

CATALYSING / **TRANSFORMING BUSINESS**
INDUSTRY GROWTH / **TRANSFORMING INDIA**

Technology Landscape for Lifesciences & Healthcare
Building the Right Eco-System for Scale

OUR VISION

Think Digital. Think India

When the world thinks Digital,
the World will think India.

OUR MISSION

To help the technology
products and services industry
in India to be Trustworthy and
Innovative across the globe

STRATEGIC IMPERATIVES



Build the Industry Narrative with focus on **Talent, Trust** and **Innovation**



Reskill and **Upskill** India's workforce to ensure **TALENT** is Future Ready in terms of New Age Skills and Jobs



Champion **Equal Opportunity** and **Diversity** in everything we do



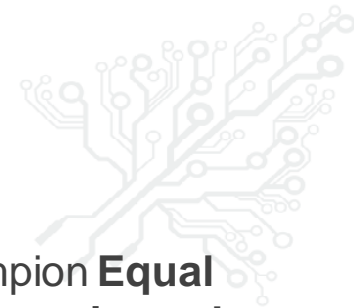
Strengthen India's **Innovation Quotient** and Impact



Create new **Market Access** in India and across the Globe



Drive **policy advocacy** to advance Trust, Innovation and Ease of Doing Business



NASSCOM

WHAT SUCCESS WILL LOOK LIKE IN 5 YEARS



4 Million Citizens Trained for New Age Skills and Jobs under NASSCOM Future Skills

India established as one of the **Leading Innovation Hubs** for AI implementation, IOT and Cybersecurity

Win-win engagements across the globe for Indian IT cutting across segments – **higher diversified country portfolio**

Regulatory Framework to **maximize innovation and security**

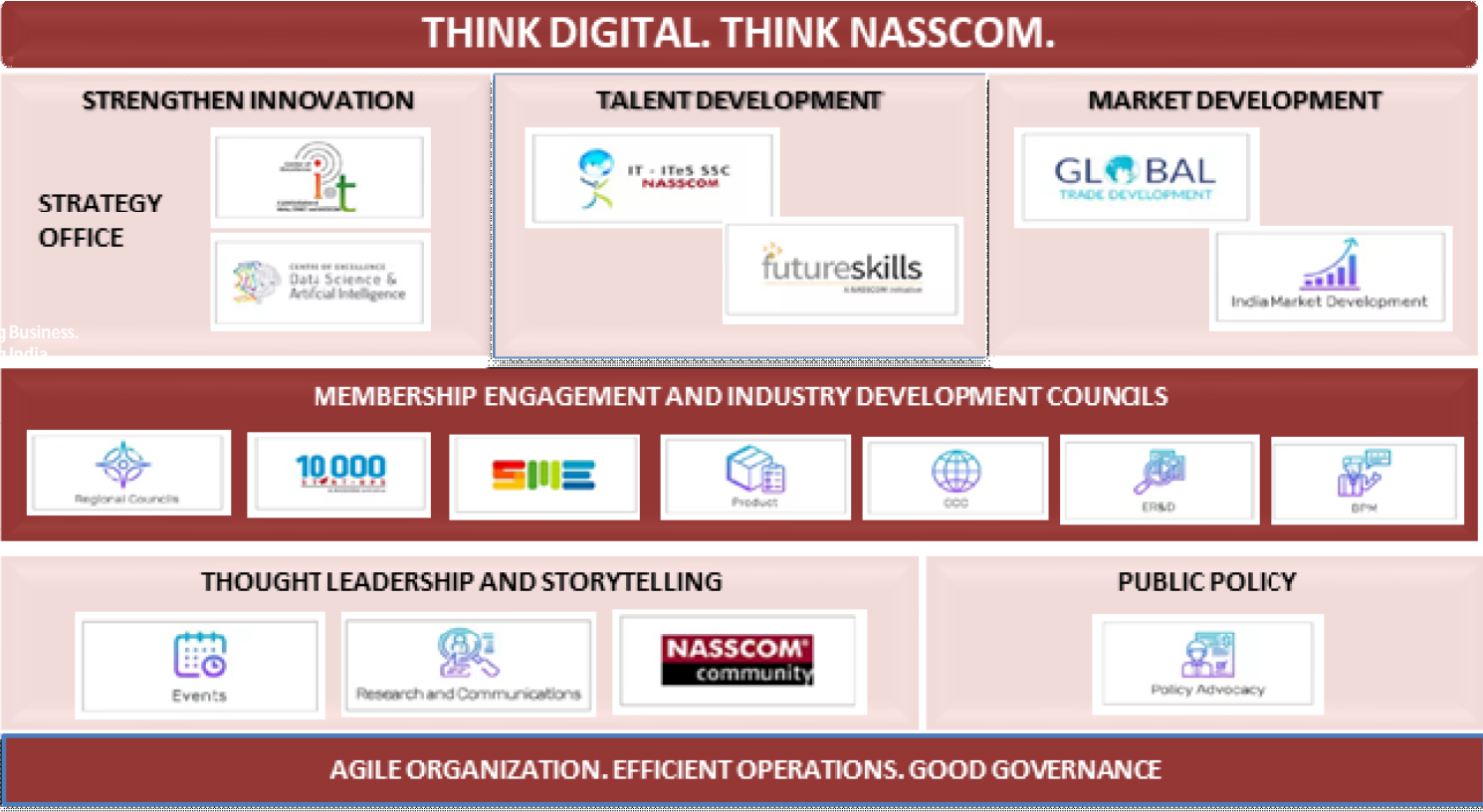
Indian IT positioned globally as an **industry that fuels cutting edge Innovation with Trust and Talent**



- ✓ **USD 300-350+ Billion** Tech Product and Services Industry
- ✓ **Add 1% incremental growth to Indian GDP**

NASSCOM

NASSCOM IS WELL STRUCTURED TO ACHIEVE THESE GOALS



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OUR FOOTPRINT



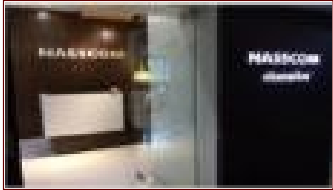
Delhi



Kolkata



Bangalore



Mumbai



Kochi



Thiruvananthapuram



Chennai



Pune



Hyderabad



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Innovation
does not
take place
in Isolation

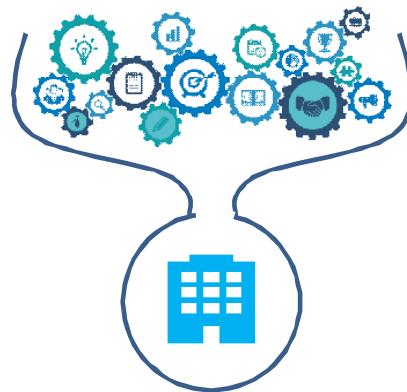


Extraordinary
Innovations take
place at the
Intersection of
Diverse eco-system

Enterprise Innovation Models



Internal Innovation
Entirely within
Internal teams
No Dependency
Incremental Innovation
Long gestation periods



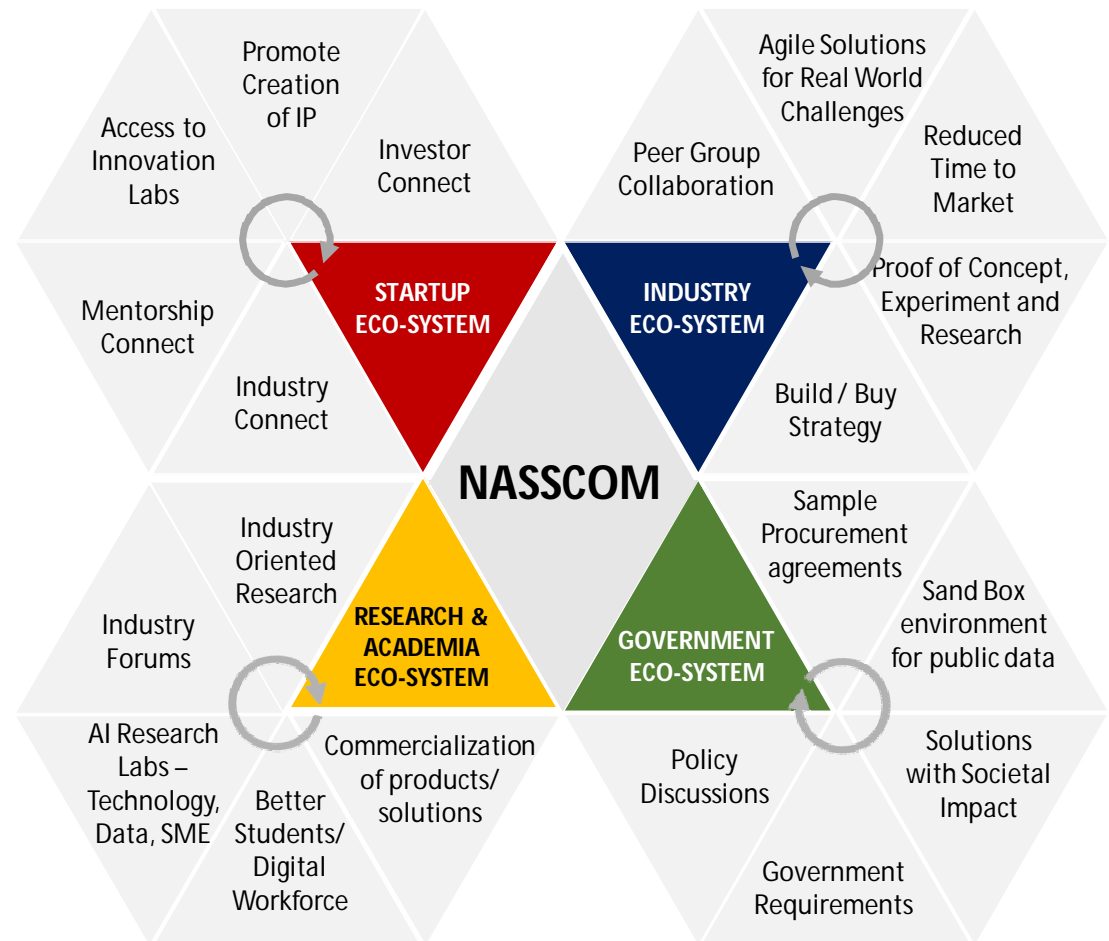
Absorb External Innovation
Entirely External
External Teams
Entirely new ideas
Shorter Innovation Cycles
No talent within the organization



Collaborative Innovation
Best of both worlds
Internal/External teams
Revolutionary Products/services
Quicker Adoption
Needs Strong Governance

THE KEY PLAYERS

Driving the Culture of Collaborative Innovation



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LHIF – Lifesciences & Healthcare Innovation Forum is a neutral platform for collaboration & open-innovation

- ▶ Catalyse the digital transformation for the Lifesciences & Healthcare industry
- ▶ Play an active role in bringing affordable, sustainable and scalable healthcare delivery for the citizens, and bridge the gap between demand and supply.
- ▶ Provide a collaborative platform for the participating enterprises to adopt innovative tech solutions within their organizations
- ▶ Publications & Research Papers on Technology Trends & Adoption Indices in Lifesciences & Healthcare
- ▶ Work on Policy advocacy in collaboration with industry partners and associations
- ▶ Actively promote deep tech innovation in healthcare through startups and technology companies





**NASSCOM HEALTHCARE
INITIATIVE**
Driving Critical Impact

Our Goals

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Improve Healthcare
Delivery in India
(Public/Private)



Catalyse
HealthTech
Innovation & Biz
Opportunities



Facilitate Faster Tech
Adoption in
Healthcare Delivery



Promote Healthcare
awareness and
preventive health

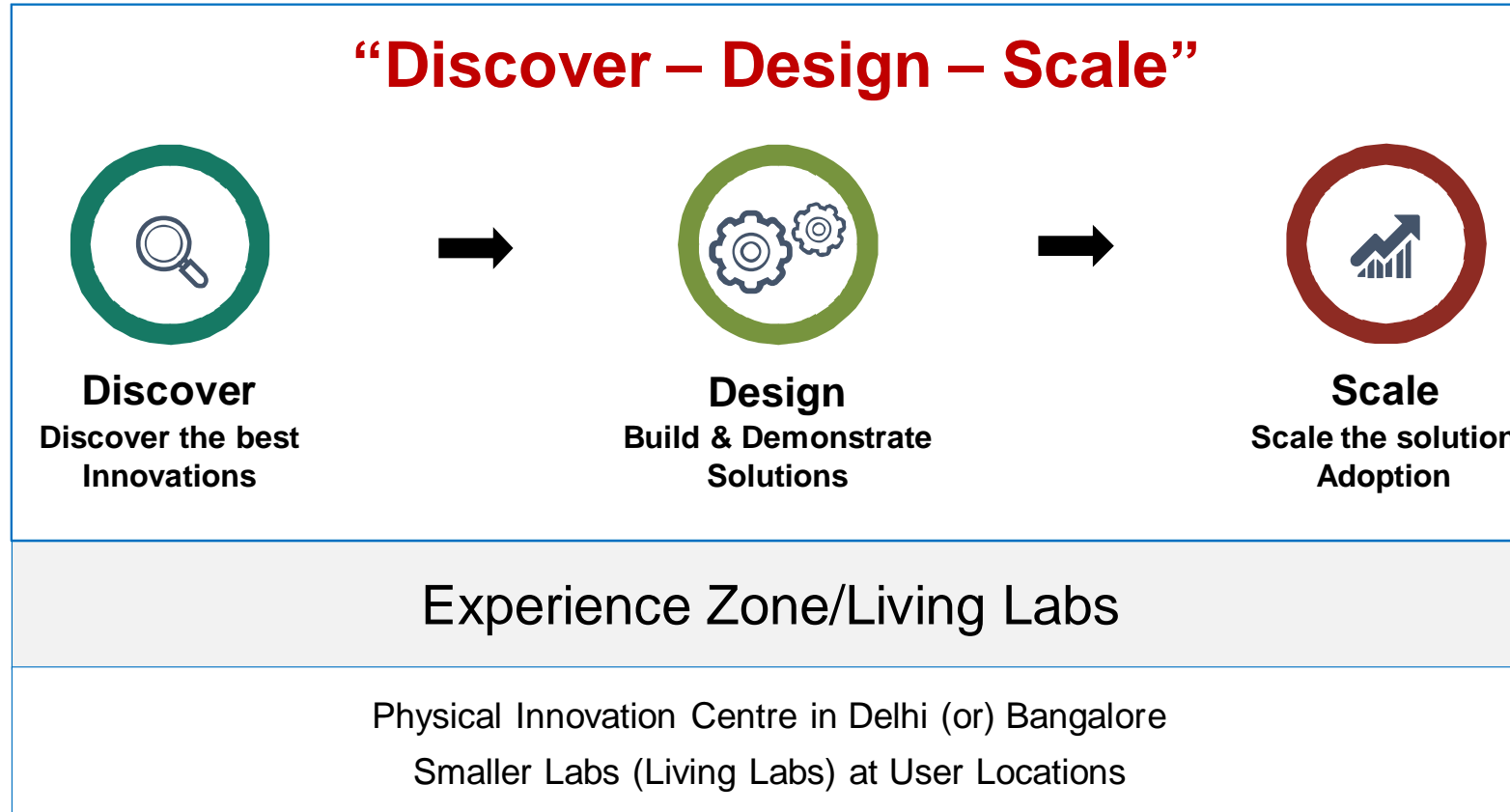
Make India an Innovation Hub for Healthcare & Lifesciences

**There are multiple
areas where we
together can play a
major role**

IoT/AI | Big-Data & Analytics | m-Health & e-Health platforms | Electronic Health Records
Low Cost Medical Devices | Open Architecture | Data Security & Privacy | Standards
Healthcare Awareness | Digital Wellness Centres | Patient Life-Cycle Management
Preventive & Predictive Health | Remote Healthcare Delivery | Health Insurance

A three-pronged approach to create impact

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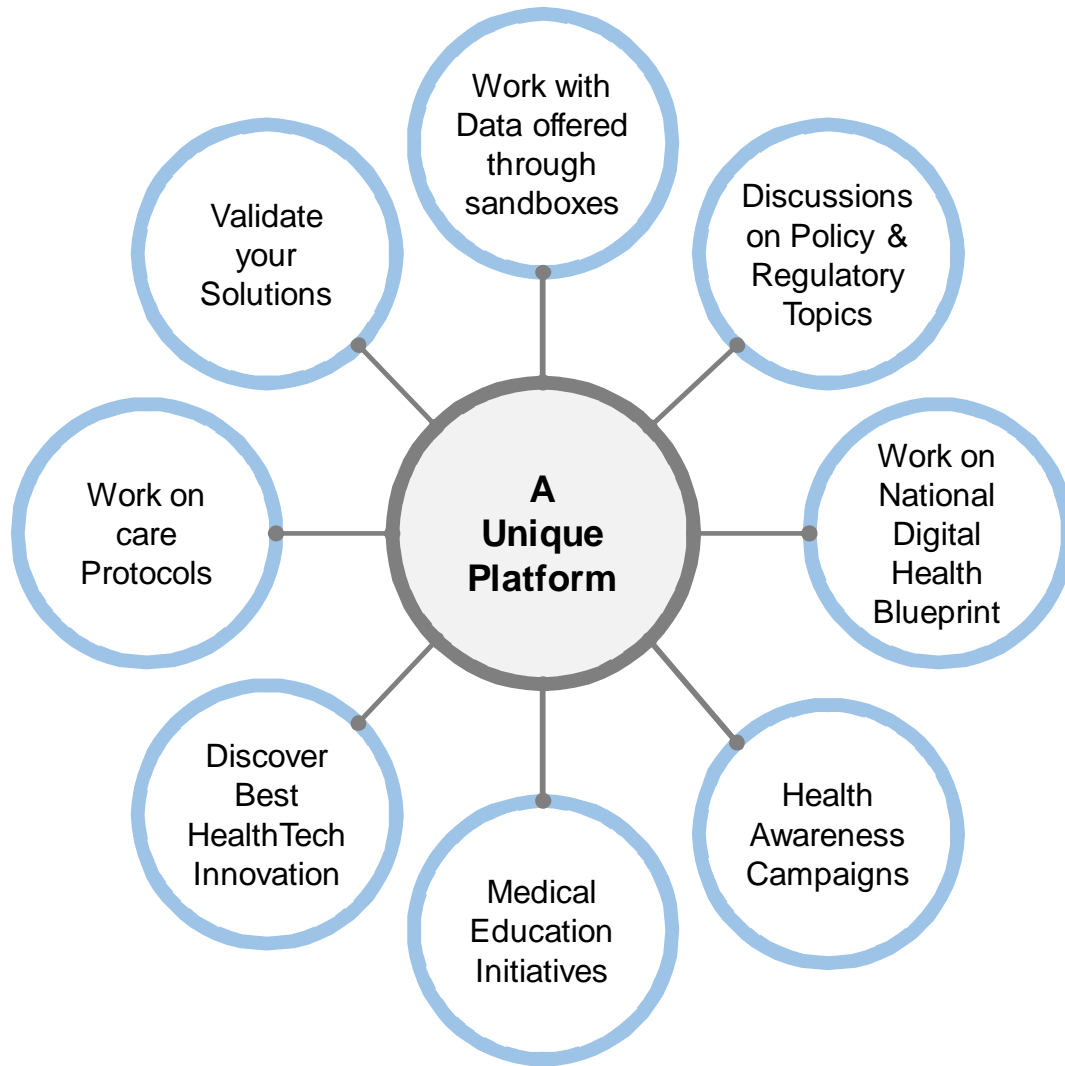


Biggest HealthTech Innovation Challenge for Cutting Edge HealthTech Solutions

First ever Healthtech platform to co-create & Pilot the best solutions

Work on large digital health programs across India for Public Health and for Private

What the Platform offers?



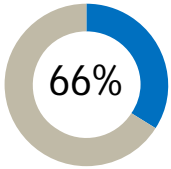
- Neutral Collaborative Platform to work on diverse topics around Healthcare
- Connect healthcare eco-system across the country to leverage each others expertise
- Unique Healthcare Innovation Centre planned to be set up either in Delhi or in Bangalore
- Opportunity to set up Experience Zones/Living Labs at the Innovation Centre
- Build solutions collaboratively to address huge challenges in the healthcare delivery



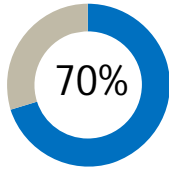
Universal Healthcare The Indian Context

Indian Healthcare statistics ...

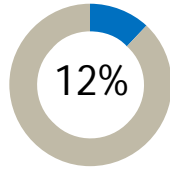
Still a long way to catch-up with WHO guidelines



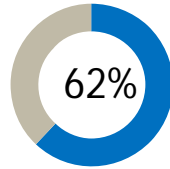
66% are Rural Population



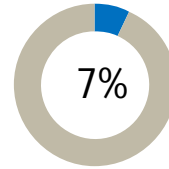
Healthcare infra limited to cities



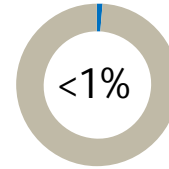
Rural Population without access to primary health care



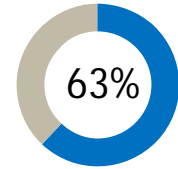
Out of Pocket Medical expenses



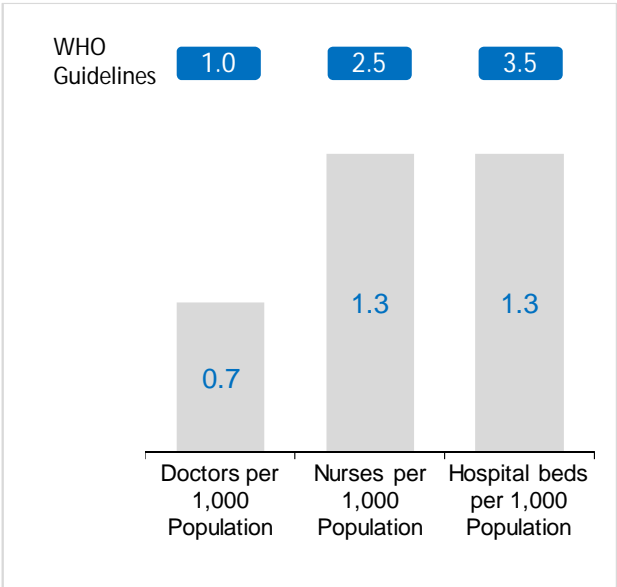
Pushed to poverty due to Out of Pocket Healthcare expenses



Hospitals are accredited

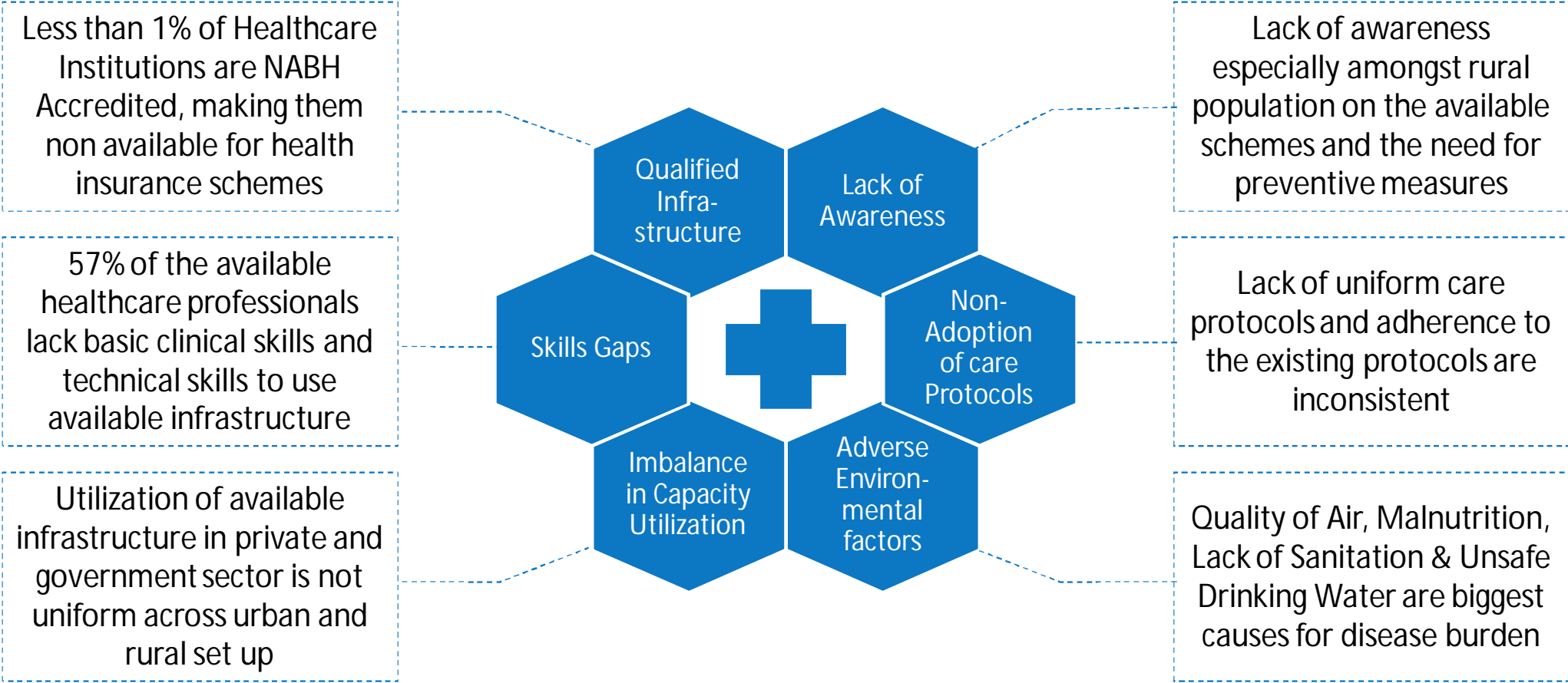


Deaths in India due to NCD diseases



- ▶ Government health expenditure 1.5% of GDP – very low
- ▶ 1.6 million Deaths/year due to Poor Quality of Care
- ▶ 55 million people pushed below the poverty line/year
- ▶ 17.9 million Years of lost human life By 2030 due to NCDs
- ▶ ₹60,000 billion worth of productivity loss
- ▶ 67% of Indians NOT covered by any health Insurance. Only 6% are covered by private insurance. 27% covered by Government Schemes.
- ▶ Only 1 % of the Hospitals are covered by NABH Accreditation

The Big Challenges – beyond the obvious



Healthcare Spends – Indian Context

Country	Per Capita Spend in \$ Population in billions	Healthcare Spend as % of GDP
India	\$87 1.3B	4.25%
Russia	\$651 0.1B	5.68%
China	\$587 1.4B	6.24%
South Africa	\$556 0.3B	8.57%
Brazil	\$881 0.2B	9.75%
US	\$9536 0.3B	16.8%

- ▶ India’s healthcare spend is one of the lowest in the developing nations.
- ▶ Of 4.25% of India’s GDP spend on Healthcare – Govt spend is 1.5%, as against WHO guideline of 6.4%
- ▶ Governments target healthcare spend of 2.5% of GDP by 2025 – may not considerably increase the per capita spend, mainly due to population growth, especially the ageing population.

68%

of Government spend is towards sustaining and modernizing public health infrastructure, which is either under-staffed or under-utilized.













But more Government Spend need not lead to better healthcare – unless the country adopts a balanced approach



Developed Nations are struggling with high mortality rates, avoidable hospital admissions and lack of focus on preventive health.

* Healthcare system performance measured across four parameters.
A. Care Process. B. Accessibility C. Administrative efficiency D. Spend

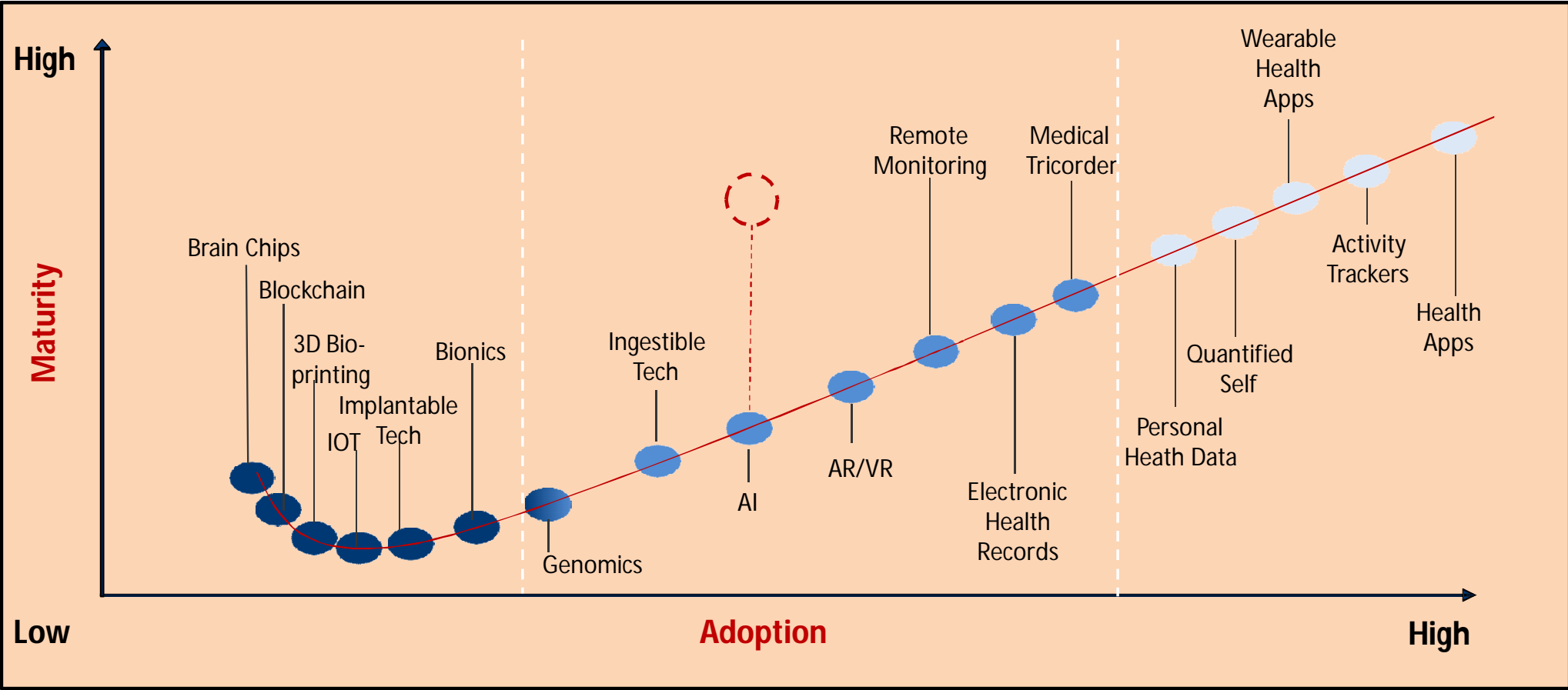
The Big 4 Influencers

Mobile Penetration as % of Population	 26%	 30%	 36%
Data costs in Rupees per GB	 79	 19	 11
Internet Users in Millions	 295	 438	 483
Heath-Tech Start-ups & SMEs	 ~ 900	 ~ 1050	 ~ 1200
	2016	2017	2018

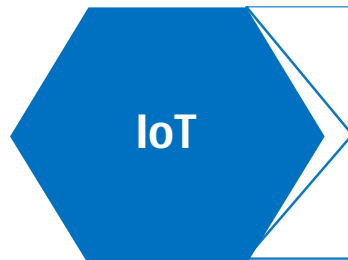
- ▶ Personal Healthcare Data Consumption is increasing
- ▶ Digital India Initiatives are helping the tech adoption
- ▶ Use of wearables on the rise

Technology Adoption Vs. Maturity

Use of AI in healthcare is raising steadily

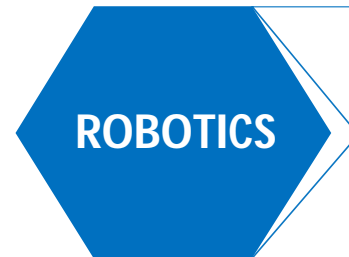


Technologies that are revolutionizing Healthcare Industry



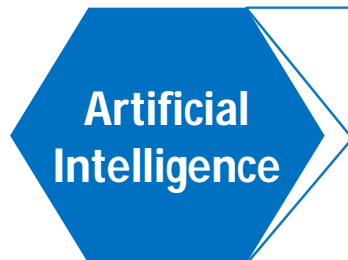
IoT

- IoT enabled Medical Devices for data capture from the point of care.
- Vitals parameters capture, ECG, Diabetes Monitoring, Capillary detection, cancer screening, retina scans etc.
- IoT is also helping in prescription compliance and drug dispensing process



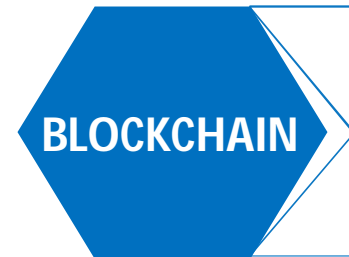
ROBOTICS

- Robotic Surgeries helping doctors in routine and complex tasks. Remote surgery
- RPA in Drug Dispensing at the hospital wards and dispensaries
- Personalized drug formulations
- Prosthetic Limbs enabled by robotic movements



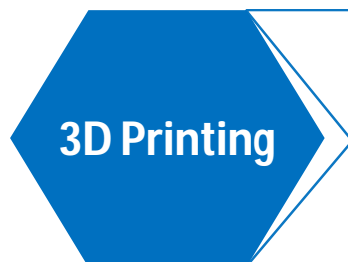
Artificial Intelligence

- Disease Detection using AI and ML/DL algorithms are extensively used in X-Ray analysis, retina images, CT scans, MRI Scans.
- AI Assisted analysis of ECGs.
- Managing personalized insurance premium detection to Efficient claims management



BLOCKCHAIN

- Huge potential to trace patient health records from birth to daily food consumption to diagnostics enabling access for effective patient care
- Benefits include reduction of frauds, eliminate chargebacks and manage health insurance – **Enabling Trust**



3D Printing

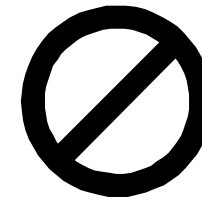
- 3D printed artificial limbs like prosthetic arms and legs
- Artificial organs such as artificial hearts, kidneys and liver etc. soon making an entry
- 3D printed medicinal strips for optimized drug dosage based on personalized medicine

The technologies are proven, but the need of the hour is scaling up the adoption

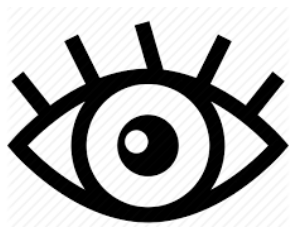
Tech adoption in healthcare industry is one of the lowest



Insufficient Funds



Resistance to Change



Privacy & Security



Lack of trust



NASSCOM Centre of Excellence for IoT & AI
Your Partner
in Digital Transformation Journey