The healthcare agenda
Stakeholder collaboration for the way forward

December 2015
Around the world governments have realised that the economic growth of a country cannot be achieved without healthier citizens and a disease-free society. India’s phenomenal economic growth in the last decade has improved overall health standards in the country. Despite making significant improvements in health outcomes such as lowering of infant mortality rate (IMR) and maternal mortality rates (MMR), and polio eradication, the country continues to suffer from inequities and inefficiencies.

The private sector in the country’s healthcare landscape is now assuming the centre stage. Private health spending is significantly higher than the government allocation on healthcare. This has resulted in the exponential growth of private health facilities both in metros and Tier II towns. With recent advancement in treatment and technologies, acquiring the best medical talent, the cost of healthcare has increased spirally.

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.

Dr Naresh Trehan
Chairman, CII Healthcare Council and
Chairman and Managing Director, Medanta—The Medicity
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%.1

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.2

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)
Indian healthcare industry is likely to witness sizeable growth

Market size of healthcare industry in India (billion USD)

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

Segment-wise split of healthcare industry (2012)

- Hospitals: 71%
- Pharmaceutical: 13%
- Medical equipment: 9%
- Medical insurance: 4%
- Diagnostics: 3%

Key growth drivers for healthcare sector in India

- Increasing incidences of lifestyle diseases
- Growing health insurance penetration
- Emerging middle class and rising healthcare consumption
- Favourable demographics
- Medical value travel advantage
- Diversifying delivery models
- Increased investments from PE funds
Where are we?
### Reality check

#### India today

<table>
<thead>
<tr>
<th>Health infrastructure and technology</th>
<th>Life expectancy</th>
<th>Mortality rates</th>
<th>Workforce density</th>
<th>Health Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9 hospital beds per 1,000 population*</td>
<td>Life expectancy at birth is 65 years for males and 68 for females.</td>
<td>Mortality rates for communicable diseases is 253 and for non-communicable diseases is 682 per 1,00,000 population.</td>
<td>7 physicians, 17.1 nurses and midwifery personnel, 5 pharmaceutical personnel per 10,000 population.</td>
<td>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 OOPE; and out of the 30.5%, 6.5% is on social security.</td>
</tr>
<tr>
<td>MMR</td>
<td>66% reduction in MMR between 1990-2015</td>
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<tr>
<td>Drinking water</td>
<td>77% reduction in proportion of population with no access to drinking water between 1990-2012</td>
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<tr>
<td>Sanitation</td>
<td>22% reduction in proportion of population with no access to improved sanitation</td>
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</tbody>
</table>

**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

- Improved planning
- Access
- Financing
- New care models
- Quality
- Financing
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

<table>
<thead>
<tr>
<th>Goal</th>
<th>How partnerships help achieve these goals</th>
<th>Challenges faced</th>
</tr>
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<tbody>
<tr>
<td><strong>Equity:</strong> Absence of systemic disparities in health</td>
<td>• Better quality of services improve health outcomes among socially and economically disadvantaged groups</td>
<td>• Focus on tertiary hospitals favour urban areas and limits reach to rural areas</td>
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<tr>
<td></td>
<td></td>
<td>• Technology innovations favour individuals who are more educated</td>
</tr>
<tr>
<td><strong>Access:</strong> Increasing access of healthcare services</td>
<td>• Private sector expertise in design, build, maintenance and operation can increase volume of services provided</td>
<td>• Already high cost of PPPs as a procurement tool can leave less funding for costs beyond infrastructure</td>
</tr>
<tr>
<td><strong>Efficiency:</strong> Higher level of impact with less resources</td>
<td>• Private sector expertise</td>
<td>• Poor contract management and unclear roles of partners impacts efficiency of project</td>
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<td></td>
<td>• Outcome-based incentives encourages higher performance</td>
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Potential for future endeavours: Types of care

![Healthcare continuum](image)

Where we see most partnerships focused
Potential for future endeavours: Consumers as partners

- Navigation and access through healthcare systems
- Timely and appropriate access to healthcare services
- Patients as active and knowledgeable partners
- Inclusion of primary care
- Integrating different systems together
- E-health and confidentiality of information
- Linking incentives to patient outcomes and satisfaction
- Clear provider communications
- Bridging language barriers for access and effective care
- Lowering pharmaceutical costs
- Preventive and promotive care
- Focussing on mental health issues

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.’

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

1. Integrated
2. Interoperability
3. Intelligent
4. Socialised
5. Outcome oriented
6. Engaging

Cloud = unlimited processing power delivered to everyone on any device
Analytics and consumption data can fuel new customer experiences
Ubiquitous and ‘always-on’ social medial are changing the customer’s behaviours
Smart phones bring Internet and apps on-the-go to the mass market

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

Mobile health addressable market (crore INR)

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<tr>
<td></td>
<td>2,083</td>
<td>5,184</td>
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</table>

Growth drivers
- Increase in teledensity and mobile penetration
- Need of frontline health workers for basic diagnostics
- Care continuum/disease management programmes
- Convenience of access and payments

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)

Projected growth

2009 2010 2015

Telehospital/clinic  Tele home

2009 2010 2015

100 450

2011 2016

29% 29% 18.6% 16.8%

Pillars of telemedicine

- Medical science
- Telemedicine
- Communication technology
- Information technology
- Biomedical engineering

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
• Unsustainable healthcare costs (as a % of GDP) and rising
• Health information exchanges (national and regional)
• Adoption of health IT or ‘meaningful use’ requirements

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

Growing health IT market

Source: EIU *Gartner

<table>
<thead>
<tr>
<th>Percentage of respondents</th>
<th>Retail</th>
<th>Telecom</th>
<th>Healthcare, pharma, biotech</th>
<th>Government/public sector</th>
<th>Financial services</th>
<th>Energy</th>
<th>Education</th>
<th>FMCG</th>
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<td>46</td>
<td>49</td>
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<td>53</td>
<td>65</td>
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</table>

Advanced ■ Not made much progress/Not started yet
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
Sustainable development: Integrating smart cities and healthcare
Urbanisation

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

~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

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.

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%.*

*Trends in urban population in India*

![Graph showing urban population trends in India from 1901 to 2011]

- 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

![Causes attributed to deaths in urban India](image)


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?

The three pillars

Physical infrastructure
Institutional infrastructure (governance)
Social infrastructure

Clean technologies

Instruments

ICT
Private sector
Governance
Citizen participation

Characteristics

Smart living
Smart mobility
Smart governance
Smart environment
Smart economy
Smart people
Smart city components

- Adequate water supply
- Efficient urban mobility and public transport
- Robust IT connectivity and digitalisation
- Affordable housing especially for the poor
- Assured electrical supply
- Safety and security of citizens
- Sustainable environment
- Health and education
- Good governance, especially e-governance and citizen participation
- Sanitation, including solid waste management
Smart healthcare solutions*

**Online portal, e-health cards and records**
Digitalising healthcare means easy access of patient information across all platforms possible

**Analytics**
Will include digital and diagnostic analytics

**Medical simulation**
Will include training of healthcare individuals using advanced technology

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

**GIS-enabled services**
Will integrate, store, edit, analyse, share and display information within a geographical context

**Business process automation**
Convene all processes together and build a robust working system

*NASSCOM, 2015
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.

5. Key features of 10 trillion USD economy.
Stakeholder roles

Government
- Ease of doing business
- Provide tax incentives
- Simplifying regulations

Private sector
- Mentoring
- Incubating
- Building entrepreneurial networks
- Access to markets

Infrastructure
- Physical
- Digital
- Provide access to quality utilities—water, electricity

Desired outcomes in healthcare

<table>
<thead>
<tr>
<th>Current issue</th>
<th>Desired outcome</th>
</tr>
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<tbody>
<tr>
<td>2014</td>
<td>2034</td>
</tr>
<tr>
<td>Average life expectancy 66 years</td>
<td>80 years</td>
</tr>
<tr>
<td>.65 doctors</td>
<td>2.5 doctors</td>
</tr>
<tr>
<td>1.3 nurses</td>
<td>5.0 nurses</td>
</tr>
<tr>
<td>1.3 hospital beds</td>
<td>3.5 beds</td>
</tr>
</tbody>
</table>

Winning Leap solution
- Investing in hospitals and education
- Shifting point of care
- Preventative
- mHealth

Fierce catch-up
- Significant leap
- Leapfrog

Traditional
- 3.5 million hospital beds
- 3 million doctors

90 billion USD savings
- 2.2 million beds
- 2 million doctors

Investments
About CII

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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The healthcare agenda I Stakeholder collaboration for the way forward

Our service offerings

**Strategy and Planning**
- Healthcare strategy
- Feasibility analysis
- Target operating models
- Market entry strategy
- Innovative business models
- Strategy execution
- Growth strategy

**Finance Effectiveness**
- Risk and compliance control
- Finance strategy
- Cost reduction and revenue maximisation
- Finance function transformation
- Performance measurement

**Operations Transformation**
- Financials and hospital productivity
- Patient safety and quality
- Business process improvement
- Facilities planning
- Change management
- Audits and solutions
- Patient satisfaction

**Government and PPP**
- Feasibility and due diligence
- Business modelling
- Prequalification process
- Identification and selection of potential bidders
- Transaction structuring
- Key performance indicators

**People and Organisation**
- HR transformation
- HR policies and processes
- HR information technology
- Performance management
- Change management
- Ensuring organisational effectiveness
- Building employer equity

**Information Technology**
- Strategy and architecture
- Information management
- IT security and risk
- Tool selection and implementation
- ERP application implementation
- Emerging technologies

**Financial Advisory**
- Corporate finance
- Valuation
- Transaction services
- Sale and purchase agreement
- Deal closure
- Negotiations
- Financial strategy

**Risk Management**
- Business resilience
- Business controls advisory
- Internal audit
- Compliance risk management
- IT risk management
- Financial risk management

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