



Confederation of Indian Industry

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# *The healthcare agenda*

## *Stakeholder collaboration for the way forward*

December 2015



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The need of the hour is to identify and strengthen the support pillars of healthcare delivery systems. These may include production of quality manpower, technology-enabled solutions like mobile health and adoption of low-cost drugs and vaccines. While some models are already in place, the scale at which they can be utilised needs to be explored. Going forward, the action agenda is to foster a multi-stakeholder collaborative approach with a common objective of providing healthcare to masses. The government may leverage the private sector for strengthening secondary and tertiary care levels. To achieve this, we need to break barriers and think beyond the traditional approaches and implement innovative solutions in the Indian health system.



**Naresh Trehan**  
Chairman, CII Healthcare Council and  
Chairman and Managing Director, Medanta—The Medicity

## Section 1



# Introduction

# Health at the heart of economic, political, social and environmental prosperity

Four of the Eight UN Millennium Development Goals (MDG) are healthcare related.

WHO in its constitution defines health as ‘a state of complete and physical, mental and social well-being and not merely the absence of disease or infirmity’.

Health remains a **major political issue** in the developed and developing countries as evidenced by elections in **Brazil, India, Japan, the US, Turkey and the UK.**



Health represents **12.4% of GDP** in Organisation for Economic Cooperation and Development (OECD) countries. However in India it is only 4%.<sup>1</sup>

Significant **economic returns** and **social benefits** derive from **investing in health.**

**Health and health equity** are **integral** to **public policies** of all sectors.

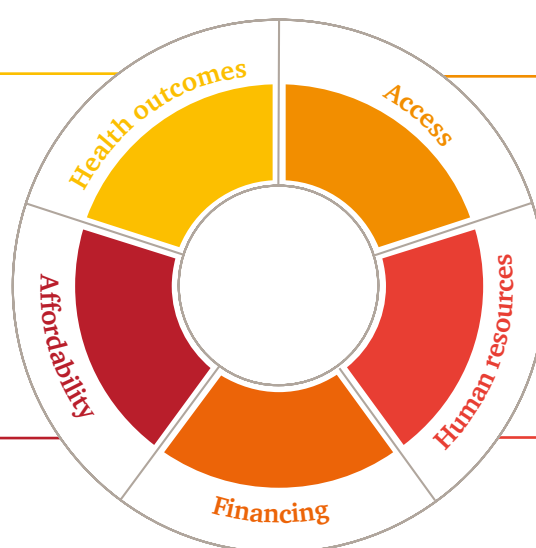
**Reductions in mortality** account for **11%** of recent growth in **low- and middle-income countries.**<sup>2</sup>

## Key objectives for healthcare service delivery

Infant mortality rates in lower-middle-income countries are eight times higher than those of high income countries.

Out-of-pocket expenditure on health is 89% in lower-middle-income countries.

Globally, per capita expenditure on health has increased from 597 USD in 2000 to 1,173 USD in 2012.



For every 1,000 individuals, China has five hospital beds compared to 0.6 beds in Bangladesh.

Only 33% of Indian doctors are present in rural areas.

36% of births in Afghanistan are attended by skilled health personnel.

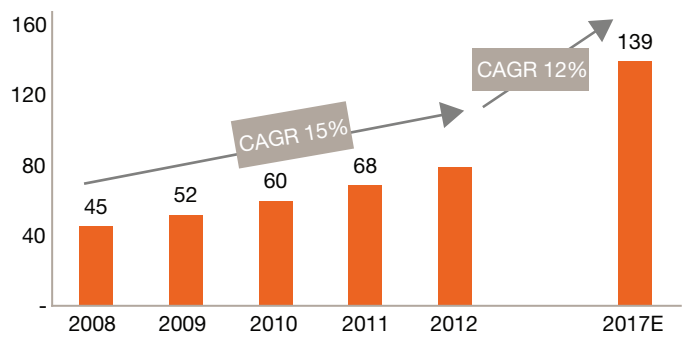
Average spending (% of GDP) on health by lower-middle-income countries is 4%.

1. World Bank. Health Expenditure, total (% of GDP)

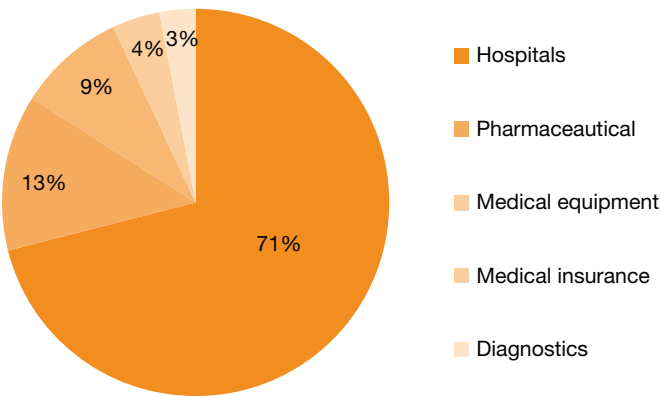
2. Jamison, D.T., et.al . Global health 2035: A world converging within a generation, The Lancet (2013)

# Indian healthcare industry is likely to witness sizeable growth

Market size of healthcare industry in India (billion USD)



Segment-wise split of healthcare industry (2012)



## Key growth drivers for healthcare sector in India



Favourable demographics



Increasing incidences of lifestyle diseases



Emerging middle class and rising healthcare consumption



Growing health insurance penetration



Increased investments from PE funds



Medical value travel advantage



Diversifying delivery models



## Section 2



Where are we?

## Reality check

### India today

#### Health infrastructure and technology



0.9 hospital beds per 1,000 population\*

#### Life expectancy



Life expectancy at birth is 65 years for males and 68 for females.

#### MMR



66% reduction in MMR between 1990-2015

#### Mortality rates



Mortality rates for communicable diseases is 253 and for non-communicable diseases is 682 per 1,00,000 population.

#### Drinking water



77% reduction in proportion of population with no access to drinking water between 1990-2012

#### Workforce density



7 physicians, 17.1 nurses and midwifery personnel, 5 pharmaceutical personnel per 10,000 population.

#### Sanitation



22% reduction in proportion of population with no access to improved sanitation

#### Health Expenditure



Government spends only 4.3% of its total expenditure on health which is 3.8% of GDP; private sector contributes 69.5% and government contributes 30.5% to expenditure on health. Out of the 69.5%, 87.2% is OOP; and out of the 30.5%, 6.5% is on social security.

Source: World Health Statistics 2015

## Snapshots from Indian healthcare

1. 30% Indians do not have access to primary healthcare facilities.
2. 39 million Indians fall below the poverty line each year because of healthcare expenses.
3. 70% of India's healthcare infrastructure is limited to the top 20 cities.
4. 30% people in rural India do not visit hospitals fearing the expenses.
5. India accounts for 21% of the global disease burden.
6. NCDs constitute 63% of overall disease burden in India and shall impact the economy to the extent of 23,000 crore INR within a decade.
7. India needs to add at least 6,50,000 beds by 2017, requiring a capital investment of 1,62,500 crore INR by 2017.
8. Medicines constitute the highest share in consumer expenditure ~64% in public and 34% in private sector.
9. Rural India accounts for 70% communicable diseases and over 50% non-communicable diseases.
10. Healthcare needs of 47% of rural India and 31% of urban India are financed by loans or sale of assets.

## Section 3



# Building partnerships: Stakeholder collaborations for healthcare



## Stakeholder collaborations

- Changing economic environments and technologies have made significant changes in the healthcare systems.
- Immense potential for collaborations between stakeholders by combining strengths; improving weaknesses; exploring opportunities; and managing threats.
- Collaborations are intensive procedures that require long-term relationships, trust, strong structures and rich resources and are often difficult to maintain.
- Estimates by Kreuter and Lezin (1998) show that more than half of such partnerships fail in the first year of formation, and the rest fail in plan development and implementation later.

## Who are the healthcare stakeholders?



- Consumers and patients include receivers of care. These may include individuals, groups of individuals or communities
- Providers include individual caregivers and healthcare professionals and healthcare institutions/organisations. These may include the pharmaceutical industry and medical device industry.
- Purchasers or payers include institutions that pay or purchase services for individuals or group of individuals or communities.
- Policymakers include the state; non-state organisations and individuals that may influence the process of policymaking. These may include advocacy organisations and research institutions.

# Benefits and drivers to consider a partnership

## Typical drivers



### Infrastructure

To expand capacity and/or replace aging public facilities



### Technology and processes

For improved information technology systems



### Financing

To leverage private financing when government is facing budget constraints



### Service capacity

To leverage the private sector for clinical and nonclinical service provision



### Access to skills and human resources

To harness private sector skills to improve processes and for better human resource management

## Benefits offered by private sector



## The partnership mechanism



Reduce risk of private investment and ease barriers to enter into new markets.

Public sector

Private sector

Health systems



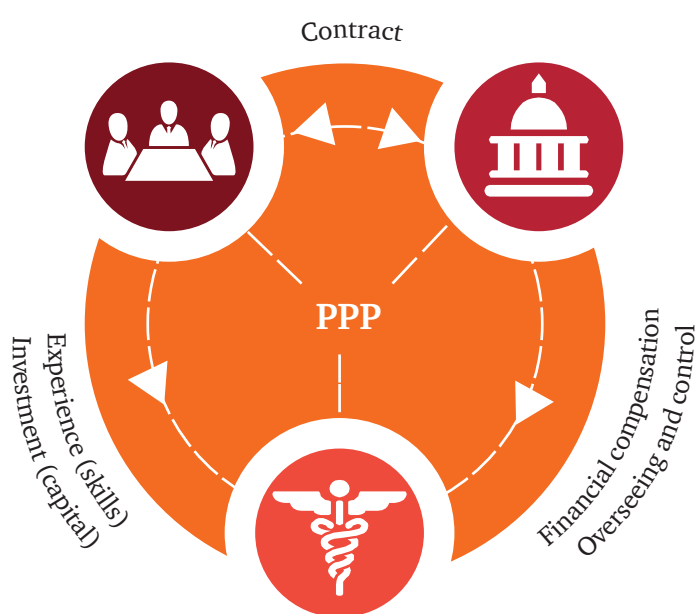
Enable governments to leverage private sector expertise and investment.



Improve health infrastructure and service provision.

## What is a public-private partnership?

A partnership between the public and private sectors whereby each party exchanges skills or assets and accepts the risks they are best able to bear.



### Recent PPP models in India

Super speciality hospitals and medical colleges

Dialysis centres

Radiology centres

Mobile medical units

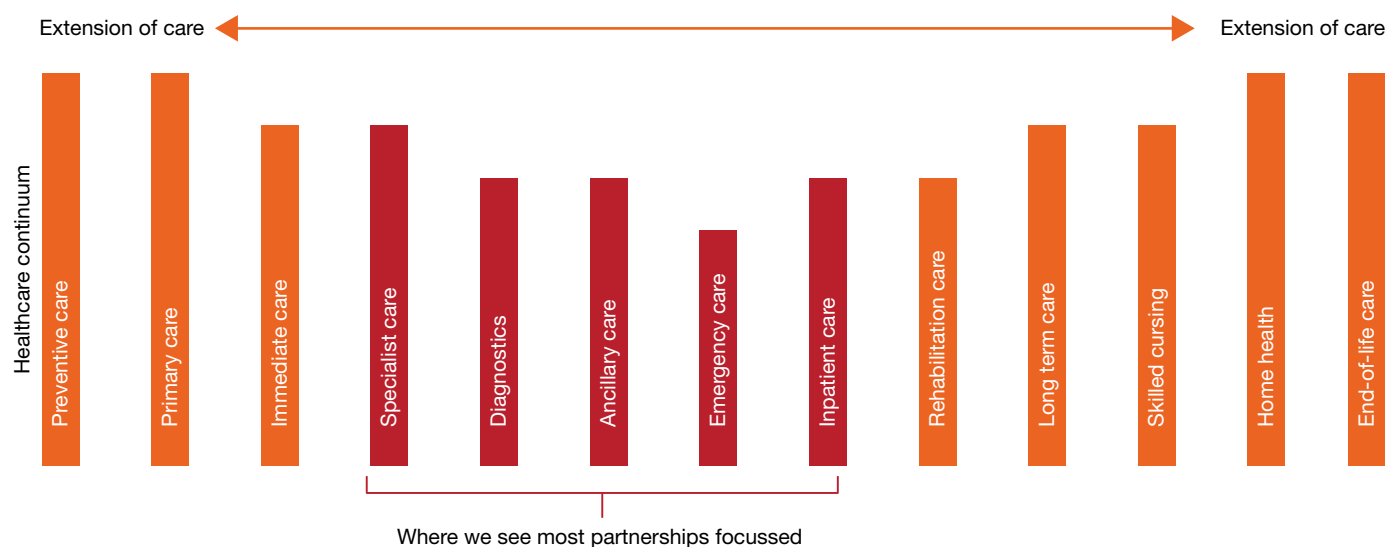
Primary health centres

Skill development for HR

## Engaging with equity, access and efficiency

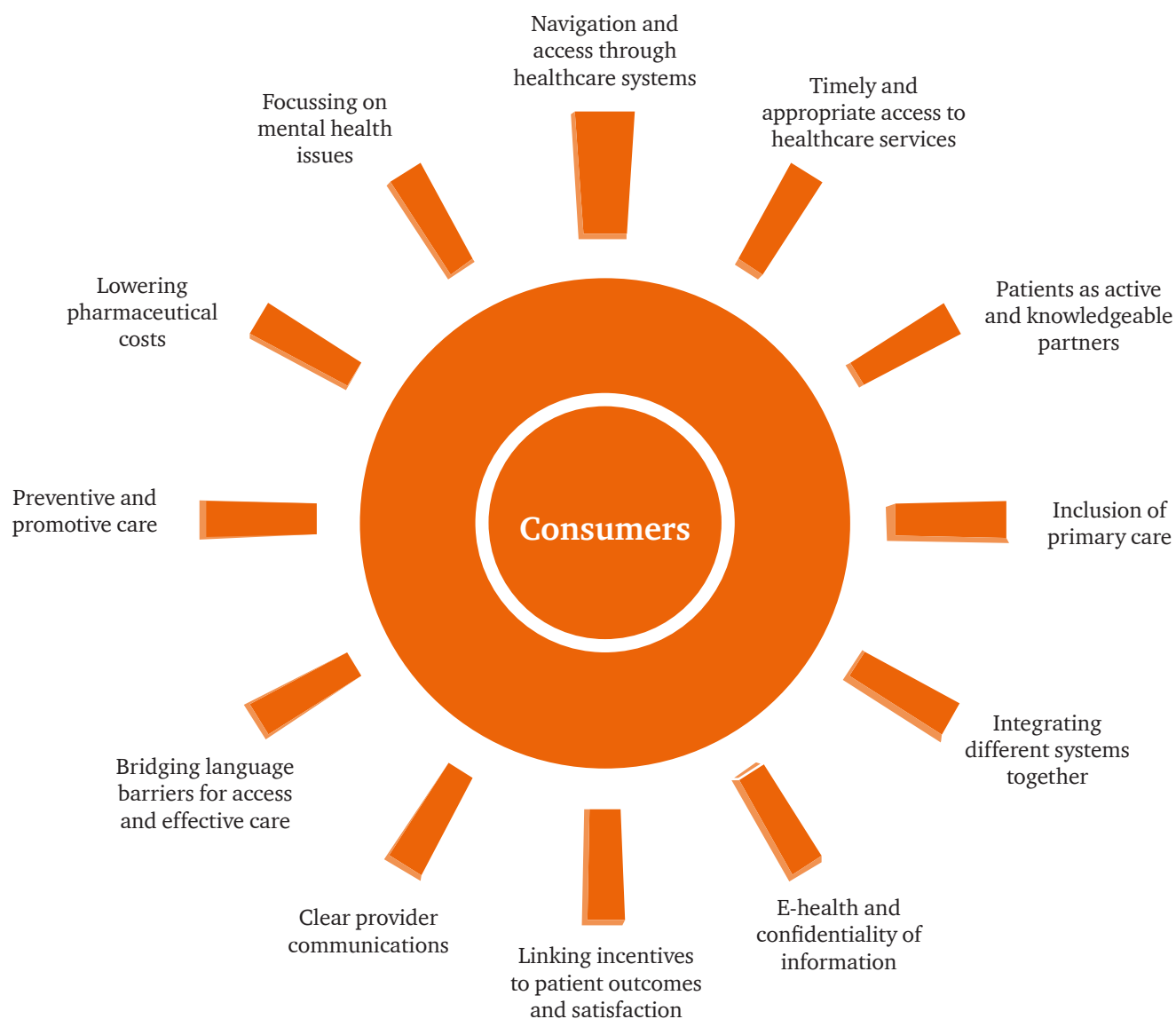
Goal	How partnerships help achieve these goals	Challenges faced
<b>Equity:</b> Absence of systemic disparities in health	<ul style="list-style-type: none"> <li>Better quality of services improve health outcomes among socially and economically disadvantaged groups</li> </ul>	<ul style="list-style-type: none"> <li>Focus on tertiary hospitals favour urban areas and limits reach to rural areas</li> <li>Technology innovations favour individuals who are more educated</li> </ul>
<b>Access:</b> Increasing access of healthcare services	<ul style="list-style-type: none"> <li>Private sector expertise in design, build, maintenance and operation can increase volume of services provided</li> </ul>	<ul style="list-style-type: none"> <li>Already high cost of PPPs as a procurement tool can leave less funding for costs beyond infrastructure</li> </ul>
<b>Efficiency:</b> Higher level of impact with less resources	<ul style="list-style-type: none"> <li>Private sector expertise</li> <li>Outcome-based incentives encourages higher performance</li> </ul>	<ul style="list-style-type: none"> <li>Poor contract management and unclear roles of partners impacts efficiency of project</li> </ul>

## Potential for future endeavours: Types of care





# Potential for future endeavours: Consumers as partners



Source: PwC's Report on Citizens' Reference Panel in Ontario (2011)

# Key message

Stakeholder collaboration is ‘a process through which parties who see different aspects of a problem can explore constructively their differences and search for solutions that go beyond their own limited vision of what is possible.’

– B. Gray on Collaborating, San Francisco (1989)



...need collaborations in the form of:



## Section 4



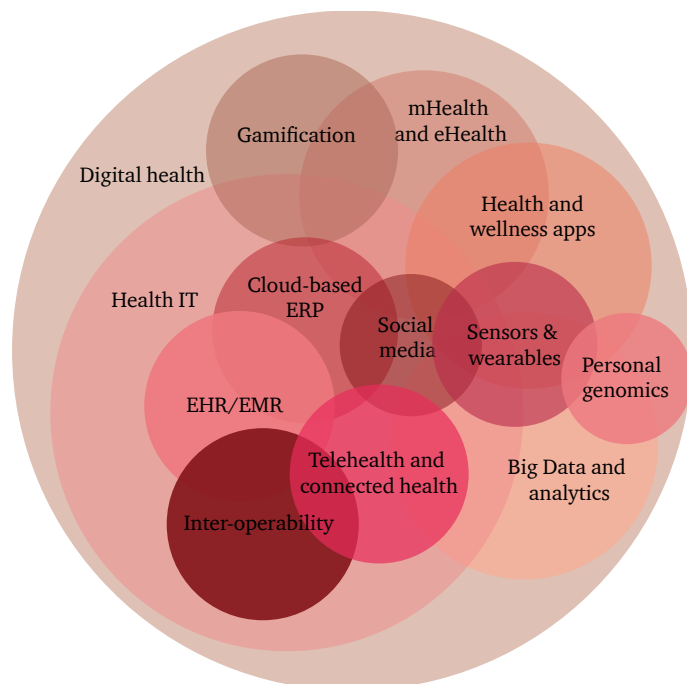
# Digital India: The Winning Leap

## Digital health

- As the world pivots closer to the ‘virtualisation of care’, amazing breakthroughs occur erasing the healthcare boundaries and enabling care through mobile, digital, and wireless technologies.
- Digital health technologies have the potential to transform the way healthcare is delivered and help governments analyse Big Data to identify unmet need and measure outcomes in a precise manner.
- mHealth applications can be a game changer for the Indian healthcare sector. By the end of 2015, India’s Internet users are expected to reach 400 million.
- Collaborations have begun to bridge the technology gap in healthcare. The central government has recently announced the opening of 60,000 telemedicine centres in partnership with Apollo Hospitals.
- Additionally, majority of private hospitals are adopting various technologies focusing on improving patients experience.

## Digital health ecosystem

### Digital health components



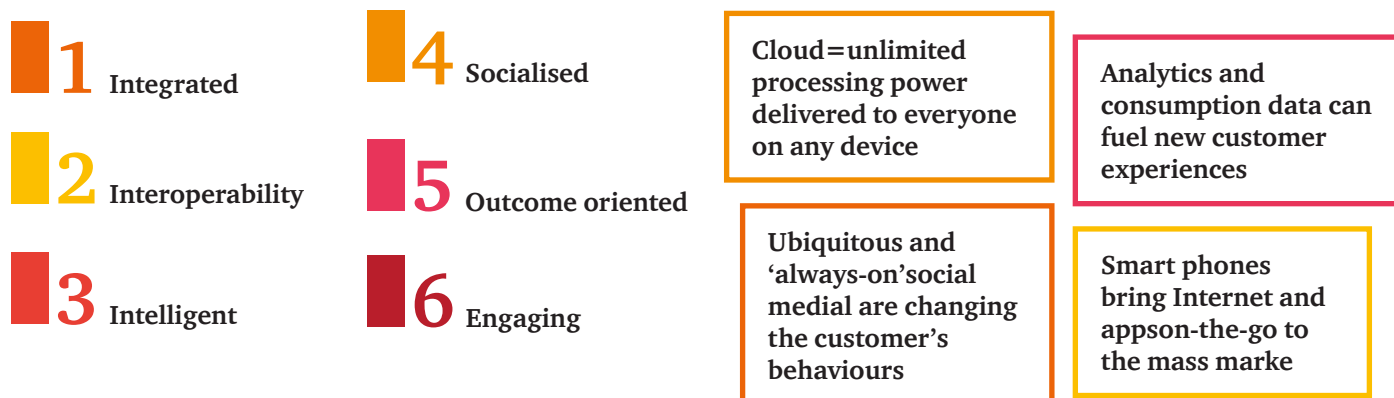
### What does it mean for healthcare:

- Improve access
- Quality care
- Better information
- Better patient outcomes
- Increase patient engagement
- Enhance information flow



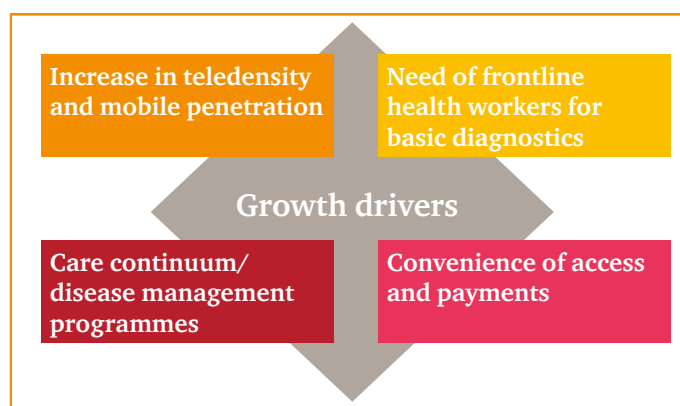
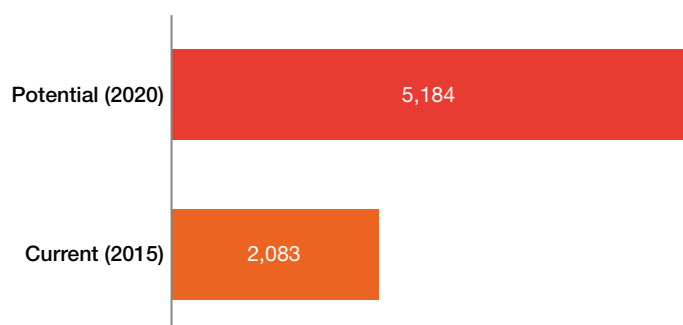
## Advancement in technology shaping the future

### Characteristics of digital health



## Increased mobile connectivity is expected to drive the growth of mobile health in India

Mobile health addressable market (crore INR )



#### Key market trends

- Mobile health services, which initially began as **fitness apps**, have now expanded to include doctor appointments, medical services search, preventive care, diagnostics.
- mHealth market potential is expected to be dominated by the monitoring & diagnosis segment.
- The mobile health market is witnessing various operating models. Currently many of these models are in the pilot stage.



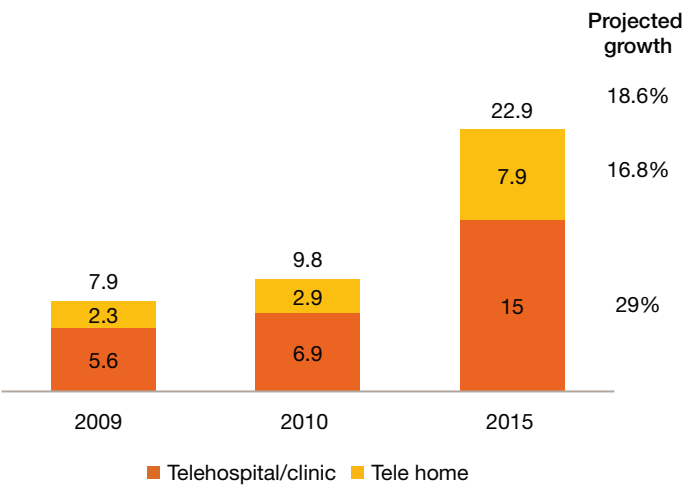
#### Critical success factors

- The mobile health market has to move from being an enabler of telemedicine services to being a comprehensive solution encompassing the entire healthcare value chain including appointments, monitoring, diagnosis, consultation, pharmacy and insurance.

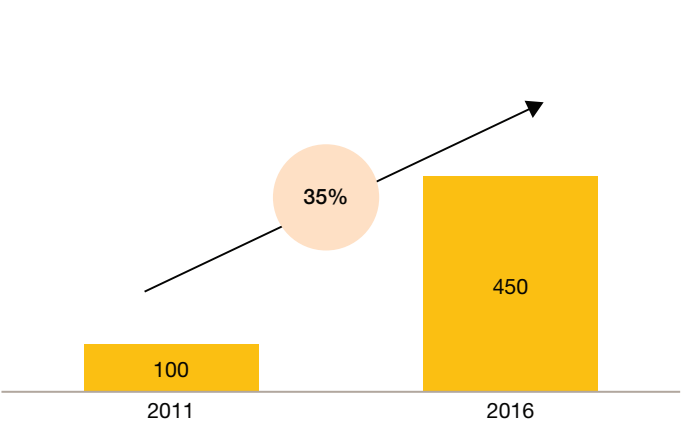
Source: Touching lives through mobile health: Assessment of the global market opportunity; GSMA-PwC Report

# Telemedicine is a big opportunity today

Global telemedicine market (billion USD)



India telemedicine market (million USD)



## Pillars of telemedicine

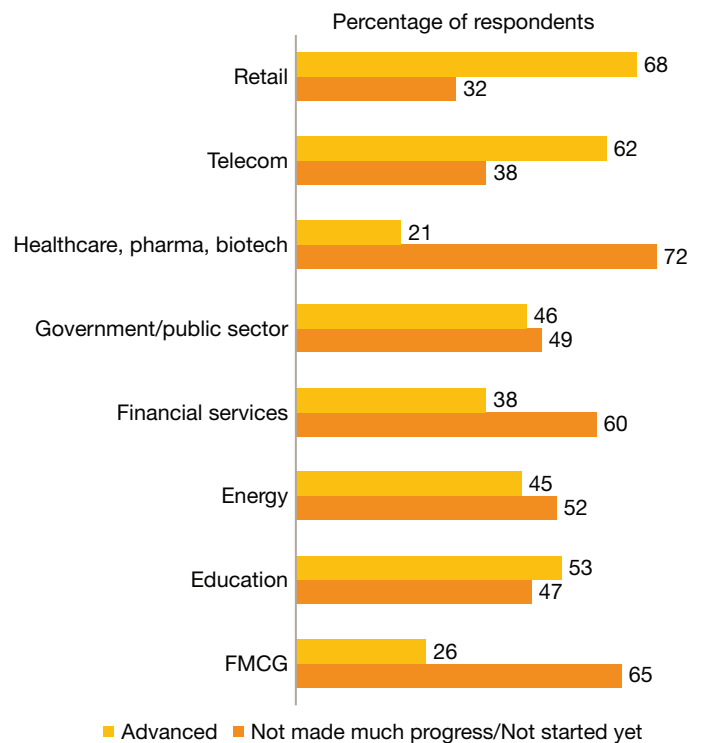


## Key growth drivers for India

Lack of disease management framework	Low cost and wide reach over satellite
Lack of healthcare facilities in far-off regions	Reduced technology cost and availability of qualified technical personnel
Shortage of qualified medical professionals	Increased government focus on healthcare for all
Urban-rural divide in medical facilities	Dedicated satellite for health communications from ISRO
National telemedicine grid	PPP model for development of healthcare infrastructure

## Big Data analytics

- Big Data analytics analyse large unstructured data to generate meaningful insights
- Businesses around the world are adopting this concept to understand their consumers better
- EIU Asia Pacific survey on Big Data adoption by sectors has shown that healthcare is yet to fully adopt the concept of Big Data analytics.
- Big Data applications hold tremendous potential in the health sector today. As per estimates, business intelligence software is expected to reach 150 million\* USD by the end of this year.
- Predictive modelling techniques can help in identifying the pattern of diseases or epidemics in a region and improve public health surveillance systems.



## Health IT ties disparate healthcare trends together

### Healthcare providers

- Larger, integrated delivery network
- Medical homes or ACOs
- Increased mandates, outcomes and evidence-based care
- Aging population
- Chronic diseases
- Issues related to affordability, quality and equal access

### Government

- Healthcare reform
- Unsustainable healthcare costs (as a % of GDP) and rising
- Health information exchanges (national and regional)
- Adoption of health IT or 'meaningful use' requirements

### Growing health IT market

Source: EIU \*Gartner

### Economics

- Competitive hospital margins
- Rise in health insurance with major government initiatives like FDI and account linked insurance schemes
- Administrative inefficiencies and uncoordinated care
- Movement towards a consumer-centric marketplace

### Technology

- Technologies enabling cost-effective, ubiquitous healthcare connectivity and computing
- Clinician access to data for diagnosis and treatment
- Access to software, infrastructure, storage and services everywhere
- Disparate systems integrated through a common portal
- With new tech platforms, disease knowledge management and user management are not restricted to large hospitals

## Health wearables: New dimensions of personalised healthcare



- Technology companies' interest in health and wellness has sparked the creation of a myriad of wearable devices, from fitness bands that monitor activity and sleep patterns to flexible patches that can detect body temperature, heart rate, hydration levels and more.
- These devices produce data that, often enabled with analytics, can be used by consumers to manage their health and by healthcare organisations to improve care and potentially reduce costs through systems such as remote patient monitoring.
- Data generated by personal devices can be used by insurers and employers to better manage health, wellness and healthcare costs and by pharmaceutical and life sciences companies to run more robust clinical trials and capture data to support outcomes-based reimbursement.
- Many consumers believe wearables can dramatically improve their health.
- The health wearables market in India is valued at approximately 30 crore INR.

### How wearables are impacting healthcare

- Better diet and exercise accountability
- Improved access to medical information
- Higher clinical trial participation
- More accurate diagnosis



## Section 5



# Sustainable development: Integrating smart cities and healthcare

## Urbanisation

~70% of the global population projected to live in cities by 2050

Pressing issues like lack of sanitation, air pollution, respiratory problems, communicable diseases, accidents and injuries



According to Census 2011, the urban population contributes 63% to the country's GDP.



By 2030, cities are expected to house 40% of the country's population and account for 75% of the country's GDP.

~80% of the global urban population to live in Asia and Africa and other emerging economies

Shift toward urbanisation occurring at a faster rate in developing countries



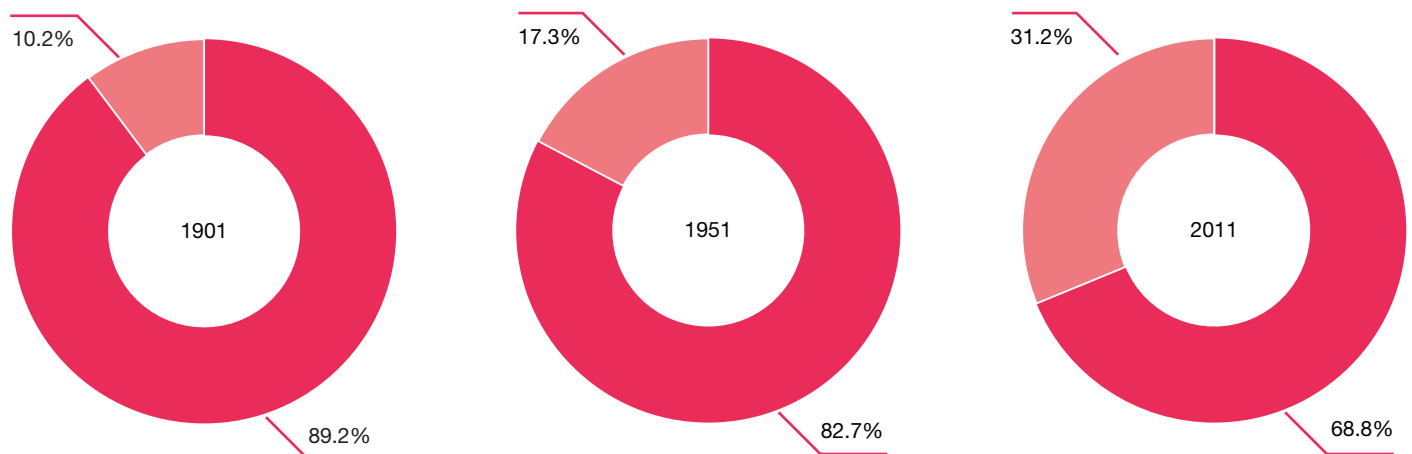
India will have more than 75 cities with a population of one million and 500 cities with a population of 100,000 by 2021 (Census 2001).



2-3-4-5 syndrome in India: In the last decade, India grew at an average annual growth rate of 2%—urban India at 3%, megacities at 4% and slums at 5-6%.\*

\*Chatterjee G. (2002). Consensus versus confrontation: Local authorities and state agencies form partnerships with urban poor communities in Mumbai

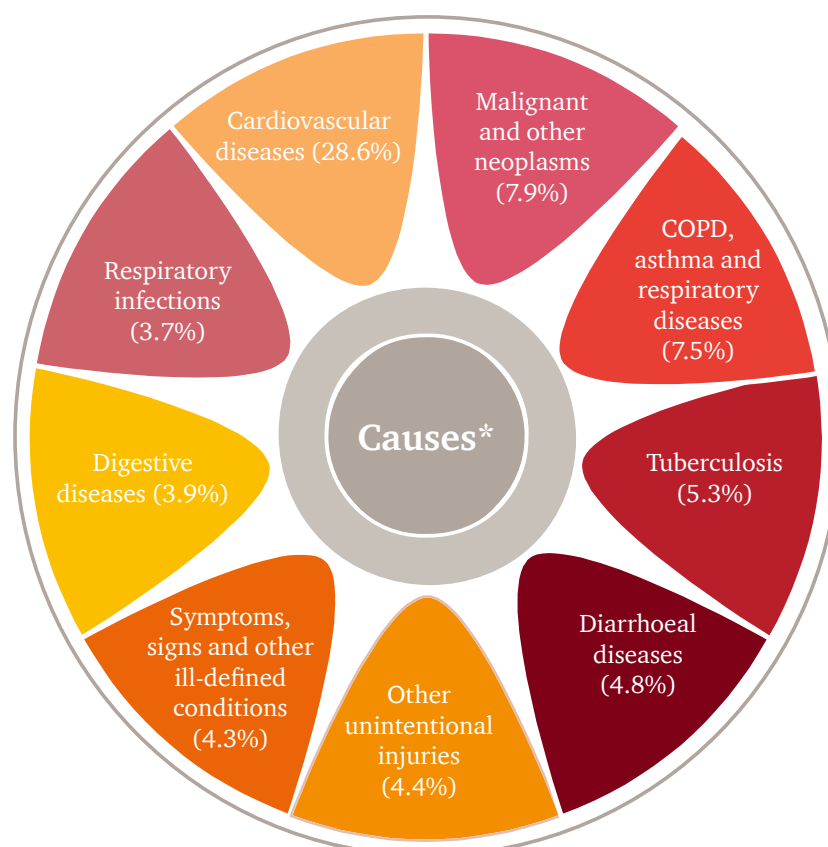
## Trends in urban population in India\*



- Approximately 31% of India's current population lives in urban areas and contributes 63% to India's GDP (Census 2011).
- With increasing urbanisation, urban areas are expected to house 40% of India's population and contribute 75% of India's GDP by 2030.

\*Census 2011

## Causes attributed to deaths in urban India



Registrar General of India. Report on causes of death in India 2001-2003, (2009)

## Urban health challenges

- It is important to be holistic, incorporating major determinants of urban health and differentiated health vulnerabilities of the urban population.
- Cities need ecosystem services in urban environments as well as urban fringe areas.
- Mutual interactions of society and environment in dense urban settings create complex relations and feedback mechanisms.
- Urban environments are heavily affected by air and water pollution and collapse of the waste management system.
- Urbanisation process is accompanied by a growing process of social polarisation.
- Rapid economic transitions lead to changes in lifestyles, giving rise to changing patterns of diseases.
- Growing population faces higher risks due to non-infectious diseases caused by 'modern' nutrition, lifestyle patterns and socio-cultural practices.

# What are smart and sustainable cities?

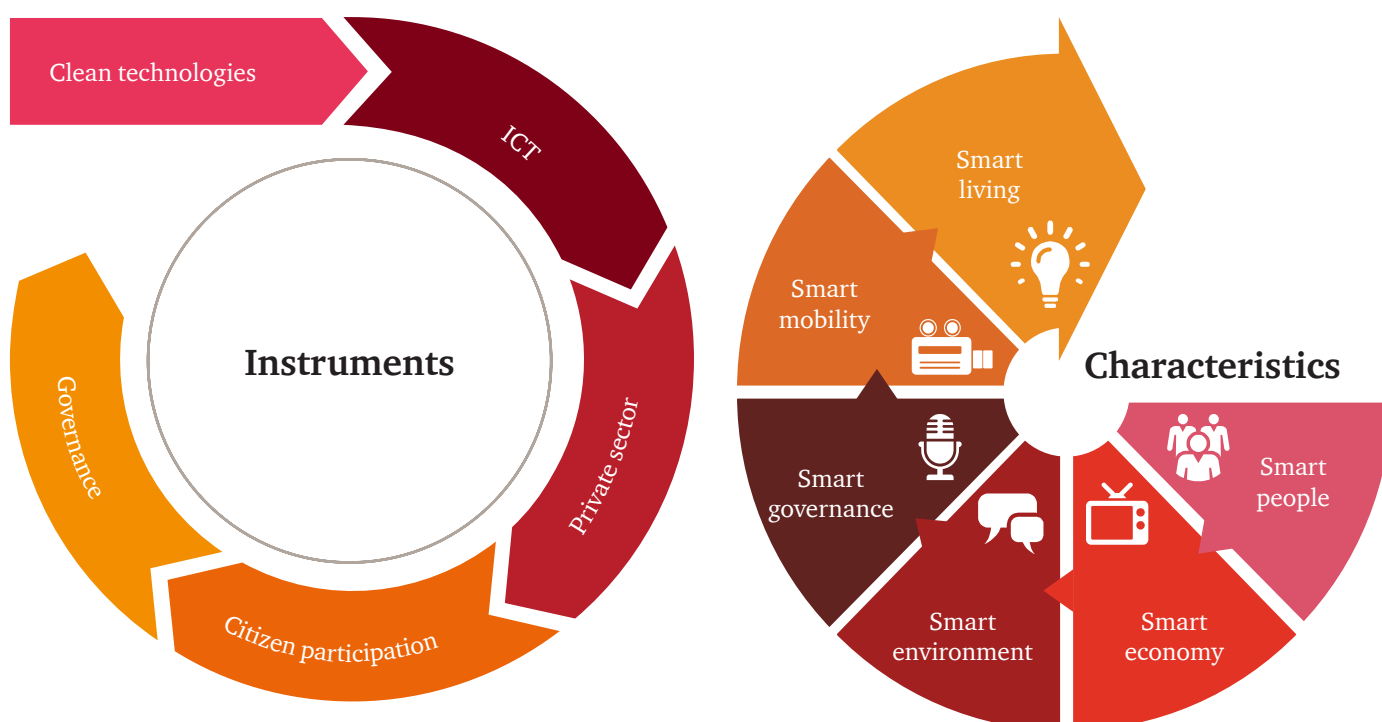
## Sustainable cities

‘Sustainable cities (SC) are resilient cities that can more readily adapt to, mitigate, and promote economic, social and environmental change.’ — World Bank

## Smart cities

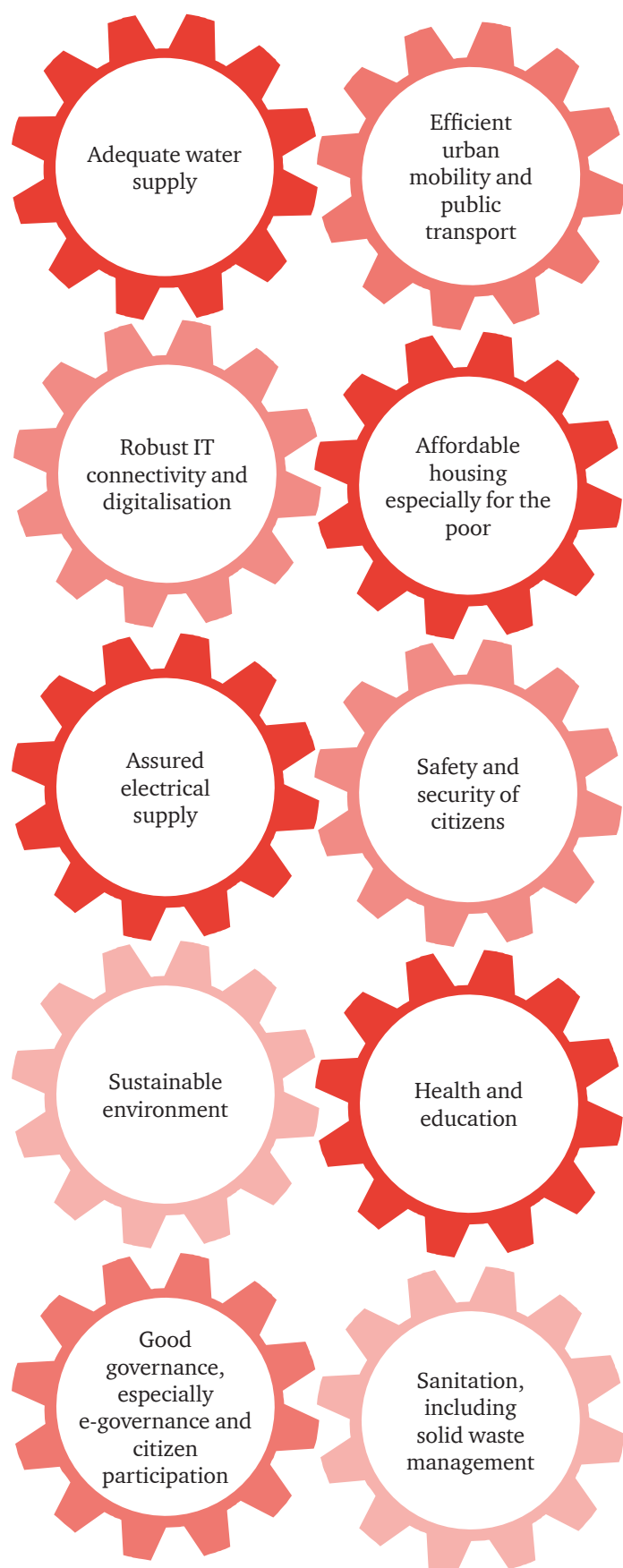
‘Smart cities leverage technology and utilise existing and planned infrastructure investments to provide a higher quality of living to residents, a conducive investment climate for businesses and allow maximisation of resource utilisation and transparency for governments.’ — Our concept

# What constitutes a smart city?





## Smart city components



## Smart healthcare solutions\*

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### Online portal, e-health cards and records

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Digitalising healthcare means easy access of patient information across all platforms possible



### Analytics

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Will include digital and diagnostic analytics



### Medical simulation

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Will include training of healthcare individuals using advanced technology



### Telemedicine

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Will result in easy access and services at the doorstep of the individual



### GIS-enabled services

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Will integrate, store, edit, analyse, share and display information within a geographical context



### Business process automation

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Convene all processes together and build a robust working system

\*NASSCOM, 2015

## Section 6



## Conclusion



# ■ The future of India

1



Digitalising healthcare means easy access of patient information across all platforms possible

2



Winning leaps in 10 key sectors

3



Corporate sector capabilities for the Winning Leap

4



Entrepreneur innovation and ease of doing business

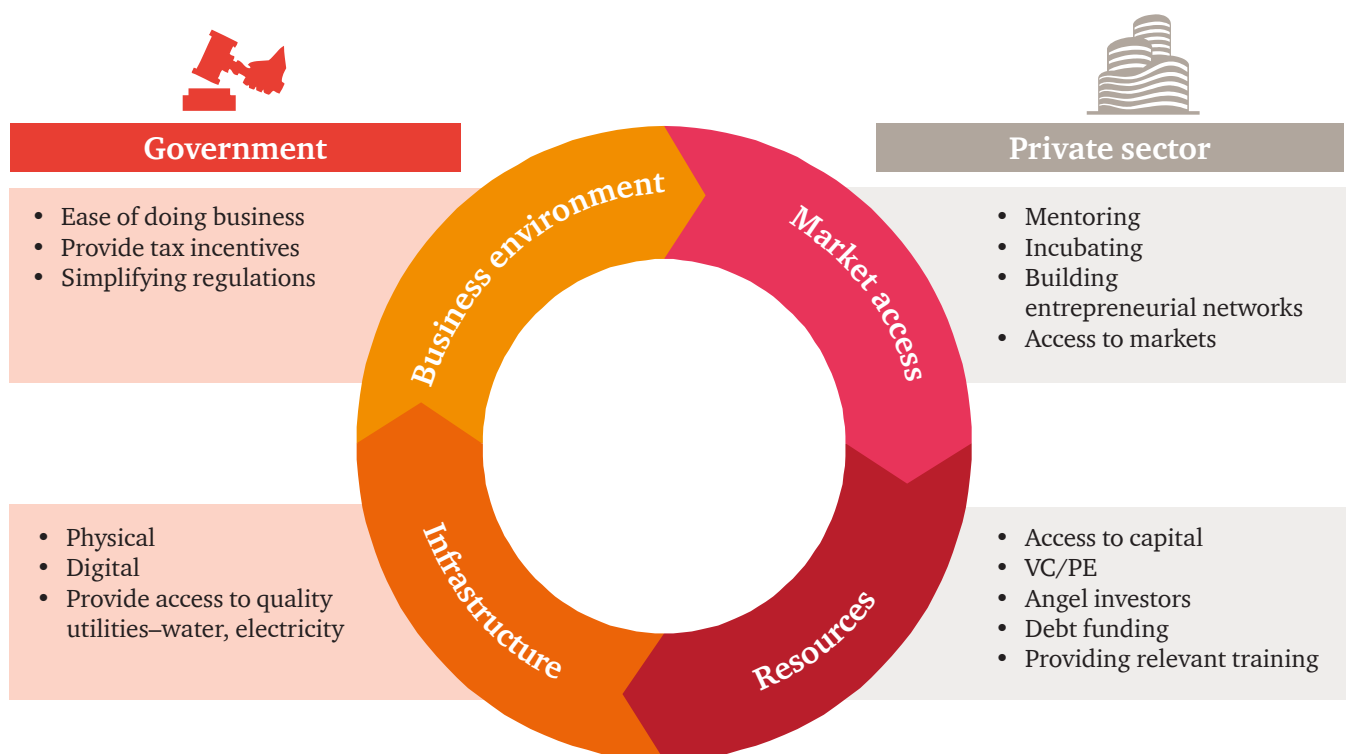
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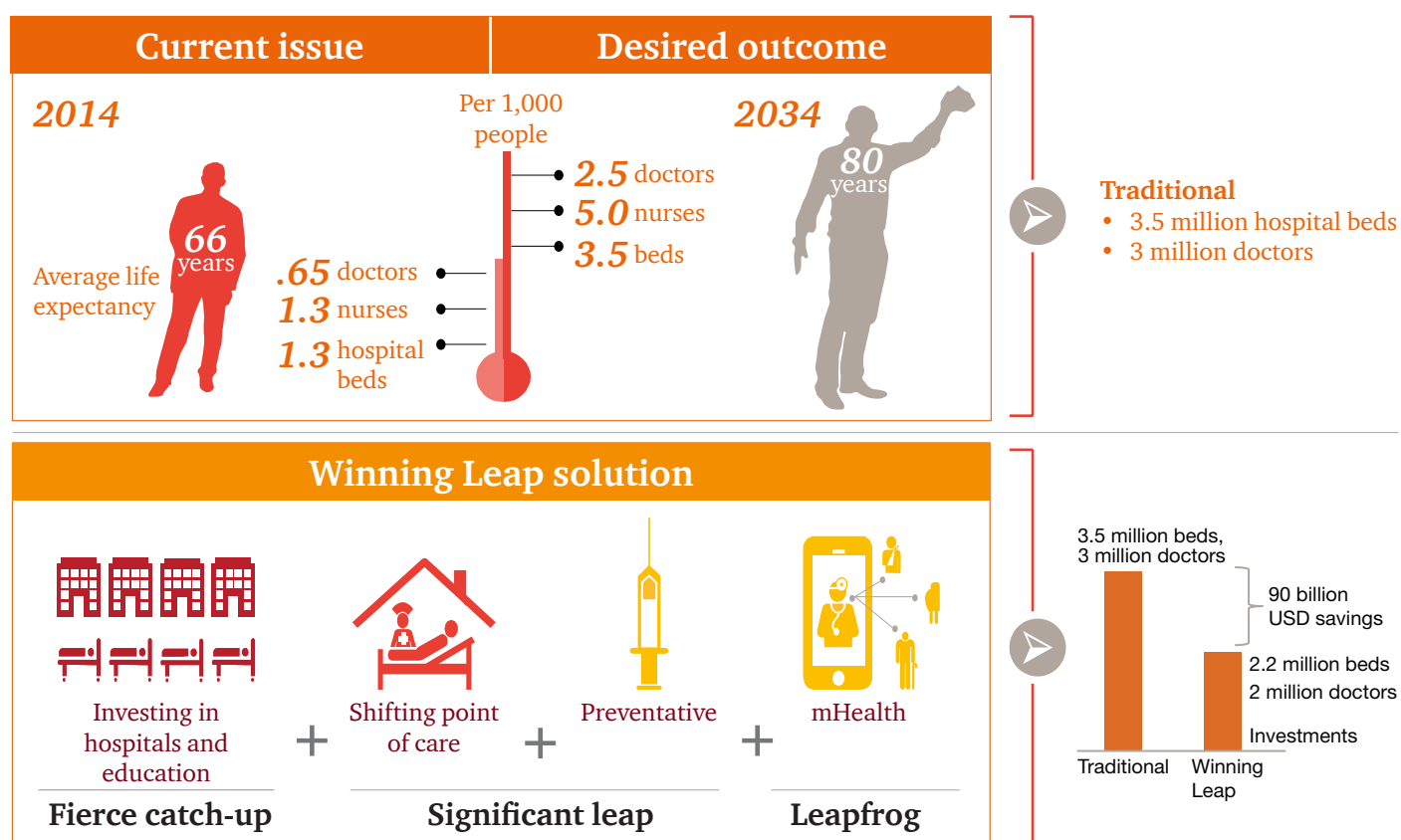
Key features of 10 trillion USD economy



## Stakeholder roles



## Desired outcomes in healthcare



# About CII

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The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering with industry, government, and civil society through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organisation, playing a proactive role in India's development process. Founded in 1895, India's premier business association has around 8,000 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 2,00,000 enterprises from around 240 national and regional sectoral industry bodies.

CII charts change by working closely with government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialised services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry in identifying and executing corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, healthcare, education, livelihood, diversity management, skill development, empowerment of women, and water, to name a few.

In its 120th year of service to the nation, the CII theme of Build India - Invest in Development: A Shared Responsibility reiterates industry's role and responsibility as a partner in national development. The focus is on four key enablers: facilitating growth and competitiveness, promoting infrastructure investments, developing human capital, and encouraging social development.

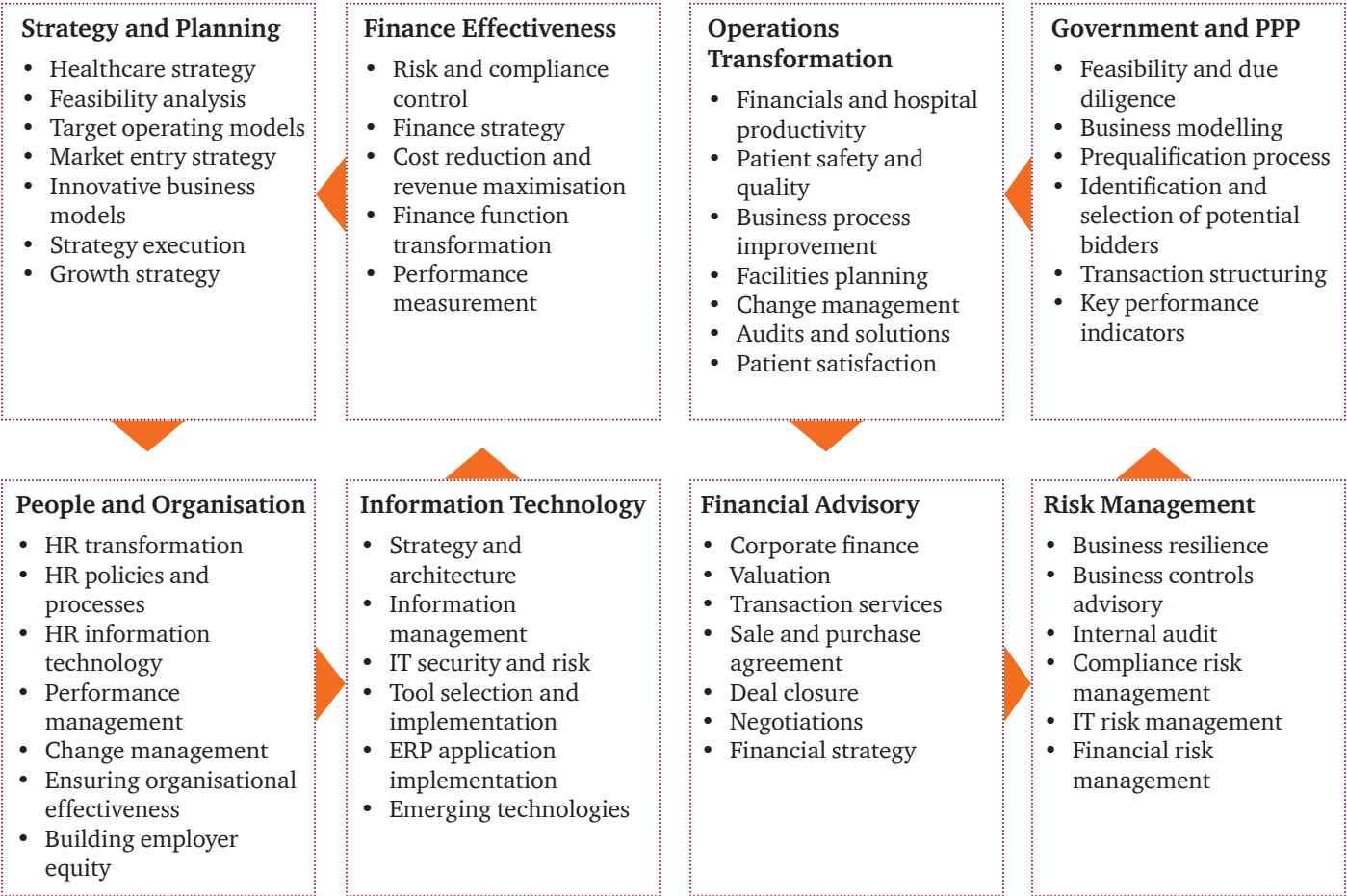
With 66 offices, including nine Centres of Excellence, in India, and eight overseas offices in Australia, Bahrain, China, Egypt, France, Singapore, the UK, and the US, as well as institutional partnerships with 312 counterpart organisations in 106 countries, CII serves as a reference point for Indian industry and the international business community.

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Our service offerings



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