



HEART  
INSTITUTES



ANNUAL REPORT  
2018-2019



CANCER  
INSTITUTES



INSTITUTE OF  
NEUROSCIENCES



INSTITUTE OF  
ORTHOPAEDICS



INSTITUTE OF  
TRANSPLANTS



EMERGENCY &  
CRITICAL CARE



PHARMACY



RETAIL HEALTH



HEALTH INSURANCE

120,000,000  
LIVES TOUCHED.

THE  
DIFFERENCE  
BETWEEN  
GOOD &  
*Great.*

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\* Business Responsibility Report is a separate enclosure and forms a part of this Annual Report.

*Note:* Patient names have been withheld from all case studies and patient testimonials in this report in order to protect patient privacy.

Is there a difference between a good hospital and a great one?

**THERE IS A DIFFERENCE.**

A difference between hands that do surgery

**And** A SYSTEM THAT HEALS.

A difference between 16 stitches

**And** NONE.

A difference between a nurse on duty

**And** ONE WHO RENDERS TENDER LOVING CARE.

A difference between a hospital that buys equipment for today

**And** ONE WHICH INVESTS IN TECHNOLOGY FOR TOMORROW.

A difference between an institution that has a certification

**And** ONE WHICH SETS CLINICAL BENCHMARKS FOR THE INDUSTRY.

Because when it comes to your health, that difference means a lot.

Great hospitals have a distinguishing and established purpose; one, which their people live to the fullest. Great hospitals know why they exist and are clear about the value they create in the world—a value which goes beyond the cost of care. They are bound to established beliefs and values which shape in their people, a unique culture of care—patient centered, proactive and sustainable. Great hospitals nurture patient relationships through the entire continuum of care. They focus on holistic patient well-being, and embrace ways to prevent illness rather than merely treating disease. They understand patient pain points, and leverage doctor skills, expertise and technology, to provide them optimal solutions. Great hospitals benchmark their practices and performance with the world's best because when it comes to their patients' health, they will stop at nothing short of best.



# FUTURE OF HEALTHCARE

HEALTH IS LIKELY TO REVOLVE AROUND SUSTAINING WELL-BEING RATHER THAN RESPONDING TO ILLNESS. PREVENTION AND EARLY DIAGNOSES WILL BE CENTRAL TO THE FUTURE OF HEALTH AND THE ONSET OF DISEASE, IN SOME CASES, COULD BE DELAYED OR ELIMINATED ALTOGETHER.

**HEALTH IN 2030  
WILL BE A WORLD  
APART FROM WHAT  
WE HAVE NOW**

Of all the major health threats to emerge, none has challenged the very foundations of population health as profoundly as the rise of chronic non-communicable diseases. Heart disease, cancer, diabetes, and chronic respiratory diseases, once linked only to affluent societies, are now global, and the poor suffer the most.

Risk factors such as a person's background; lifestyle and environment are known to increase the likelihood of certain non-communicable diseases. These include age, gender, genetics, exposure to air pollution, and behaviors such as smoking, unhealthy diet and physical inactivity which can lead to hypertension and obesity. In turn these lead to increased risk of many NCDs. However, the good news is that most NCDs are preventable because they are caused by modifiable risk factors.

Technology will also help break down barriers such as reach and geography that can limit access to health care providers and specialists.

**THE FUTURE OF HEALTH WILL LIKELY BE DRIVEN BY DIGITAL TRANSFORMATION ENABLED BY RADICALLY INTEROPERABLE ALWAYS-ON DATA, ARTIFICIAL INTELLIGENCE (AI), AND OPEN, SECURE PLATFORMS.**

THE CONSUMER WILL BE AT THE CENTER OF THE HEALTH MODEL RATHER THAN THE INSTITUTION. INTERVENTIONS AND TREATMENTS WILL BE MORE PRECISE, LESS COMPLEX, AND LESS INVASIVE..

**Ageing dynamics are changing. Life expectancies keep increasing nearly across the board.<sup>†</sup>**

A large wave of the population will hit age 65+ within the next twenty years. But life expectancies are increasing. This increasing life expectancy changes the cost and health problems of the population of any country. We are going to be faced with the task of managing diseases in the population, especially chronic and lifestyle-based conditions.

*Will we have enough doctors?*

*What new healthcare jobs will emerge? Health Coaches? Genetic Counselors? Patient concierges?*

## The cost to sequence is dropping, and more genomic information is becoming available.<sup>†</sup>

As we slowly learn more about our predispositions and diseases,

*Will healthy people start wearing medical-grade wearables?*

*Will monitoring become more passive?*

Patented monitoring devices and apps are already in the market.

*Will we go a step further and have devices inside of us? Ingestible sensors? Implanted intraocular devices? Artificial pancreas?*

## AI in healthcare is taking off and the algorithms are getting very good<sup>†</sup>

AI applications in healthcare are rapidly changing medical specialties including radiology, pathology, dermatology and ophthalmology. In a few countries around the globe, virtual interventional radiologist chatbot is already in use. In the UK, AI is already being deployed to triage, to check symptoms, continuously monitor a person's health and track medication intake.

In the not so distant future, digital technology may improve patient experience by providing real-time access to medical knowledge and assistance. Imagine a voice-activated system for a patient—an AI-powered, bedside virtual care assistant that can answer or direct queries to the most appropriate person at the hospital. This virtual assistant will be able to answer the patient's routine questions about diagnoses, expected recovery time and experiences, and daily medication schedules. It also will be able to direct specific questions to specialists. In addition, the virtual assistant can act as a data repository for the patient's medical history, test results, consultation times, and appointment schedules.

Adoption of AI in healthcare will increase efficiency, improve predictive capabilities, enable greater personalization, and democratize access to enhanced personalized care.

## Will the patient-doctor relationship change?<sup>†</sup>

### Reactive Health

1. Consumer seeks health services when feeling ill
2. Sorts through different care options
3. Data is then captured to confirm diagnosis

### Proactive Health

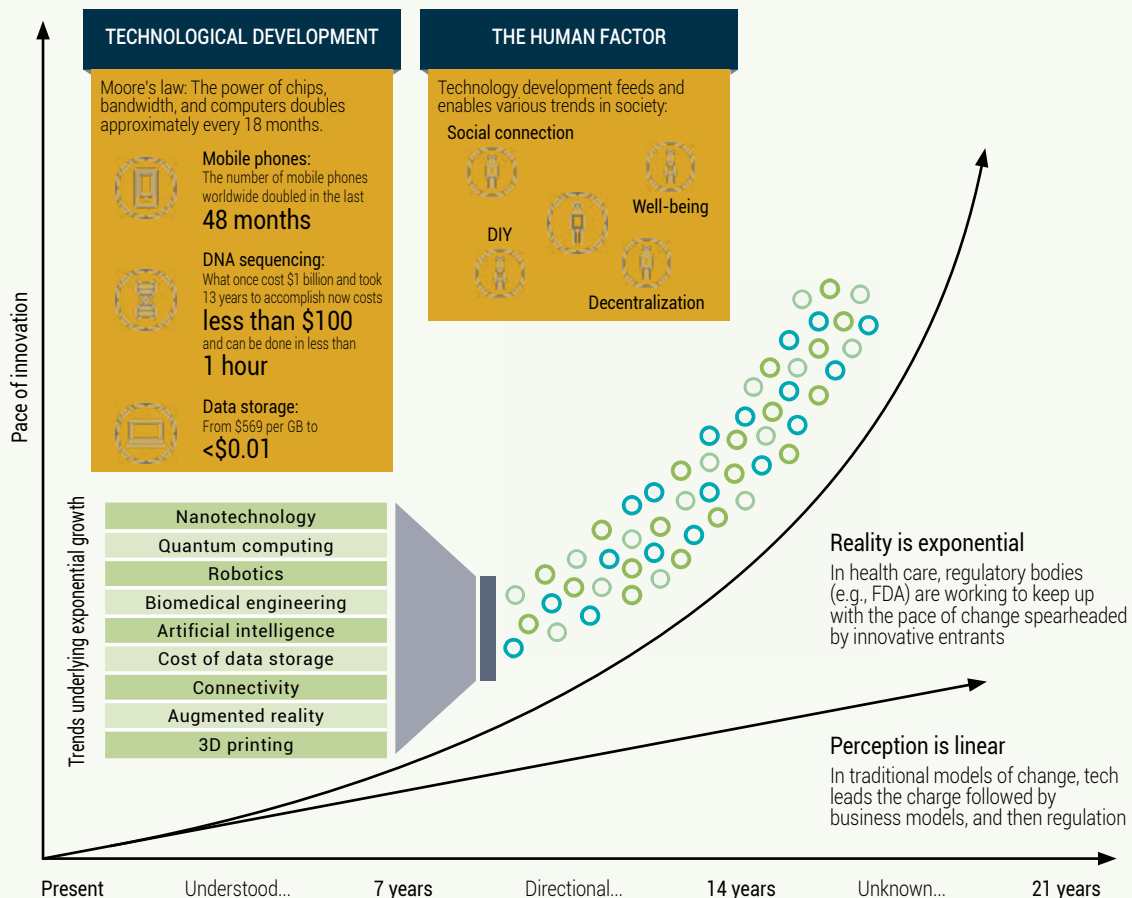
1. Data is captured passively via medical-grade wearables
2. A provider, nurse, or PA reaches out if there is an anomaly
3. Provider already has historical dataset of relevant biomarkers

Enhancing patient experience is regarded as a potential driver of hospital performance, since it can strengthen customer loyalty, build reputation and brand, and boost utilization of hospital services through increased referrals to family and friends. Standing at the epicenter of the new health care value system will be informed and empowered consumers—change agents and active caretakers of their health who have high expectations of the health care ecosystem. Not only will they have access to detailed information about their own health, they will own their health data and play a central role in making decisions about their health and well-being. These consumers will flip the switch away from a system of sick care, in which we treat patients after they fall ill, to one of health care, which supports well-being, prevention, and early intervention. In such a universe, health will be defined holistically as an overall state of well-being encompassing mental, social, emotional, physical, and spiritual health.

## The emergence of digital tools will enhance customer experience<sup>†</sup>

Perhaps even before 2030, streams of health data will create a multifaceted and highly personalized picture of every consumer's well-being. Today, wearable devices that track our steps, sleep patterns, and even heart rate have been integrated into our lives in ways we couldn't have imagined just a few years ago. The next generation of sensors, for example, will move us from wearable devices to invisible, always-on sensors that are embedded in the devices that surround us. Always-on biosensors and software are being incorporated into devices that can generate, gather, and share data. Advanced cognitive technologies could be developed to analyze a significantly large set of parameters and create personalized insights into a consumer's health. The availability of data and personalized AI can enable precision well-being and real-time micro-interventions that allow us to get ahead of sickness and disease progression.

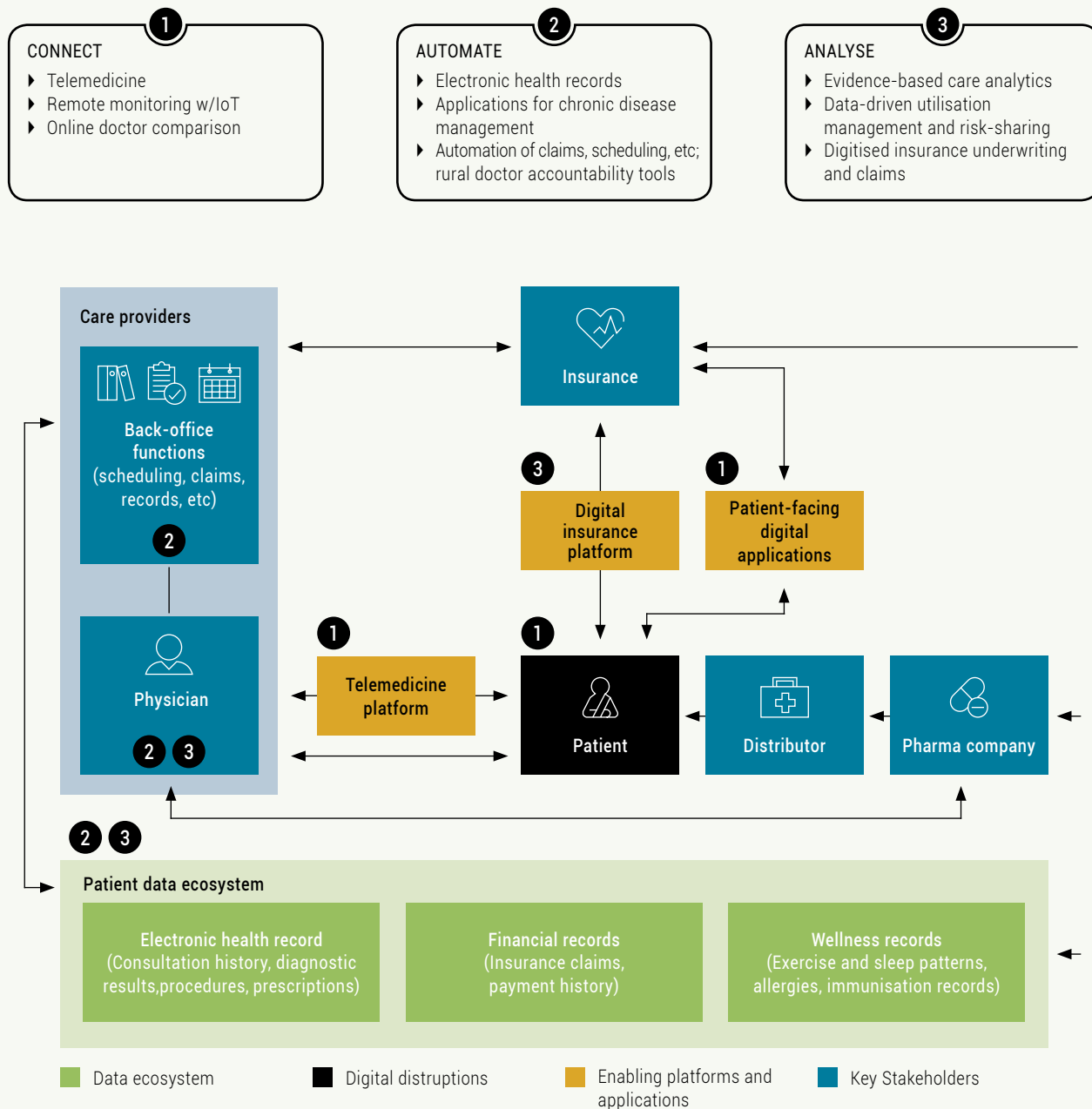
## Exponential change will accelerate the pace of disruption in healthcare delivery



## TECHNOLOGY LED HEALTHCARE DELIVERY

Technological innovations will fundamentally change the nature of healthcare delivery by better connecting people with services, automating routine tasks, and analysing patient data to improve care decisions.

### Healthcare in the future: digital technologies enable seamless care centered on patients <sup>1</sup>



<sup>1</sup> This schema imagines how the Indian healthcare landscape could look in five to ten years if digital applications were widely adopted. This would require an open and interoperable electronic health record ecosystem, clear guidelines about data ownership and privacy, the wide availability of broadband connectivity in rural areas, and rules about who can see records.

Note: Applications in italic type are explored in depth in this report.

Source: McKinsey Global Institute analysis

## Telemedicine will drive healthcare into every nook and corner of India's rural geography

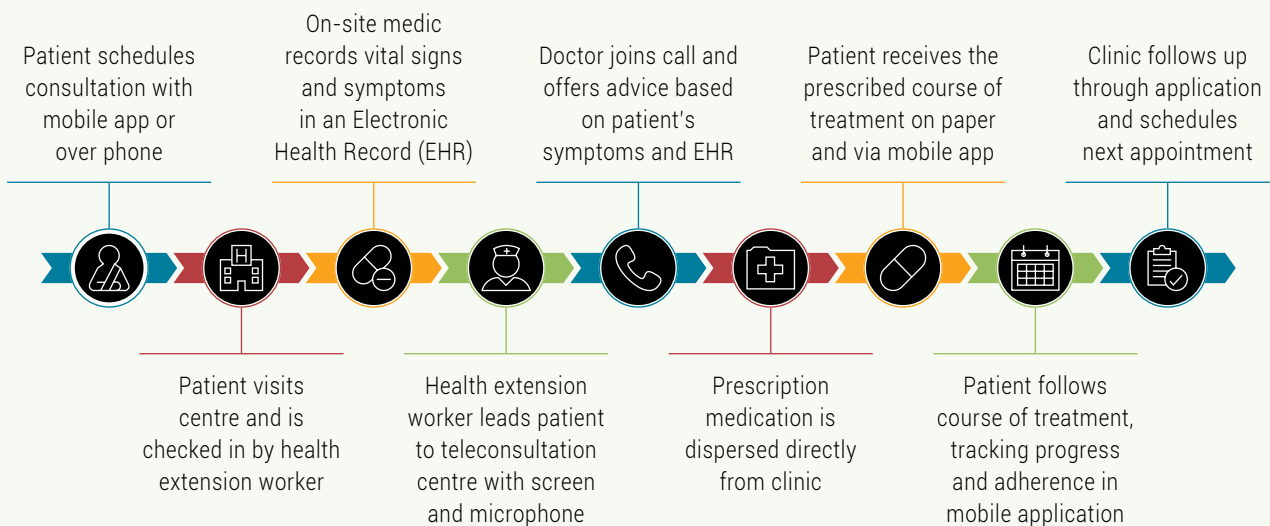
In a small rural hospital, physicians treating stroke victims have one goal: to minimize the damage to their patients' nervous system and avoid permanent disability. Being in a remote location and operating on a limited budget, though, can make it hard for the hospital to attract the talent needed to provide effective care.

But a move toward value-based healthcare is pushing hospitals and health care networks to rethink their business models for improving care, while lowering costs. Instead of ordering tests or opting for multiple treatments, a small rural hospital can tap into a team of highly trained neurologists through a telemedicine program. These doctors can help onsite physicians assess patients and manage treatment plans better, thereby improving results.

Telemedicine technology includes any digital communication between patients, doctors, specialists, and clinical staff, whether via an HQ video link at a local Common Services Centre or a discussion on a mobile phone. These virtual visits offer a cost-effective way to deliver medical care, in rural areas with relatively few hospitals and little or no physical access to specialists. The growth of smartphone ownership and spread of broadband internet connectivity are creating a large untapped market for telemedicine consultations.

### Remote consultations can redefine patients' primary healthcare experience

*Illustrative patient experience in a rural remote medicine clinic with health-extension worker*



Source: McKinsey Global Institute analysis



## **Application-based chronic disease management can help people with diabetes, hypertension, and other ailments adhere to their treatment plans**

Affordable smartphones and increased internet connectivity across India provide an opportunity for medical professionals to engage directly with their patients, use digital chronic disease management apps to monitor and measure how well they are following their courses of treatment, and nudge them as needed to take their medicine, exercise, or eat healthy. Applications are not a replacement for doctors but can serve as a powerful complement to doctor-directed courses of treatment.

## **Evidence-based care enabled by data and analytics can improve outcomes**

Lack of suitable diagnostic tools in clinics and rural health centres compromise the quality of healthcare in rural India. Evidence-based care facilitated by the availability of accurate data allows doctors to supplement their clinical expertise with the best recent research. Care delivery will become even more sophisticated through the use of advanced analytics and AI-powered software to diagnose patients by analysing images, blood samples, and genome sequencing, which can provide an optimal and personalised course of treatment.

## **The future of health will be driven by digital transformation enabled by interoperable data and open, secure platforms**

Data about individuals, populations, institutions, and the environment will be at the heart of the future of health. By 2030, highly trained health professionals will be able to devote more time to patients who have complex health conditions. Data and technology will empower consumers to address many routine health issues at home. The consumer—rather than health plans or providers—will determine when, where, and with whom he or she engages for care or to sustain wellbeing.

## **Healthcare is coming to more everyday places, including into homes<sup>†</sup>**

The Homecare industry has steadily grown and become a key part of the overall continuum of care thanks to its ability to keep older adults safely at home and out of the hospital. Traditionally, “Homecare” has been viewed more as nursing assistance, home services for blood tests, physiotherapy services, etc. But now Homecare offers specialized care programs for heart failure, COPD, dementia and other complex conditions. This trend helps to significantly lower healthcare costs while influencing early recovery and faster recuperation.

Home healthcare is growing in importance, especially for the elderly. As more data is generated at home via consumer diagnostics, wearables, etc. it might become normal to see more health professionals come to the homes of high-risk individuals.

<sup>†</sup> CB Insights.

## **Doctors can select the appropriate treatment based on a genetic understanding of the disease**

Precision medicine, also called personalized medicine, is an approach to patient care that allows doctors to select treatments that are most likely to help patients based on a genetic understanding of their disease. Precision medicine is “an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment, and lifestyle for each person.” This approach will allow doctors and researchers to predict more accurately which treatment and prevention strategies for a particular disease will work in which groups of people. It is in contrast to a one-size-fits-all approach, in which disease treatment and prevention strategies are developed for the average person, with less consideration for the differences between individuals. The potential long-term benefit of precision medicine is the wider ability it gives doctors to use patients' genetic and molecular information as part of routine medical care. It also improves their ability to predict which treatments will work best for specific patients.

## **Molecular genomic technologies can characterize genes and inherited disease to provide accurate diagnosis**

Molecular diagnostics is a term used to describe a family of techniques used to analyze biological markers in an individual's genetic code (genome) and to analyze how their cells express their genes as proteins. It is the detection of genomic variants aiming to facilitate detection, diagnosis, sub-classification, prognosis, and monitoring response to therapy. Molecular diagnostics is the outcome of the fruitful interplay among laboratory medicine, genomics knowledge, and technology in the field of molecular genetics, especially with significant discoveries in the field of molecular genomic technologies. All these factors contribute to the identification and fine characterization of the genetic basis of inherited diseases which, in turn, is vital for the accurate provision of diagnosis. High-throughput methods, such as next generation sequencing provide invaluable insights into the mechanisms of disease, and genomic biomarkers allow physicians to not only assess disease predisposition, but also to design and implement accurate diagnostic methods and to individualize therapeutic treatment modalities. Molecular diagnostics are increasingly being used to guide patient management, from diagnosis to treatment, particularly in the fields of cancer, infectious disease, and congenital abnormalities.

## **Risk factors can be minimized favourably by detecting illnesses early**

A Preventive Health Checkup aims to identify and minimize risk factors in addition to detecting illnesses at an early stage.

Regular health exams and tests can help find problems before they start or early enough when chances for treatment and cure are better. By getting the right health services, screenings, and treatments at the right time, chances for living a longer, healthier life are better.