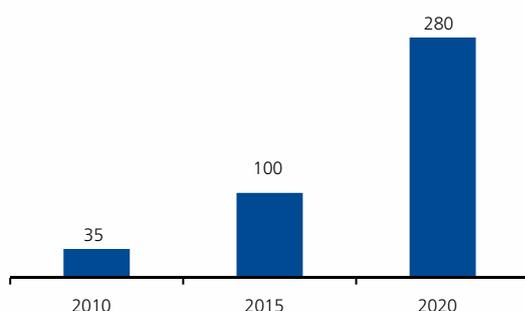
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Current perspective on Indian healthcare

Indian Healthcare: An Overview

The healthcare industry in India is currently valued at more than US\$ 70 billion and is projected to grow further to reach US\$ 280 billion by 2020². With a healthy CAGR of 21% (for the period 2010-20), healthcare as an industry in India has emerged to become one of the most promising and progressive sectors in recent times.

Exhibit below shows the current and projected size of the Indian Healthcare Industry (in USD Billion)²

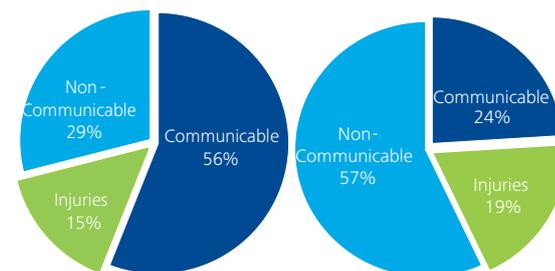


1 Indian Healthcare : The Growth Story [http://www.indianhealthcare.in/index.php?option=com_content&view=article&catid=131&id=168%3AIndian+Healthcare:+The+Growth+Story]

2 ibid

3 Source: http://www.whoindia.org/en/Section20/Section385_1095.htm

Exhibit below shows the changing disease burden in India – 1990 and 2020³



The growth of the healthcare industry has been fuelled largely by the growing and ageing population, rising economy, increasing income levels and changing disease burden, especially towards lifestyle diseases. Besides having an overall high disease burden (21% of the world's disease burden³), the share of non-communicable diseases and injuries in India is expected to rise to 76% of the overall disease burden by 2030³. This will be a major factor driving up healthcare spending in the country.

Each year 39 million people are pushed into poverty because of indebtedness to cover healthcare costs

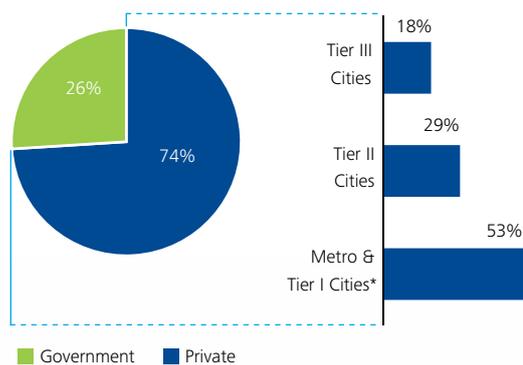


However, despite its impressive growth, the Indian healthcare scenario remains a paradox. On one hand, world class hospitals, state-of-the-art technologies, highly qualified doctors and health care professionals are attracting patients from all over the world while on the other hand the average Indian patient faces high prices, inadequate access, and inconsistent quality -

- India, with 0.6 physicians and 0.9 beds per 1000 people⁴, is among the lowest ranked countries in the world when it comes to health infrastructure
- Only 25%⁵ of the population is covered by private or public insurance and 71%⁶ of all health care expenses continue to be out of pocket, one of the highest in the country. Given the low per capita incomes, many Indians in both rural and urban India leave their healthcare needs unattended⁷.

The private sector accounts for more than 77%⁸ healthcare spending and 74%⁹ of the country's hospital beds. It clearly dominates Indian healthcare delivery, especially in tertiary care. However the growth of private hospitals has also been inequitable, with more than a third of all hospitals present in the metros and Tier I cities¹⁰. A large part of the population relies entirely on the public sector for their healthcare needs which remains inadequate for the rapidly increasing needs.

Exhibit below shows the distribution of hospital beds in India⁹



It is ironic that although Indian healthcare has made rapid strides **basic issues of affordability, availability, and quality continue to persist** and affect a large section of the population. Driven by the pressures of increasing costs and reducing margins, healthcare providers are also grappling with challenges around improving productivity and efficiency of healthcare services.

4 Source: WHO Health Statistics 2011; Deloitte analysis

5 Reddy, K. S. et. al. (2011) A Critical Assessment of the Existing Health Insurance models in India, Public health Foundation of India.

6 National Health Accounts 2004-05

7 Indians' growing healthcare expenses concern WHO, Times News Network. Nov 2, 2011

8 Ibid, p.3.

9 Source: Cygnus Research, 2009; India Hospital Report, Northbridge Capital

10 Ibid.



The complex healthcare challenge: The need for innovations

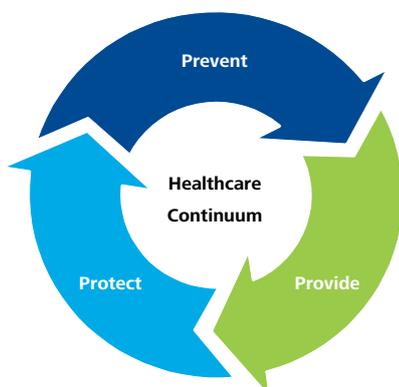
Delivering affordable and quality health care to India's billion-plus people presents enormous challenges and opportunities. Innovations could be a way out for a large number of people get quality care at a cost that the nation can afford

The Complex Healthcare Challenge

Addressing healthcare challenges is a complex proposition. It requires a thorough understanding of the continuum of care as well as the various stakeholders involved.

The continuum of healthcare starts with generating awareness of risk factors, disease symptoms and the benefits of healthy living. Measures are taken to convert these messages into actions resulting in the **prevention** of disease or morbidity. Patients suffering from disease would then require **provision** of primary, secondary or tertiary care. This is followed by **protection** of patients from relapse or future risks through management of disease, regular monitoring and health maintenance.

Exhibit below illustrates the healthcare continuum



Addressing this continuum of care is more complicated owing to the 'double burden of disease' i.e. the co-existence of both communicable and non-communicable diseases. While the country is still dealing with the issue of communicable diseases, the share of non-communicable diseases is also increasing rapidly requiring the health system to come up with a wide range of diverse interventions to address the varying financing, prevention, provision and protection needs of the diseases.

In addition, a number of other **external factors** have a bearing on health and health seeking behaviour. Recent research increasingly relates health inequalities to social factors such as poverty, nutrition, hygiene, water and sanitation, education, empowerment of women and living space. This would mean that to make any lasting impact on population health outcomes, addressing issues along the complete gamut including these **social determinants of health**¹¹ is essential.

11 Marmot, M. (2005) Social Determinants of health inequalities, The Lancet; 365 : 1099-1104

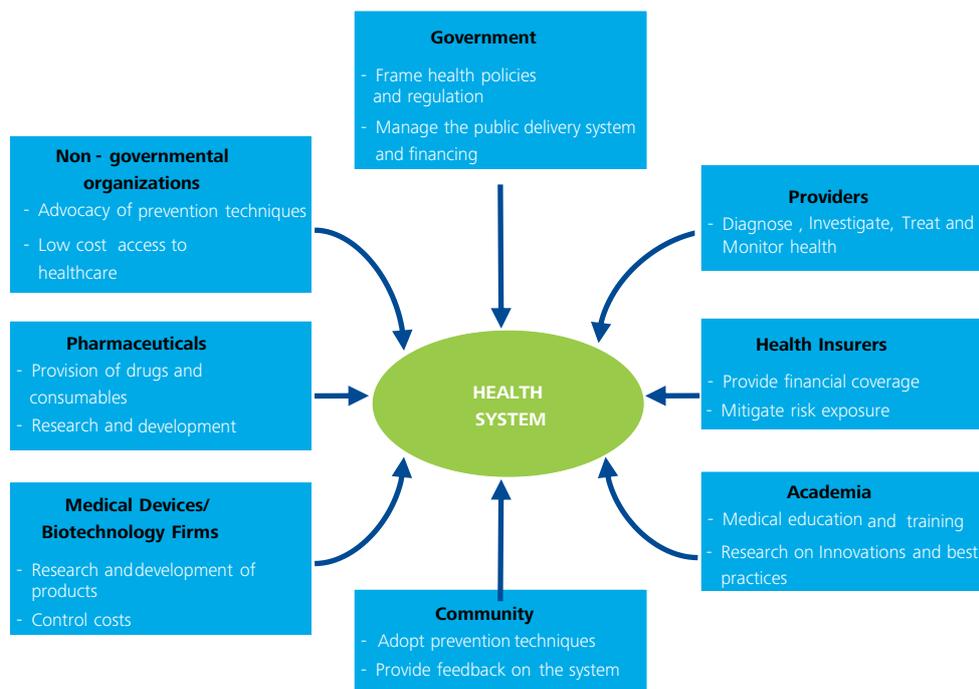
It also becomes equally important to appreciate the role various stakeholders play along the care continuum. The healthcare ecosystem, presented in the exhibit below, represents the numerous stakeholders involved in the system and their responsibilities with respect to inputs and functions -.

- **Stakeholders** across a wide spectrum, including the Government, insurers, providers (public and private), pharmaceuticals and medical equipment players, NGOs and the academia
- Variety of **inputs**, including skilled human resources (doctors, nurses, administrators etc.), capital, drugs and equipment
- Number of **enabling functions**, including hospital management, ancillary services (maintenance, security, housekeeping, kitchen etc.), IT systems, supply chain systems
- **Industry environment**, including regulation, political scenario, real estate, demographic, and economic profile of population

Understanding the dynamic interplay between the various stakeholders will form the basis for addressing key challenges around availability, cost and quality of care besides improving efficiency and productivity.

The enormity and diversity of the challenges faced by the healthcare sector calls for large scale interventions that yield desired results, that too, in a timely fashion. It is thus necessary to adopt an all-encompassing, comprehensive as well as an out-of-the-box approach to address the complex challenges at hand. **Innovations** could be a possible solution to ensure quicker, more efficient and sustainable methods to address the wide-ranging needs of the Indian healthcare system.

Exhibit below illustrates the various Stakeholders and their Functions in the Healthcare System



Framework for understanding innovations in healthcare management

“Innovation is increasingly being seen as the currency of 21st century. The future prosperity of India in the new knowledge economy will increasingly depend on its ability to generate new ideas, processes and solutions, and through the process of innovation convert knowledge into social good and economic wealth.”

– India Innovation Portal Decade of Innovation 2010-20

Defining Innovation

Innovation is often defined as *the introduction and application of ideas, products, services, processes or technologies, which are either new or are improvements of the current system, that benefit individuals, a group or the society as a whole*. The National Knowledge Commission defines Innovation as *“a process to achieve measurable value enhancement in any commercial activity through introduction of new or improved goods, services, operational and organizational processes”*. It is a key factor in facilitating competitiveness, improvement in market share and quality.

Innovation differs from invention in that innovation refers to *the use of a better and, as a result, novel idea or method, whereas invention refers more directly to the creation of the idea or method itself*. Traditionally innovations have centered around new products and technology – however increasingly the focus is on new processes, business systems and management methods – all of which have an important impact on productivity and hence growth.

Importance of Innovation in Healthcare

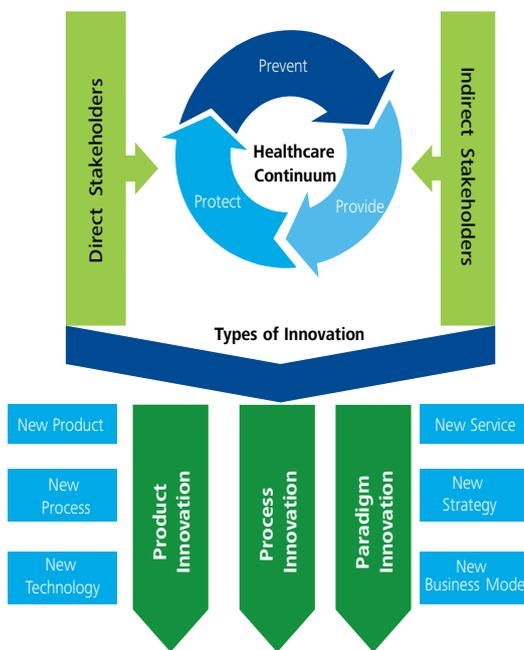
Adopting innovations is increasingly becoming the norm across sectors including healthcare. The scope and avenues available for innovations in healthcare are plenty depending on the implementing stakeholder and the intended benefit. e.g. while hospitals may view products which help reduce costs and improve health as an innovation, patients and consumers of health care may view products that provide financial protection as innovations.

Driven by the compelling needs of increasing number of people seeking healthcare services and ever increasing cost of providing healthcare services, a number of developing countries including India have emerged as nerve centres for frugal healthcare innovations so much so that countries like the United States are looking forward to pick cues from these success stories. The drivers of innovations are many in the emerging markets. The unique and sensitive developmental challenges, which have required these markets to develop indigenous solutions and perspectives has been a big driver for innovations.

Comprehensive Framework for understanding Innovations in Healthcare

An all-encompassing framework for understanding innovations is provided in the exhibit below -

Exhibit below shows an illustrative framework for innovations in healthcare management¹²



Innovations are present across the healthcare continuum and permeate through the entire value chain. While early interventions were largely focused on the “providing aspect” of healthcare, focus is slowly increasing across the healthcare continuum starting from

creating awareness of risk factors, disease symptoms and benefits of healthy living to adoption of preventive regular health check-ups. Along with innovations to increase the reach and availability of healthcare services at all levels – primary, secondary and tertiary care, focus on effective disease management support, monitoring and health maintenance as well as financial protection to afford the healthcare are emerging.

Innovations need to be embraced by all stakeholders along the healthcare value chain and not restricted to a few. It thus has to **become a way of life for all the stakeholders** along the value chain – whether it is doctors, hospitals, insurers, researchers or the government – all of whom strive for novel methods to address the challenges. While providers are focusing on new healthcare delivery models and procedures that may improve the quality of care, pharmaceutical and devices companies are pioneering new products/ concepts intended to make healthcare more affordable and thereby increasing their reach. Government is conceptualizing innovative policies and strategies designed to help the patient get the best possible care.

Innovations in the external environment as well Besides the direct stakeholders, innovations in the external environment and other social determinants will also have a bearing on improving the health outcomes. For instance, strategies to improve the hygiene and sanitary conditions like the Total Sanitation Campaign or gender empowerment initiatives like the Self Help Groups etc. have a bearing on improved health outcomes.

12. Adopted from: Bessant, J. and J. Tidd. (2007) Innovation and Entrepreneurship.

“Innovation has become a mantra: Innovate or Die. A company can’t outgrow its competition unless it can out-innovate them. Surely everyone knows that corporate growth – true growth, not just agglomeration – springs from innovation”

– Hamel Harvard Business Review

“Innovation distinguishes between a leader and a follower.”

~ Steve Jobs



Types of Innovations

By definition, innovations could cover a wide gamut of improvements, be it new product, new service, new strategy, operating model or technology and can be broadly classified into three categories – **Product, Process and Paradigm**. Whatever be the category of innovation, they are all focused on finding effective solutions for the pressing healthcare challenges.

The past decade has seen a lot of action in terms of innovations targeting the healthcare continuum so much so that India is now regarded as the **hub for frugal innovations in healthcare**. A few such examples across the healthcare spectrum are highlighted in the following pages.

Product Innovations

Introduction of products which provide better results compared to similar products in the market or which help address unmet needs could be defined as **product innovations**. Product innovations, in most cases add value to the consumer in terms of better quality, improved efficacy and reduced prices and to firms with respect to entry into new markets, increased market shares, better cost-effectiveness and high returns.

India has been witnessing an upsurge of product innovations by almost all relevant stakeholders of the healthcare industry including but not limited to areas of medical equipment and devices, health insurance, medical infrastructure (diagnostics and service delivery), treatment of chronic diseases and launch of patented products. A few such examples are provided below –

Illustrative Product Innovations in Indian Healthcare		
Affordability	Availability	Quality
<p>New concept insurance products providing greater financial protection either to a new / wider target segment or through increased coverage-</p> <ul style="list-style-type: none"> • Senior citizen policies which provides coverage for people above 60 years of age <p>Development of low cost diagnostics that besides making it affordable have also contributed to increased accessibility to the rural and the economically weak population-</p> <ul style="list-style-type: none"> • ClearVue “in India for India” range by Philips • MAC 600 portable ECG diagnostic device by GE <p>Establishment of Generic drug stores to pass on their cost benefit to patients</p> <ul style="list-style-type: none"> • Rajasthan Government’s “Life-line” drug stores <p>Low Frills Hospitals providing quality care in semi-urban and rural areas at an affordable cost-</p> <ul style="list-style-type: none"> • Life-spring Maternal hospitals in Andhra Pradesh • Vaatsalya – healthcare chain focused on building and managing hospitals in Tier II and III towns 	<p>Innovative self diagnostic methodologies that promote prevention through easy and regular checkups -</p> <ul style="list-style-type: none"> • Health kiosks by ApolloLife, equipped with a Height-weight machine and scan software measuring BP, Sugar, Cholesterol and Triglycerides • Self-Diagnosis Dial by Honeywell Technology Solutions <p>Use of medical mobile units to increase reach of medical care for remote rural areas-</p> <ul style="list-style-type: none"> • The ‘Akha Boat’ initiative in Assam – hitherto unreached people in remote riverine islands were covered through the mobile boat services • Piramal HMRI’s mobile health vans in Andhra Pradesh <p>Emergency and Referral Transport initiatives offering free or low-cost services thereby improving access to emergency medical services across states-</p> <ul style="list-style-type: none"> • GVK EMRI • Ziqitsa 	<p>Emergence of specialty hospitals to provide quality care covering specific conditions or treatments – Mother and Child hospitals, Eye Care Chains, Dental chains, dialysis centres etc.</p> <ul style="list-style-type: none"> • Cradle, Vasan Eye Care, Nehroplus, HelpAge India’s centres for Alzheimer’s care etc. <p>Adoption of robotic surgeries by hospitals to improve clinical outcomes and patient safety, reduce trauma and inpatient stay, and in certain cases reduce costs -</p> <ul style="list-style-type: none"> • Adopted by various hospitals including e.g. The Fortis International Centre for Robotic Surgery, Manipal Vattikuti Institute of Robotic Surgery etc.

Process Innovations

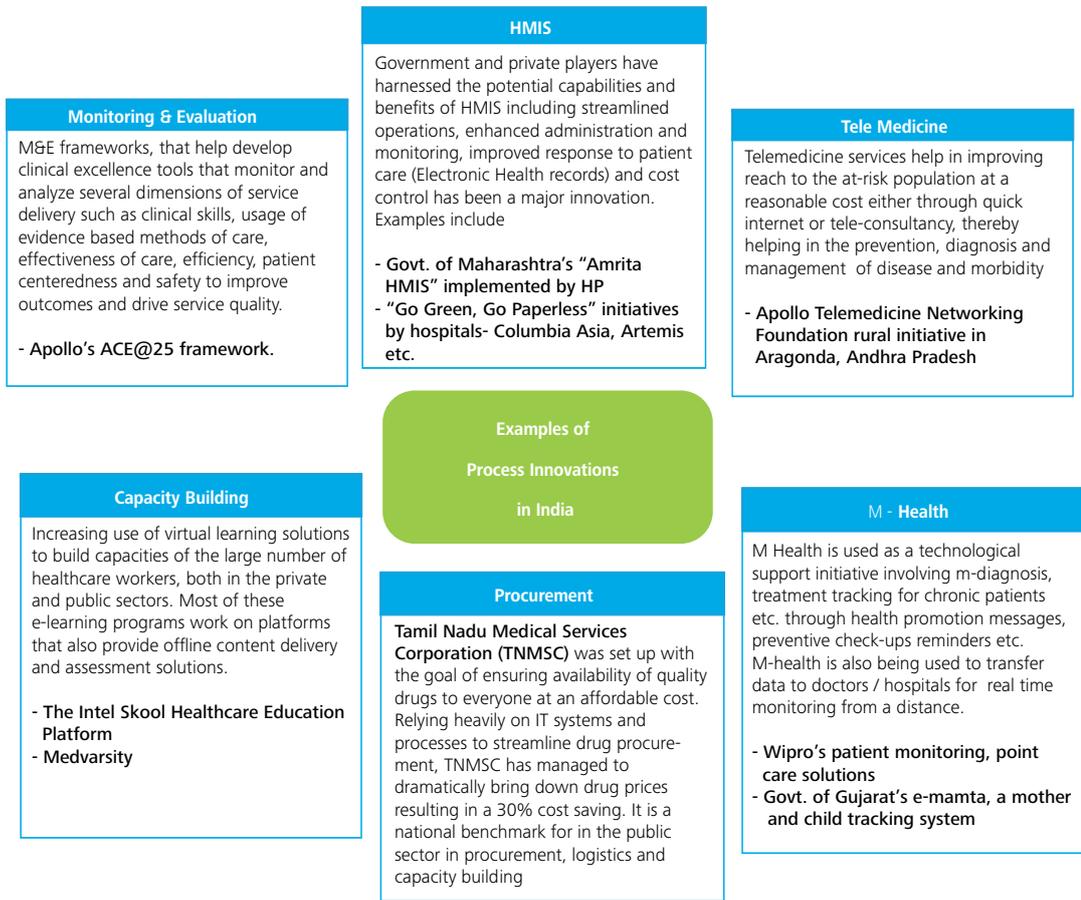
Process Innovations are defined as new or improved steps undertaken to optimize business performance. Process innovations can range from small internal improvements, improvements in sub-processes, redesign of processes, and going all the way up to redesigning the industry value chain.

With respect to healthcare, this relates to organizations aligning their business systems to the dynamics of the industry in an efficient and effective manner. In healthcare, possible areas of process innovations include

- **Internal processes** : Enhancement of research, development, human resources, sales and commercial operations

- **Health Resources** : Equitable allocation of resources (Financing, human resources and infrastructure)
- **Delivery Systems** : Repositioning of existing market services / products based on disease burden, geography and channel

Process innovations have helped healthcare organizations to substantially raise productivity, consistency and profitability and often enhance quality assurance systems and meet anticipated levels of scalability. Many ideas originating from the shop floor have radically improved business processes.





You can't do today's job with yesterday's methods and still be in business tomorrow

Paradigm Innovations

Paradigm innovation is the creation of new business models or patterns or as the reinvention of the basic value proposition of existing businesses. Typically, it involves a revolution or a radical change in prevailing systems. With respect to healthcare, a paradigm shift covers policies, processes or products that have **influenced industry trends** and have contributed

towards achieving the three goals of a health system¹³ “population health, system responsiveness and financing fairness”.

In the recent past, a number of prominent innovations spanning the healthcare gamut have contributed to systemic paradigm shifts, a few of which are illustrated below –

13 Health system goals , WHO [http://www.who.int/whr/2000/en] : The world health report 2000 - Health systems: improving performance

14 Ibid., p. 3.

15 Public Private Partnerships Database, Department of Economic Affairs, Ministry of Finance, Government of India [http://www.pppindia-database.com/Uploads/Master%20List%20PPP%20Projects%20in%20India%20as%20on%20January%2031,2011.pdf]

Social Insurance Schemes ¹⁴	One of the pressing issues in the country – affordability of healthcare was sought to be addressed with the introduction of various social insurance programs both at the national and state levels including RSBY, Rajiv Arogyasri, Yeshaswini, etc. These schemes have emerged to provide financial access to the under privileged for quality, secondary or tertiary, health services through provider partnerships on a scale unheard of before and have accelerated insurance coverage from 75 million people in 2007 to over 247 million people in 2011.
Public Private Partnerships ¹⁵	<p>PPPs are emerging as a successful model that integrates the private sector expertise, quality and efficiency with the reach and scale that is possible with the public sector. The various mechanisms involved in PPP include contracting in, contracting out, subsidies, leasing or rentals etc. PPPs are being experimented within various spheres of healthcare including healthcare delivery, medical education, diagnostics, medical devices etc. A few illustrations in the health sector include.</p> <ul style="list-style-type: none"> • Urban Slum Healthcare Project in Andhra Pradesh (partnership between AP Commissionerate of Family Welfare and NGOs) • Outsourcing emergency transport services in 14 states in the country (state governments in partnership with private providers like EMRI, Ziquitsa etc.) • National and state level insurance schemes • Contracting management of PHCs and CHCs to NGOs in Karnataka and Gujarat • GE Healthcare partnering with public hospitals to set up diagnostic centres within the hospital
Minimally Invasive Surgeries	A new medical procedure that has revolutionized healthcare in recent years is the minimally invasive procedure which has helped in ensuring patient safety, reducing trauma and ensuring faster recovery. Further it reduces average length of stay at the hospital thereby making available more hospital beds for patients. Some examples include ‘Beating heart’ surgery, ‘Kyphoplasty’ for the treatment of spinal compression fractures and ‘Keyhole’ technique’ for treatment of bone and cartilage problems
Improving availability of doctors in rural areas	To address the acute shortage of health professionals in rural locations, the Union Health Ministry has plans to launch a programme focused on rural medical care – Bachelor of Rural Healthcare (BRHC). The objective of the course would be to create a cadre of health care providers, who would be motivated to live in and provide comprehensive primary health care in rural areas. Early adopters of similar concept programmes include the Governments of Assam and Chhattisgarh. This will help in addressing one of the most pressing healthcare issues faced by the country – the acute shortage of doctors.

Driving sustainability of innovations

“In the future, only companies that make sustainability a goal will achieve competitive advantage. That means rethinking business models as well as products, technologies and processes.”

- **Ram Nidumolu, C.K Prahalad, M. R Rangaswami** - Harvard Business Review

While various innovations are being carried out across the healthcare continuum it is critical to step back and analyze if the current trend of fragmented investments, technological developments and institutions can effectively address the huge and growing unmet demand for healthcare services in India.

Global experience shows that often sustainability of innovations is the driving force that balances growth and technical advances to the needs of the population and fosters better targeted and integrated innovations. To ensure sustainability, innovations would need to be:

- Holistic – spanning across the value chain
- Cost-effective – minimal costs for desired outcomes
- Affordable – optimal prices based on target market
- Recognized – awareness on relevance and usage

While stakeholders need to constantly focus on these aspects to drive long-term frugal innovations, concerted efforts are also required to strengthen factors that significantly contribute to building an environment of sustainability-

- **Improvements in technology** - Technology in the last two decades has revolutionized the way healthcare is delivered. The use of customized technology has the potential to impact patients and providers alike by enhancing the quality of delivery, reduction in turnaround time of workflows and thus the overall cost, besides bringing in higher

accountability into the system. Illustrations of customized technological advancements that have already been implemented include telemedicine, tele-monitoring, HMIS, m-health, smart cards, mobile clinical devices and the use of palmtops.

- **Improvement in quality of human resources** - To support technological developments, policy makers and industry leaders would also need to focus on availability and quality of human resources with suitable skill sets and appropriate deployment at different levels of the health care set-up: private and public, urban and rural, and prevention and cure. The Indian academia would also need to link human resource development and training gaps to national health strategies and the dynamic needs of the industry.
- **Improvement in research capabilities** - Indian academia and corporates also need to substantially invest into building adequate research capacity to investigate and report key issues that affect the health system and policy for further improvements.

Enhanced research capacities, complemented by quality human resources and relevant technology, will help create a more holistic and progressive approach to create a health system in which innovations are undertaken on a sustained basis.

Way forward

While Indian healthcare has been witnessing a trend towards innovations, more such innovations are needed to solve the issues faced by our very large and diverse population. While a number of opportunities and improvement areas exist across the healthcare spectrum – from financing to delivery, there is **need for a cohesive strategy that fosters an environment for sustainable innovations.**

Innovations need to progressively **adopt a prevention-focus along with the existing provision-focus** by implementing a larger number of novel and easily accessible prevention and wellness strategies. WHO estimates that “at least 80% of premature heart disease, stroke and type 2 diabetes and 40% of cancer could be prevented through healthy diet, regular physical activity and avoidance of tobacco products”,¹⁶ highlighting the need to adopt a mix of population-wide and individual promotion and prevention interventions. Related changes would also be required across various aspects of the healthcare spectrum including national investments, policies, human resources planning, and training and above all, political commitment. The Government plays a critical role in driving this shift.

In addition to this orientation shift, it is essential for all relevant stakeholders to **plan and implement innovations in tandem** in order to drive a more unified and sustainable approach to innovations. While this is a challenging task, it also sets the stage for the ecosystem to leverage the core strength areas of each of the stakeholders including the Government, private providers, medical technology companies, pharmaceutical companies, health insurers and academia.

Private players play a dual role in encouraging innovative provision of health services. Along with improving patient and disease coverage, efficiency of operations, quality of care and profitability, they also play a pivotal role in addressing the broader ‘affordability’ and ‘accessibility’ issues by collaborating with the Government and infusing the public system with their capital, expertise, efficiency and innovative approaches. Increasingly **Public Private Partnerships**¹⁷ are being

viewed as a much needed solution to achieve the shared goal of universal health coverage¹⁸. While a number of PPPs have already been implemented over the last decade, this phenomenon would need to be scaled up to achieve desired national health outcomes.

The Government plays a crucial role in driving innovations to address the financing and delivery gaps of the country. It also plays an all-encompassing role of setting long and short term health care policies and regulations. It is thus, critical for the Government to proactively establish systems that enable collaborations among the various stakeholders to develop an environment of creative-thinking incubate new solutions and encourage early implementers and adopters.

The National Innovation Council, set up by the Government, is an important initiative to create a system which will provide mutually reinforcing policies, recommendations and methodologies to implement and boost innovation performance in the country. The Council is mandated to provide a platform for collaboration amongst healthcare domain experts, stakeholders and key participants to create an innovation movement in India and to develop a policy on innovations with focus on an Indian model for inclusive growth. This is a step in the right direction to drive the innovation agenda.

While there exists no defined “best” standard for systems that nurture an environment of sustainable and innovative healthcare management, the government and the industry must continue to invest adequately in new cost-effective and efficient financing and delivery models; provide financial support for R&D; provide necessary incentives engage actively with the academia & industry to identify and recognize exemplary efforts.

All India Management Association (AIMA)’s seminar on “**Innovative and Sustainable Healthcare Management : Strategies for Growth**” is a step in this direction and could help AIMA facilitate on-going discussions among stakeholders on the way forward towards a more sustainable and innovative management of healthcare.

16 WHO 2005, Preventing Chronic Disease - A vital investment [http://www.who.int/chp/chronic_disease_report/media/india.pdf]

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18 PHFI, High Level Expert Group on Universal Health Coverage for India [http://planningcommission.nic.in/reports/genrep/rep_uhc2111.pdf]

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Note:

Sources for the statistics, quotes and concepts have been provided in the body of the article as a footnote in the page where they are referred. The data used in the article can be traced to one of the sources mentioned in this section.

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