The Prescription for Innovation in **Healthcare**

A **Whitepaper** by
Naveen Lakkur on Healthcare Innovation

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Introduction

In the recent times, we've witnessed amazing innovations in technology with everything from a speaker that talks back, to soccer fields that fit anywhere, to the recent introduction of driverless cars and usage of drones for delivery and surveillance. The healthcare industry was no exception to the rise in disruptive technology changing the way people are impacted.

But healthcare has its own share of complex questions. How can we reduce costs and increase value, improve patients' experiences and outcomes, speed the translation of research into therapies and cures, make healthcare something that people can have access to around the world? In healthcare, the term "innovation" has traditionally been reserved for the development of new drugs or medical devices. It is clear that innovation must be explored in a broader context, there is scope to consider day-to-day activities such as consumer behavior, provider incentives, and process improvement in care delivery. Data analytics is one of the many methods to make this possible. Are we collecting the right data? Are we understanding data and the mechanics to make it intelligent?

There is a need to step back and get a bird's eye view of the healthcare sector to get to the root of the situation on ground.

> *Necessity is the mother of all inventions. Now Innovation is a necessity.*

A Snapshot of the Indian Healthcare Sector

Indian healthcare is experiencing a new wave of opportunity. Providers are reinventing existing delivery models to bring healthcare closer to the patient. It has become one of India's largest sectors – both in terms of revenue and employment. Healthcare comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The Indian healthcare sector is growing at a brisk pace due to its strengthening coverage, services and increasing expenditure by public as well private players.

Combining medicine with mindfulness should be at the core of Indian healthcare values and a number of Indian hospitals have embarked on that journey by making no-cost surgery a sustainable healthcare paradigm.

> 3.2%

of the population is driven to poverty due to healthcare expenditure

> 40%

of the population borrows money or sell assets to pay for hospitalization

< 16%

of the population has access to anyform of health insurance

> 70%

of the population makes out-of- pocket payment while availing healthcare treatment

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I dream of a Digital India where quality healthcare percolates right upto the remotest regions powered by e-Healthcare.

-Narendra Modi

Using digital tools to reach patients is no longer a question of 'if'- it's a question of 'how.' And it's a matter of now."- **Chris Boyer**

India's competitive advantage lies in its large pool of well-trained medical professionals. India is also cost competitive compared to its peers in Asia and Western countries. The cost of surgery in India is about one-tenth of that in the US or Western Europe.

The overall Indian healthcare market is worth around US$ 100 billion and is expected to grow to US$ 280 billion by 2020, a Compound Annual Growth Rate (CAGR) of 22.9 per cent. Healthcare delivery, which includes hospitals, nursing homes, diagnostics centers, and pharmaceuticals, constitutes 65 percent of the overall market.

The Healthcare Information Technology (IT) market which is valued at US$ 1 billion currently is expected to grow 1.5 times by 2020.

The hospital and diagnostic centers attracted Foreign Direct Investment (FDI) worth US$ 3.59 billion between April 2000 and March 2016, according to data released by the Department of Industrial Policy and Promotion. India's universal health plan that aims to offer guaranteed benefits to a sixth of the world's population will cost an estimated Rs. 1.6 trillion (US$ 23.72 billion) over the next four years.
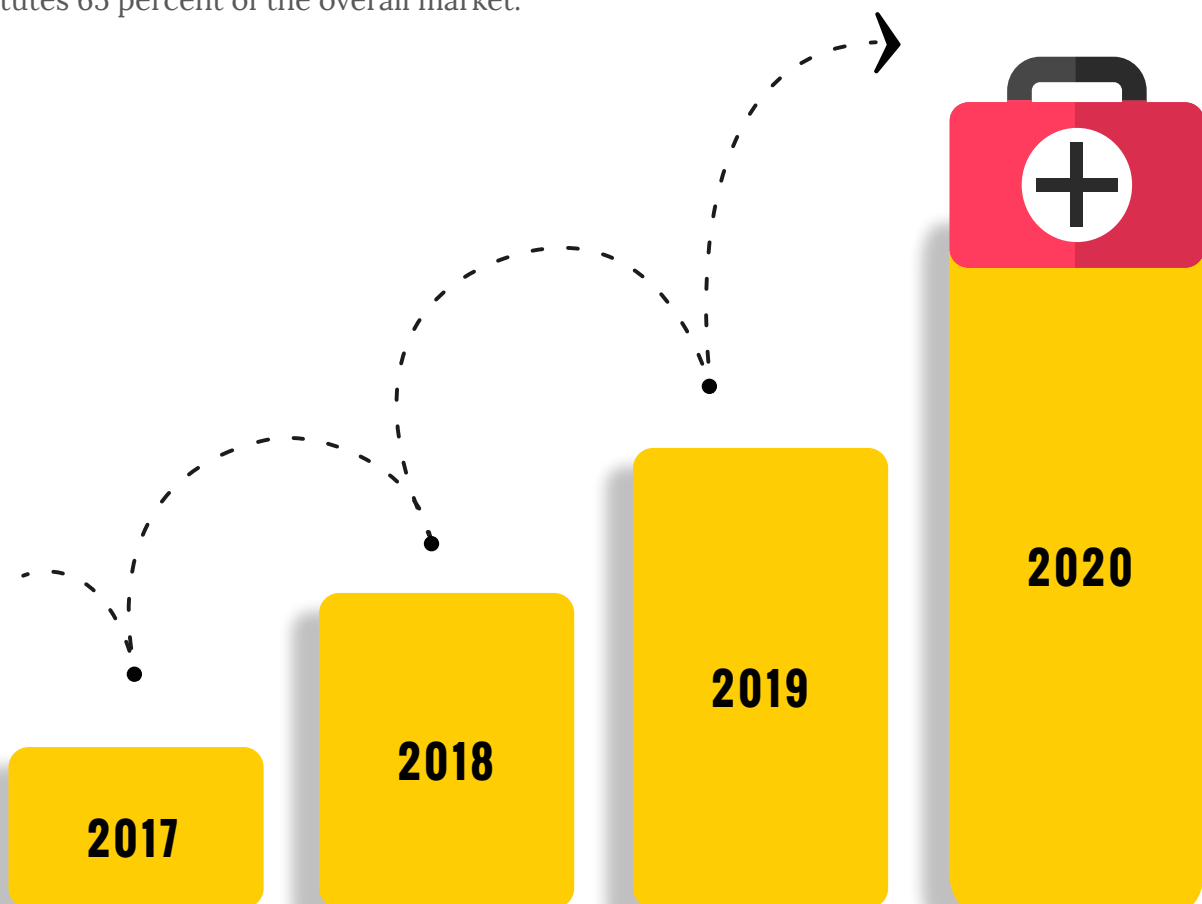
2017

2018

2019

2020

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Challenges and Opportunities

"If you want to grow and not just exist, you need innovation. There is no advancing without innovating."

Despite the lure of the FDI's strong demand and attractive opportunities, the healthcare system in India continues to be plagued by many problems and conscious innovation for growth is necessary.

Lack of
Infrastructure

Inefficient
Workforce

Lifestyle of
the Urban Areas

**Challenges
in Healthcare**

Lack of
Awareness

Lack of Access for
Rural Areas

Unnecessary and
Excessive Diagnostic
Tests

The Need For Conscious Innovation

Innovative thinking, like critical thinking, does not come naturally to most people and that's one of the reasons why innovation is so hard. As Nobel laureate Daniel Kahneman stated, "Laziness is built deep into our nature." As a result, we are cognitively blind to disconfirming data and challenging ideas. When we are on autopilot, we are not really critical or innovative thinkers–we are confirmation machines. Innovative ideas rarely emerge from an "aha!" moment. Instead, they usually arise from thinking differently than we normally think and from learning. If we put in our conscious effort to make change happen, things will fall into place.

Continuous Innovation with Conscience is Creditworthy.

The prescriptive solution to most healthcare challenges come down to understanding the importance of innovation for growth. To innovate, people have to take their normal thinking to a much higher level. Most of us have to be taught how to do that. Innovation is required to come up with a new thing & sustain the new thing. There are numerous conscious efforts being taken in India to enable innovation and innovative practices to make healthcare accessible and affordable at the same time.

6 Areas of Innovation in Healthcare

In light of the above, where do you think innovation needs to happen in the healthcare system at the global level? What business today does not want to be more innovative? In business parlance, "innovation" has reached an exalted position—much like "customer centricity," it is deemed to be a necessity, but it is hard to define. It means different things to different people. Innovation exists along a continuum, from material improvements to existing products or processes all the way to the rare disruptive innovation. *Steve Jobs predicted that, "The biggest innovations of the 21st century will be at the intersection of biology and technology",* a movement referred to as digital health or mHealth.

PROCESS

MEDICAL DEVICES

POLICIES

HEALTHCARE INNOVATION

PHARMA

PREVENTIVE CARE

PATIENT CARE

Process

Whenever possible, successful innovators try to use highly standardized operating procedures in order to minimize waste and improve the utilization of labor and assets. The use of standardized clinical protocols also raises the quality of care and facilitates the transfer of knowledge. One example is the AIIMS OPD Transformation project, a social initiative where TCS introduced new technology and streamlined innovative processes that will benefit more than three million patients visiting 21 OPDs in the main hospital each year.

The transformation which was executed in 7 months helped to reduce the long waiting time for patients from six hours on an average to less than two hours and eliminate overcrowding. A recent survey showed that 83% patients have appreciated the AIIMS OPD transformation.

Practo also solves the process problem head on by using technology. Patients use Practo to find and book appointments with doctors, and some doctors use Practo Ray, a Saas software to manage their practice.

> *Process is meant to improve Performance, create Predictability and bring in Peace. Process should never be a Pain.*

Medical Devices

This sector is the smallest piece of India's healthcare pie. However, it is one of the fastest-growing sectors in the country like the health insurance marketplace. Big players like GE, Siemens and Philips have made a mark in the industry with exceptional medical devices .

Till date, the industry has faced a number of regulatory challenges which has prevented its growth and development. A product innovation is the introduction or creation of a medical device that is new or has significantly improved characteristics or intended uses. Dr. Jagdish Chaturvedi, Co-founder of InnAccel, an ENT surgeon, is a serial innovator who believes that innovation in medical devices which is usually based on engineering problem solving by individuals or small firms, seldom depends on the results of long-term research in the basic sciences, and generally does not reflect the recent generation of fundamental new knowledge. He has also written a book 'Inventing Medical Devices: A Perspective from India', for any aspiring entrepreneur who wishes to invent new medical devices in India.

Another example is of the Paperfuge, an innovative paper technology made of paper, string, and plastic that can whip biological samples in circles at up to 125,000 rpm. Unlike a centrifuge, the Paperfuge doesn't need electricity, complicated machinery, expensive replacement parts, or even much money to operate.

> *Medical Devices need to identify and support in removing the pain areas. The Product should be Painless and Pinchless to the pocket.*
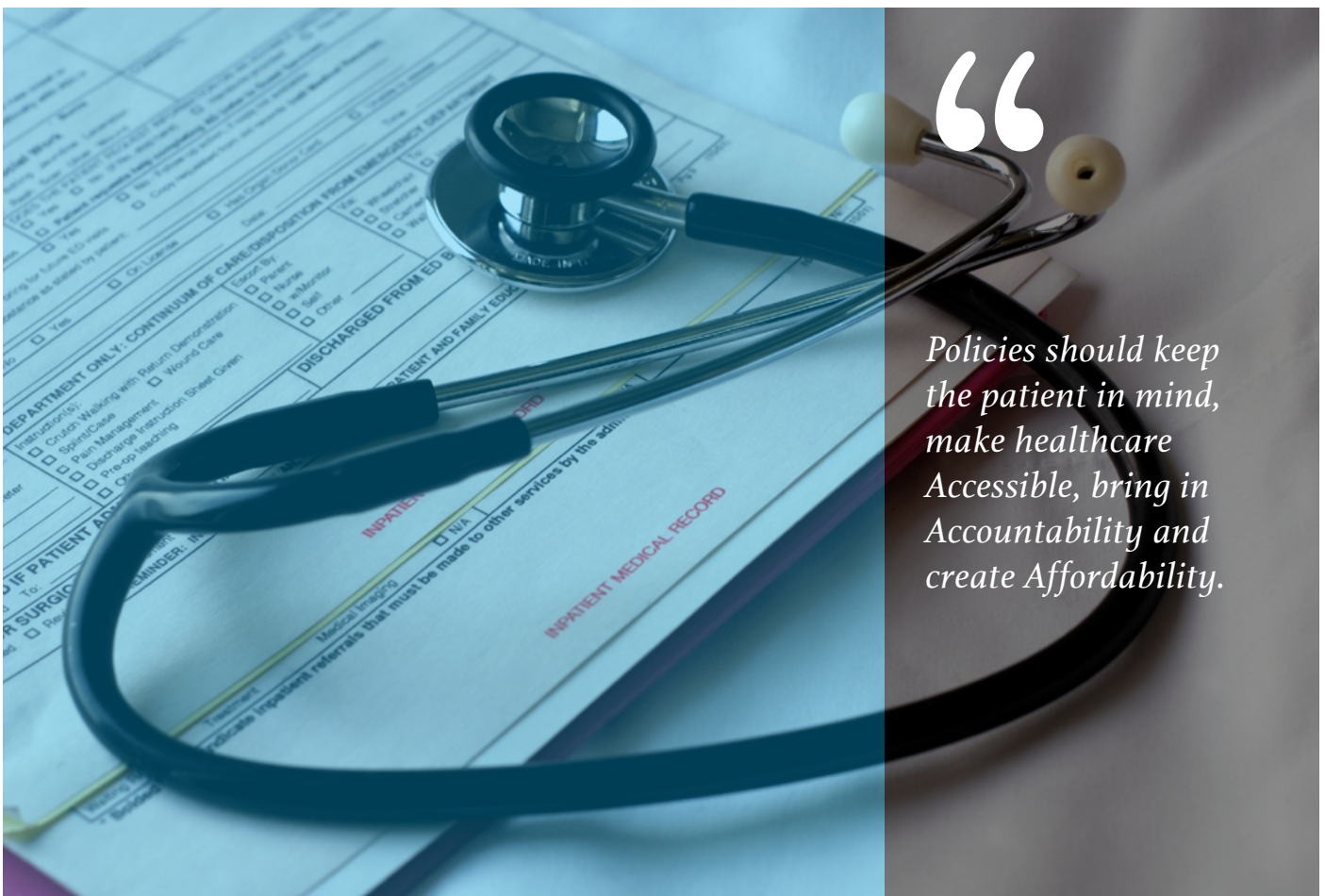
Policies

The policies of the government will also be a deciding factor that will determine favorable climate and speed of innovation. Strong policy support is crucial in this developing sector.

The NITI Aayog has allocated USD55 billion under the 12th Five-Year Plan to the Ministry of Health and Family Welfare, which is about three times the actual expenditure under the 11th Five-Year Plan. The 12th plan focusses on providing universal healthcare, strengthening healthcare infrastructure, promoting R&D and enacting strong regulations for the healthcare sector. Establishing a system of Universal Health Coverage (UHC) in the country would mean that each individual would have assured access to a defined essential range of medicines and treatment at an affordable price, which should be entirely free for a large percentage of the population. For example, the recent demonetization drive has resulted in a growth spike for lot of cashless telehealth operators like Lybrate and DocsApp.

The 3 main objectives of the policy should be:

- Accessibility of healthcare to all
- Accountability by providers
- Affordability for all

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> *Policies should keep the patient in mind, make healthcare Accessible, bring in Accountability and create Affordability.*

Pharma

There's no disputing the fundamental role that innovation has played in the pharma industry. Product innovation has saved and improved countless lives. And while it's getting more and more difficult to develop new drugs, there's still plenty of hope in areas like personalized medicine and the application of genomics.

Pharma has been considered the mother of all invention. More recently, the last five years of Thomson Reuters Top 100 Global Innovators List consistently report pharma as one of the largest industry sectors represented. Pharma's next generation innovation is streamlined towards long-term, replicable success. It is not necessarily the company that offers the most new drugs at the fastest pace that will succeed, but rather the company that can demonstrate actual patient value and repeat this process time and time again. Companies like Biocon have always played upfront for innovation in the pharma sector. Biocon ranked ninth this year in the 'Science 2016 Top Employer' ranking, which ranked the company based on their vision of an innovation-led enterprise that is socially responsible.

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Innovation is required in both forms, as Painkillers and Vitamins for a Sustainable and Healthy future.

Preventive Care

Over the years, prevention has become a strong pillar in the healthcare industry across the globe and is being disrupted by innovation in the recent years. Most health risks can considerably be reduced through preventive care which can begin right at home. Wellness and preventive care measures such as Yoga, Massage & Acupuncture go a long way.

As awareness among consumers continues to rise, fueled by the increase in the consumption of information via internet explosion, patients will adopt preventive care as a necessary tool to help them lead a better lifestyle. Preventive healthcare, accounts for measures that are adopted for disease prevention rather than disease treatment. Early diagnosis will definitely enable patients to intervene earlier and respond to their health issues in a much better manner. Hospitals like Apollo Life promote wellness and provide the passport to preventive care through a number of initiatives like B Positive Magazine, Corporate Wellness Programs, Health Assessment Scans, School Wellness Programs and Wellness Centres.

Medical devices such as blood pressure monitor, blood glucose monitor and nebulizers are also other examples of preventive healthcare technology products that are being used by patients at the comfort of their home.

If Prevention is better than cure, all the more the need to innovate Proactively.

Patient Care

Hospitals are always developing innovations and improving the quality of care in various ways. The delivery of care must be pushed out from traditional "experts" at centralized facilities to wider networks of providers and patients. Telemedic innovations are shaping healthcare's future and will impact patient-physician relationships to a large extent.

In India, Aravind Eye Care System, which provides cataract operations to the blind and the near-blind, standardizes the entire end-to-end patient pathway—from initial diagnosis to surgery, recovery, and discharge—with ruthless efficiency. It's not just hospitals that are making changes. Many medical technology companies are developing innovations that make hospitals' jobs easier when it comes to improving care. GetWellNetwork is one example of a company that has created a program that uses in-room televisions to instant-message patients between shows. These messages educate patients on their condition and care, as well as help track recovery.

Another example is Nightingales Home Health Services promoted by Ex-Fortis CEO Vishal Bali deploys nurses at home on demand. It also offers 24×7 medical services such as physician consultation, lab sample collection and reporting, physiotherapy, medical devices, ambulance services, pharmacy support and related medical services in a home setting, taking patient care to a whole new level.

Patience is the best medicine to be Practiced when it comes to Patient Care.

Focus on Growth

No matter how important new firms are to innovation in healthcare, much of the activity in the industry continues to flow through established firms—providers, insurers, and suppliers—that also must engage in innovation to increase value.

Ecosystem development becomes an accelerator for innovation in these 6 areas of innovation in healthcare. A key question is how the benefits of new insights can be integrated into established organizations. This can be done in three ways:

- Established organizations must maintain the flexibility to acknowledge new approaches while respecting the importance of fulfilling their long-standing objectives.

- Established firms must leverage the benefit of strong relationships with customer "communities" as they innovate to improve value.

- Current entities must play a key role in increasing the accountability that all industry participants have for the health of the populations they serve.

> *Know what your customers want most and what your company does best. Focus on where those two meet.*
>
> *-Kevin Stirtz*

Innovation is a critical factor and not a choice. There should be a conscious effort towards growth. If innovation resources aren't available with you, you should not be hesitant to engage with an external catalyst who will recognise the potential you have to help you create an impact and make a difference. Keep the patient in mind, have a holistic approach and continue to innovate.

About the Author

Naveen Lakkur is a renowned Innovation Coach from India. He's on a mission to nurture new age leadership through innovation and entrepreneurship. He conducts training programmes, does strategic consulting and provides advisory services. He has been a part of several healthcare initiatives and is the Venture Advisor of Unitus Seed Fund. He is also a member of the Telemedicine Society of India.