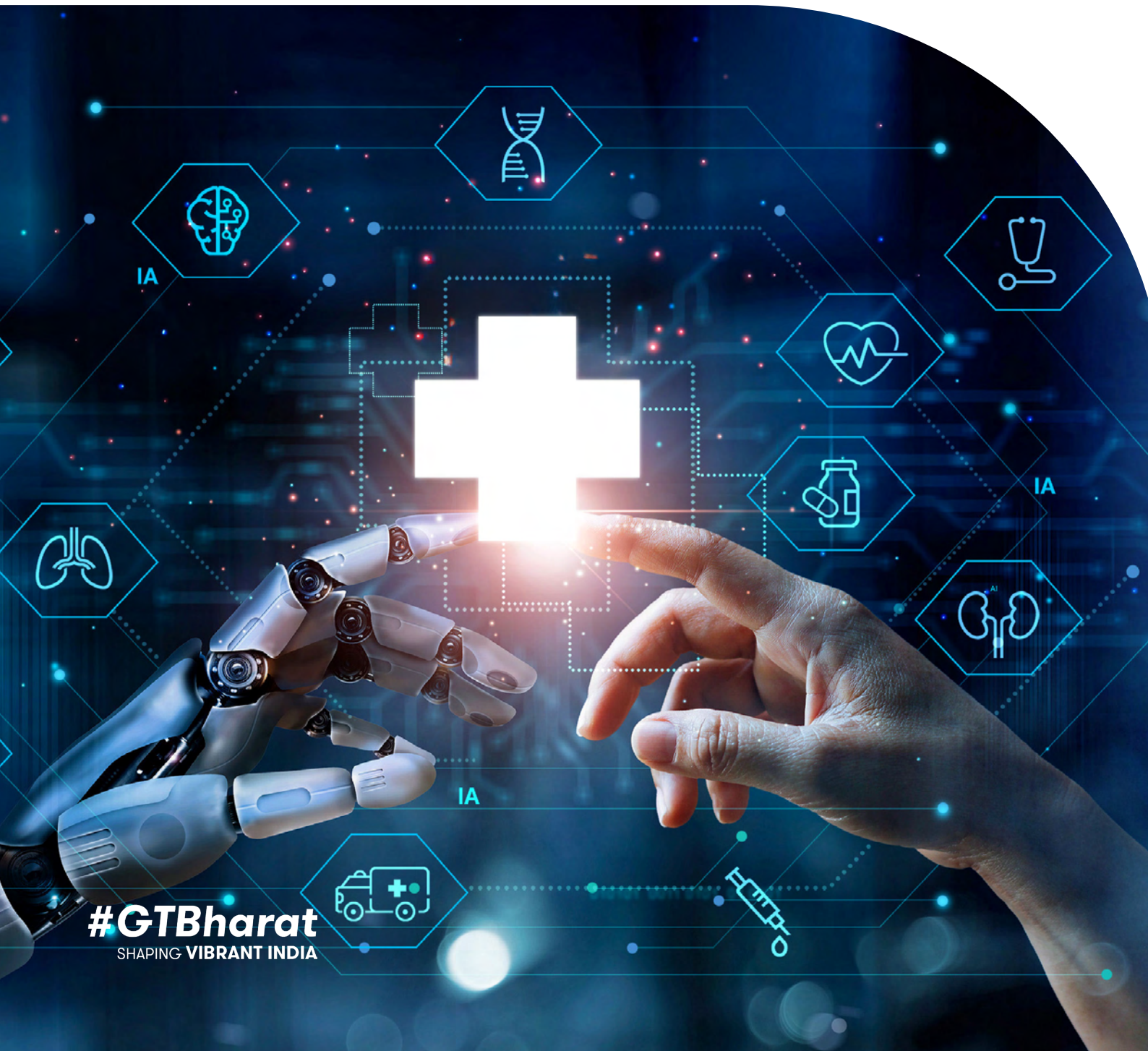


Access, affordability and AI-enabled healthcare for all

Paving the way for Viksit Bharat 2047





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Foreword



Ranjana Khanna

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The Government of India's vision for Viksit Bharat 2047, aiming for a fully developed nation by its centenary of independence, places universal, affordable, and advanced healthcare at the forefront of its national strategy. The integration of three significant initiatives — the Ayushman Bharat programme with its PM-JAY health coverage structure, the Ayushman Bharat Digital Mission (ABDM) alongside India's broader digital public infrastructure, and the recently launched IndiaAI Mission with an allocated budget of INR 10,371 crore — marks the most comprehensive and well-funded undertaking in India's history to bridge the healthcare access gap on a large scale. Collectively, these efforts provide essential policy, infrastructure, and technological foundations positioning India not only to revolutionise its healthcare system but also to offer a scalable model for other nations in the Global South.

This convergence of policy ambition, digital infrastructure, and advanced technology is closely aligned with the longstanding priorities of member companies within the Indian marketplace. AI-driven diagnostics, multilingual decision support, ambient documentation solutions, agentic care coordination, and remote patient monitoring have progressed beyond experimental stages. These technologies are actively implemented across Indian hospitals, primary health centres, and community health networks, validating that technology-enabled healthcare equity is attainable for India's population.

The report: **Access, affordability and AI-enabled healthcare for all: Paving the way for Viksit Bharat 2047**, explores this transformative journey across six distinct dimensions:

- **Ayushman Bharat architecture:** Achievements in PM-JAY coverage, health and wellness centres as crucial last-mile access points, and AI-assisted screenings within primary care.
- **Digital enabling layer:** Adoption of ABHA and the PHR ecosystem, UHI's facilitation of AI agents across public and private sectors, and the DPDP Act's provisions for consent and data sovereignty.

- **Intelligence revolution:** Generative AI enhancing health literacy across India's 22 official languages, ambient clinical intelligence addressing physician fatigue, and agentic AI driving proactive patient management.
- **Aatmanirbhar Bharat and the US-India innovation corridor:** Indian GCCs serving as global R&D hubs, collaborative clinical validation platforms, and regulatory dialogues between FDA and Central Drugs Standard Control Organisation (CDSCO) accelerating access to validated innovations.
- **Financing ecosystem:** Overview of India's digital health start-ups, the role of PE and VC as catalysts for transformation, and models for public-private-philanthropic partnerships in MedTech infrastructure development.
- **Regulatory and ethical governance:** CDSCO's SaMD classification pathway, frameworks for trust in autonomous AI, and standards for liability and accountability in agentic clinical decision-making.

The strategic technology partnership between the US and India, strengthened by shared objectives in responsible AI, digital health, and MedTech innovation, establishes a robust framework for collaborative progress. Member companies contribute deep proficiency in AI governance, clinical validation, regulatory compliance, and scaled digital health deployment, supporting India's pursuit of effective, equitable, and commercially viable healthcare AI solutions.

AMCHAM India represents more than 400 US firms active in India, promoting investment and technological advancement through 20 sectoral committees including IT, pharmaceuticals, medical technology, cyber security, and infrastructure. The chamber plays a pivotal role in enhancing the strategic and economic ties between the US and India. In this context, US enterprises operating in India fully endorse the government's initiatives to establish a world-class, AI-powered, universally accessible healthcare system by 2047.

Message



Chaitanya Sarwate

Vice Chairman, AMCHAM, Chairman - Medical Technology Committee AMCHAM
President and CEO, GE HealthCare South Asia, Managing Director, Wipro GE Healthcare

India has the rails, the law, and the scale advantage. The decisive differentiator now is governance discipline — winners will be those who convert consent into continuously enforceable permissions and demonstrate trust across every downstream AI use case. Execution will matter more than intent.

India's healthcare transformation is at an inflection point. ABDM has successfully created the rails for interoperable health data — the infrastructure question is largely answered. The harder challenge now is converting exchanged data into actionable intelligence that improves clinical decisions and patient outcomes at the point of care. Adoption will accelerate only when interoperability demonstrably reduces duplicate diagnostics, speeds up claims, and delivers measurable clinical and financial value.

A structural maturity gap, however, threatens to widen existing inequities. Large urban hospital chains are moving rapidly from digitisation to intelligence, while primary care centres, smaller hospitals, and rural providers — where clinical load is heaviest — continue to face fragmented records, inconsistent connectivity, and limited IT support. If AI deployment is driven solely by near-term returns, it will deepen this divide. The imperative is to design AI as a low-cost, multilingual, workflow-light layer built for frontline clinicians first.

On AI readiness, India is technically prepared but institutionally uneven. The Digital Personal Data Protection Act (DPDPA) provides a strong framework for consent and data sovereignty, but most hospitals lack mature data stewardship and privacy-by-design engineering. Trust will break not at the policy level but in day-to-day operational decisions — making governance discipline the decisive differentiator.

By 2030, AI can responsibly operate with near-full autonomy in high-volume, low-risk workflows — imaging triage, ambient documentation, and revenue cycle management — while human oversight remains non-negotiable in diagnosis, treatment planning, and critical care. Autonomy must scale in direct proportion to reversibility and risk.

Finally, Indian global capability centres (GCCs) have evolved from support hubs into global R&D nerve centres, actively authoring AI-driven diagnostic platforms and product roadmaps. Combined with reverse innovation designed around affordability, this positions India as both a global MedTech laboratory and a strategic engine for sustainable healthcare at scale.

Executive summary



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India is at a pivotal moment in its healthcare journey. The intersection of unwavering policy commitment towards universal health coverage, an evolving digital public infrastructure, and significant advancements in Artificial Intelligence (AI) presents a rare opportunity to transform access to quality healthcare. This report, **Access, affordability and AI-enabled healthcare for all: Paving the way for Viksit Bharat 2047**, explores how these elements can be integrated to realise the vision of Swasth Bharat, Viksit Bharat — a #HealthyIndia as the foundation for a developed India — by 2047.

Healthcare challenges and goals for Viksit Bharat 2047

The path to achieving Viksit Bharat 2047 is closely linked to the availability of universal, high-quality and affordable healthcare at scale. While India has made tangible progress across indicators such as life expectancy, immunisation coverage and the reach of public health programmes, structural gaps in healthcare delivery persist. These include uneven distribution of doctors and specialists, limited focus on preventive care, capacity constraints at secondary and tertiary care facilities, limited access to diagnostics, and weak continuity of care — particularly in remote and underserved regions.

Rising demand, driven by non-communicable diseases, alongside ongoing maternal and child health needs, continues to put pressure on the system. High out-of-pocket expenditure, fragmented care pathways across public and private providers, and inconsistent infrastructure at district and primary care levels contribute to delayed diagnoses, preventable health complications and financial stress for households. These outcomes have broader implications, affecting national productivity, educational attainment and household economic stability.

The Government of India's vision for Viksit Bharat 2047 extends beyond aspiration. It articulates a development framework anchored in measurable health outcomes and defines a 'developed India' across three core dimensions: coverage, outcomes and affordability.

Core strategic pillars

1. Strengthening the foundation: Universal access

The first step is to transform the Ayushman Bharat (PM-JAY) scheme from a safety net into a comprehensive, universal system.

- **Frontline empowerment:** By equipping ASHA workers and Auxiliary Nurse Midwives (ANMs) with AI-powered diagnostic tools, the burden of screening can be shifted from tertiary hospitals to community-level providers.
- **Predictive wellness:** Upgrading Ayushman Bharat health and wellness centres (AB-HWCs) into "Intelligence Nodes" enables Population Health 2.0, moving healthcare from reactive treatment towards proactive and predictive wellness.



2. The Digital nervous system: ABDM and data rails

The Ayushman Bharat Digital Mission (ABDM) is the backbone of this vision. Scaling the adoption of Ayushman Bharat Health Account (ABHA) and ensuring seamless interoperability through the unified health interface (UHI) will help create a frictionless data ecosystem.

- **Data sovereignty:** The implementation of the DPDP Act guarantees that, as AI leverages health data for innovation, patient privacy and consent remain central.
- **Infrastructure parity:** Efforts are needed to close the digital divide at the district level, ensuring rural clinics are as prepared for data-driven healthcare as urban corporate hospitals.

3. The intelligence revolution: GenAI and Agentic AI

AI is now seen as the “Great Equalizer” for Indian healthcare.

- **Generative AI (Gen AI):** This technology can alleviate doctor burnout through ambient clinical intelligence (automated documentation) and improve health literacy by translating complex diagnostic information into regional dialects.
- **Agentic AI:** Moving from passive support to autonomous coordination, AI “agents” can manage patient journeys in real time, use wearable data to predict interventions, and optimise hospital operations such as triage and scheduling, making the most of every available resource.

4. Aatmanirbhar Bharat and the global corridor

India is well positioned to become a Global Export Hub for healthcare AI.

- **Innovation corridor:** Strengthening the US-India partnership through joint clinical validation sandboxes and regulatory alignment between the FDA and CDSCO will accelerate the transition from laboratory innovation to bedside implementation.
- **Manufacturing:** By incentivising local MedTech R&D, India aims to decrease reliance on imported medical devices, fostering a self-sustaining ecosystem that can serve global markets.

In recent years, the Government of India has made tangible progress in strengthening the healthcare system through expanded Ayushman Bharat coverage, the establishment of national digital health infrastructure under the ABDM, and targeted investments in artificial intelligence and health innovation. These initiatives signal a shift from addressing access gaps to building the foundations of an integrated, technology-enabled healthcare system. As this base strengthens, the focus shifts to execution — accelerating adoption, reinforcing last-mile readiness, and ensuring that systemic progress delivers sustained improvements in care quality and affordability.

In this context, policy ambition, digital infrastructure, and intelligent technology together enable a transformation that is more than incremental. This report delves into each of these forces, highlighting the necessary interventions across access, digital enablement, the intelligence revolution, the Aatmanirbhar innovation agenda, financing, and the essential regulatory and governance frameworks. The 2047 goal is ambitious, but the tools needed to achieve it have never been more powerful or more accessible.



01

The foundation:
Ayushman Bharat
and universal
access

1.1 India's access journey: Establishing the foundations


Over the past decade, India has made sustained progress in expanding access to healthcare. Historically, the system was shaped by high out-of-pocket expenditure, fragmented service delivery, and uneven access across states and population groups¹. In response, healthcare policy has progressively moved towards national, system-level programmes that address both financing and service delivery².

Ayushman Bharat represents a key step in this evolution. It was designed as an integrated framework that brings together financial protection, strengthened primary-care infrastructure, and a growing digital backbone. This approach marked a shift towards viewing healthcare delivery as a continuum of care, spanning prevention, early detection, and hospital-based treatment.

As a result, the core foundations for healthcare access at scale are now largely in place. As implementation continues to mature, the focus is increasingly moving towards how effectively this access translates into care in practice.

India's healthcare system: Structural context³

Indicator	Current position
Public health expenditure	~1.35% of GDP
Share of medical workforce in private sector	~75%
Private provision informality	Nearly half unregistered
Health service delivery	State responsibility, with central financing and standards



India's access challenge has historically been shaped not only by financing, but also by system design and delivery capacity. Recent reforms have begun addressing these structural factors, creating a foundation to strengthen service effectiveness over time.

1.NHSRC website, <https://nhsrcoindia.org/sites/default/files/2024-09/NHA%202020-21.pdf>

2.MOHFW website, <https://www.mohfw.gov.in/showfile.php?lid=4275>

3.Niti Ayog website, www.niti.gov.in

1.2 Ayushman Bharat at scale: Building national health platforms

Ayushman Bharat is held up by two pillars.

The first, Pradhan Mantri Jan Arogya Yojana (PM-JAY), provides financial protection for secondary and tertiary care through a nationally portable, cashless mechanism. The second, Ayushman Arogya Mandirs (AAMs), focuses on expanding access to comprehensive primary healthcare by upgrading sub-centres, primary health centres, and urban facilities.

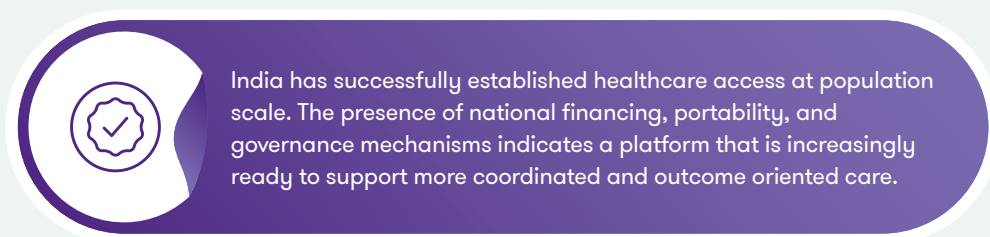
PM-JAY introduced strategic purchasing into publicly financed healthcare, supported by a digital architecture that enables portability, standardised benefit packages, and real-time transaction monitoring. In parallel, the expansion of AAMs reflects an intent to make primary care the regular point of engagement with the health system, particularly for prevention and chronic disease management.

Together, these initiatives have helped establish national health platforms spanning financing, facilities, provider networks, and digital systems.

With these platforms in place, the system challenge increasingly shifts from expanding access to ensuring that this access delivers consistent and effective care at scale.

PMJAY scale and design⁴

Dimension	Snapshot
Eligible families	~10.73 crore
Individuals covered	~55 crore
Annual cover	INR 5 lakh per family
Treatment packages	1,500+
Private hospitals empanelled	~46%
Portability	Pan India
Governance	National Health Authority



⁴. PMJAY website, <https://pmjay.gov.in>

1.3 From coverage to effective delivery: Experiencing access

As these platforms have scaled, attention has increasingly shifted from programme design to how healthcare access works for citizens and frontline providers in everyday settings. In practice, access is shaped not only by eligibility or coverage, but by the quality of first contact, clarity of next steps, and the system's ability to support follow-up over time.

For many individuals, particularly those managing chronic conditions, care journeys begin at the primary care level. The effectiveness of this first interaction, and the system's ability to guide referral and continuity, play a critical role in determining whether coverage results in timely and appropriate care.

At this stage of scale, experience suggests that system performance is shaped less by the presence of schemes and more by three operational capabilities:

- Support for frontline decision-making
- Continuity across levels of care
- Early identification and prioritisation of risk

As access expands across large and diverse populations, the ability to convert reach into reliable outcomes increasingly depends on these delivery capabilities rather than on infrastructure expansion alone.

PMJAY: Implementation experience

- Coverage levels vary across states
- Beneficiary identification continues to rely largely on SECC-2011 data
- Government reviews and audits highlight the need to strengthen referral coordination, quality oversight, and follow-up mechanisms



As access platforms mature, the central challenge shifts from enrolment to consistency of decision-making, coordination, and follow-through across the patient journey.

1.4 Primary care and the last mile: Where system pressures converge

These delivery challenges are most visible at the primary-care and last-mile level, where citizens first interact with the health system and where continuity of care is either established or disrupted.

Ayushman Arogya Mandirs (AAM) represent a major expansion of primary-care infrastructure. Utilisation has grown steadily, and telemedicine has extended reach, particularly in settings with workforce limitations. At the same time, primary care increasingly manages a wide range of clinical needs, reflecting India's evolving disease burden.

Operational realities such as patient load, diagnostic availability, and the ability to sustain follow-up influence how effectively primary care can support prevention and chronic disease management. This positions primary care as a critical coordination point in the health system.

AAM: Scale, service mix, and frontline load⁵



~1.85 lakh
AAMs functional nationwide (April 2026)



Primary care activity includes large-scale screening for hypertension, diabetes, and common cancers



41 crore+
teleconsultations delivered through AAMs (as of Oct 2025)



Government assessments note workload intensity and the need to strengthen diagnostics and follow-up over time



National telemedicine data shows over **93% consultations** are provider assisted via AAMs



As primary care scales and manages increasingly diverse and chronic health needs, its effectiveness depends on how well frontline teams are supported in decision-making, prioritisation, and continuity and not just on physical infrastructure.

5. MOHW website, <https://aam.mohfw.gov.in/>

1.5 AI as a capability layer: Converting access into outcomes

As India's healthcare system moves from expansion to consolidation, the central policy question is no longer how to extend access, but how to ensure that access consistently translates into appropriate, timely, and affordable care — particularly at the primary and last mile.

At this stage of system maturity, AI can be understood not as a standalone technology or a set of point solutions, but as a capability layer. Its role lies in strengthening decision making, coordination, and early risk identification across the care continuum, building on the access platforms already established under Ayushman Bharat.

In the Indian context, AI is most relevant where the system faces inherent constraints — high patient volumes, limited specialist availability, variable frontline capacity, and a growing burden of chronic disease. When aligned with public programmes and digital public infrastructure, AI-enabled support can help augment frontline health workers, improve continuity of care, and prioritise interventions more effectively without displacing human judgement or institutional responsibility.

This perspective positions AI not as a parallel track, but as an enabling layer embedded within India's health system architecture, focused on converting scale into consistency and coverage into outcomes.

This basic understanding sets the context for the rest of the report. Chapter 2 examines the digital health infrastructure and data frameworks that enable such a capability layer, while subsequent chapters explore how advanced AI technologies, governance models, and financing mechanisms can support India's journey towards inclusive, affordable, and outcome oriented healthcare by 2047.



02

The enabling layer:
Digital health and
ABDM



2.1 Why digital foundations matter for AI-enabled healthcare

As India expands healthcare access at scale, the effectiveness of care increasingly depends on the digital foundations that connect patients, providers, and programmes. AI can augment decision making and coordination, but its impact is shaped by the availability of reliable, longitudinal, and consent protected health data.

India's response to this requirement is the ABDM. Often described as the India Stack for Health, ABDM is designed as a digital public infrastructure (DPI) — providing common data rails, standards, and trust frameworks that enable digital health services and AI-enabled applications to function at a national scale.

ABDM is therefore, not a parallel digital initiative. It is the enabling layer on which future healthcare capabilities, including AI, are intended to operate.

2.2 ABDM as digital public infrastructure: The health data rail for India

ABDM was launched nationally in 2021 under the stewardship of the National Health Authority (NHA). It is designed as a federated digital ecosystem, rather than a centralised data repository. Health data continues to reside with the institutions that generate it, hospitals, labs, clinics, and becomes shareable only through standardised interfaces and explicit patient consent.

At the centre of this architecture is the ABHA — a unique, portable health ID that allows individuals to link medical records across providers, facilities, and geographies.

As of December 2025⁶



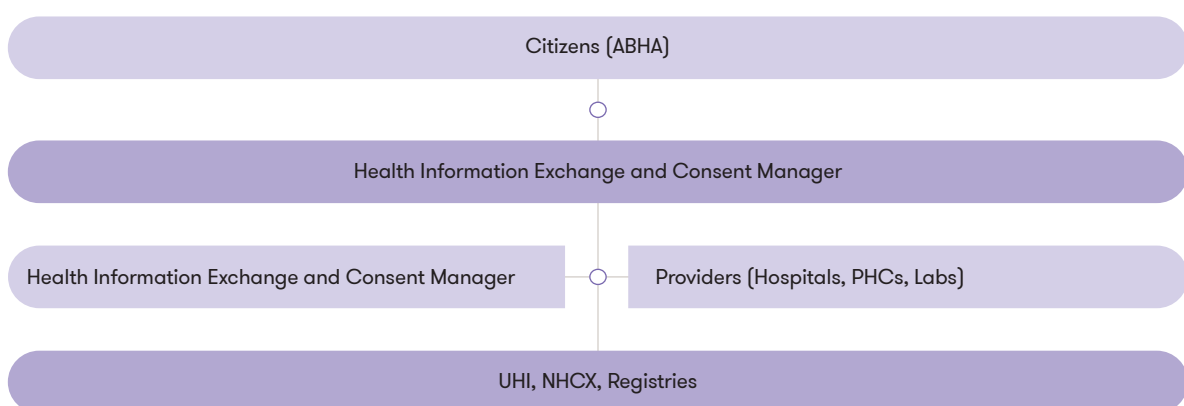
86 crore+
ABHA ids created



80 crore+
Health records linked to ABHA profiles

ABHA is voluntary and citizen-controlled. Individuals determine when and with whom their data is shared, addressing long-standing fragmentation while preserving patient agency.

ABDM as Digital Public Infrastructure



ABHA and record linkage

- Nationwide rollout across all states and union territories
- Large scale linkage of prescriptions, diagnostics, and clinical summaries
- Access enabled via government and ABDM compliant PHR applications

ABDM integrates identity, consent, registries, and interoperability into a single digital foundation—without centralising patient data.



India has moved from pilot digital health initiatives to population scale digital identity and record continuity, creating the foundation for longitudinal care and data driven decision support.

2.3 Interoperability by design: UHI and connected care journeys

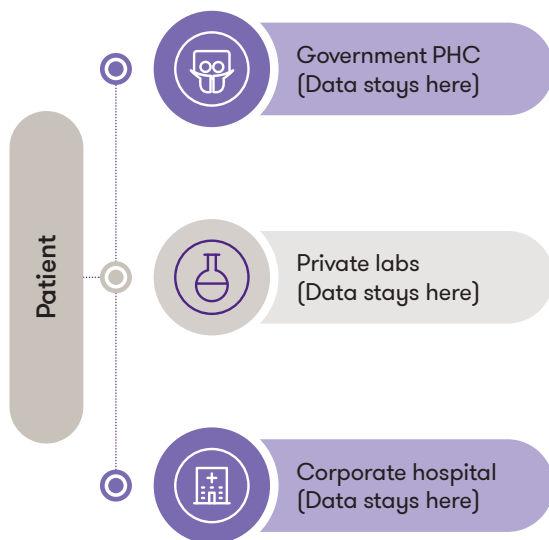
India's healthcare delivery is structurally fragmented. A single patient journey may involve public facilities, private providers, diagnostics, pharmacies, and telemedicine — often without digital continuity. This fragmentation limits care coordination and constrains AI systems that rely on complete clinical context.

ABDM addresses this through the UHI, launched in 2023. Often described as the UPI of healthcare, UHI is an open network that allows any compliant healthcare application to interact with any other using standard APIs.

Through UHI:

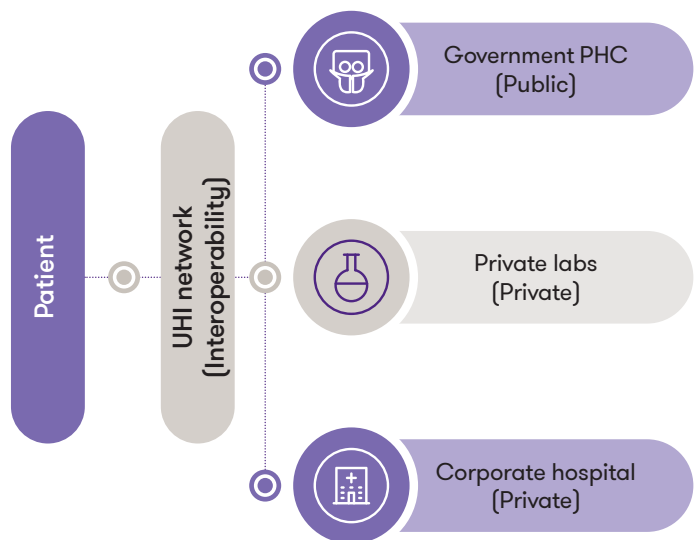
- Patients can search, book, and access services across platforms
- Public and private provider systems become interoperable
- Care journeys are no longer locked inside proprietary applications

Before UHI: Disconnected care



- No shared records
- Repeated tests
- No end-to-end visibility
- AI sees fragments, not the full picture

After UHI: Connected care



- Records flow with consent
- Care is coordinated
- Providers remain independent
- AI sees the complete care journey

UHI replaces fragmented point to point integrations with a shared interoperability layer enabling coordinated care and AI ready workflows

- As access expands across providers and geographies, the ability to coordinate care journeys increasingly depends on interoperability rather than institutional integration.
- For AI developers and hospital leaders, the implication is clear: AI solutions aligned to ABHA, UHI, and consent frameworks can operate across India's health system. Proprietary solutions that bypass these standards remain confined to isolated environments.

2.4 Trust, data sovereignty, and responsible AI use

Trust is foundational to digital health infrastructure. ABDM operationalises trust through a consent first architecture, rather than treating privacy as a compliance overlay.

The Health Information Exchange–Consent Manager (HIE CM) enables explicit, purpose specific, time bound, revocable, and auditable data sharing. Consent artefacts are managed separately from clinical data, which flows directly between authorised entities only after patient approval.

This architecture aligns with the DPDP Act, 2023, under which health data is classified as sensitive personal data.

The Act establishes:

- Explicit, informed consent requirements
- Data minimisation and purpose limitation
- Security safeguards and accountability of data fiduciaries

The ICMR Ethical Guidelines for AI in Healthcare (2023)⁶ further clarify that accountability for AI assisted decisions rests with clinicians, developers, and institutions, not AI systems themselves, and mandate human oversight and auditability.

As AI evolves towards agentic systems, these safeguards become essential for maintaining patient autonomy and public trust.

2.5 State and district readiness: Where the gaps remain

While ABDM provides a strong national framework, healthcare delivery is a state subject, and implementation capacity varies significantly across states and districts.

Common challenges include:

- Incomplete hospital information systems at district and primary health centre (PHC) levels
- Uneven internet connectivity and power supply
- Variability in digital literacy among frontline workers
- Limited device availability in public facilities

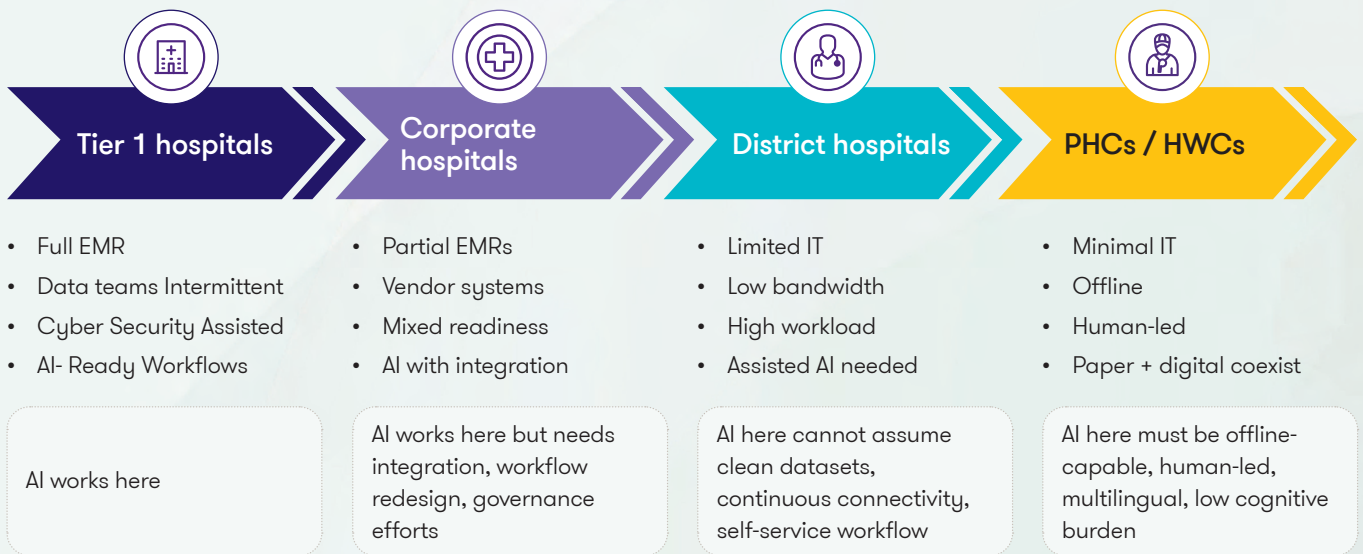
These gaps explain why ABDM supports assisted and offline workflows, particularly for ABHA creation and record usage. AI must adapt to the health system's readiness gradient in order to deliver consistent and inclusive impact.

Healthcare facilities across India operate at markedly different levels of digital readiness — from Tier 1 hospitals with mature electronic systems and data teams, to district hospitals and primary health centres where connectivity, devices, and digital skills are more constrained. This gradient reflects operational reality at national scale, not uneven effort.

6. ABHA website, <https://abha.abdm.gov.in/abha/v3>

High readiness

Low readiness



Therefore, effective use of digital tools and AI requires designs that adapt to local readiness rather than assume uniform digitisation. As system readiness decreases, AI capability does not need to lose value but must change form — shifting from fully autonomous tools to assisted, human led, and offline capable applications. Recognising and designing for this gradient is essential to ensure that AI strengthens care delivery equitably, particularly at the last mile.

Without sustained investment in district level infrastructure and frontline enablement, AI-enabled care risks remaining uneven rather than inclusive.

2.6 Digital health as the rail for the AI capability layer

Taken together, ABDM represents a structural shift in India's health system towards data continuity, interoperability, and patient-centred governance. By integrating identity, consent, registries, and open networks into a unified digital foundation, it creates conditions for responsible, scalable AI adoption.

Digital health infrastructure is, therefore, not an end in itself. It is the rail on which AI-enabled healthcare capabilities run to support decision-making, coordination, and continuity across the care continuum.

This framing sets the context for Chapter 3, which examines how GenAI and agentic AI systems build on these digital rails to augment frontline capacity and translate access at scale into outcomes at scale.

A hand is shown holding a glowing globe. The globe features a stylized 'AI' logo in the center, with the 'A' in light blue and the 'i' in dark blue. A purple ring encircles the globe. The background is dark with a bokeh effect of colorful dots in white, blue, and orange. The overall theme is artificial intelligence and healthcare.

03

**GenAI and Agentic
AI in healthcare: The
intelligence layer**

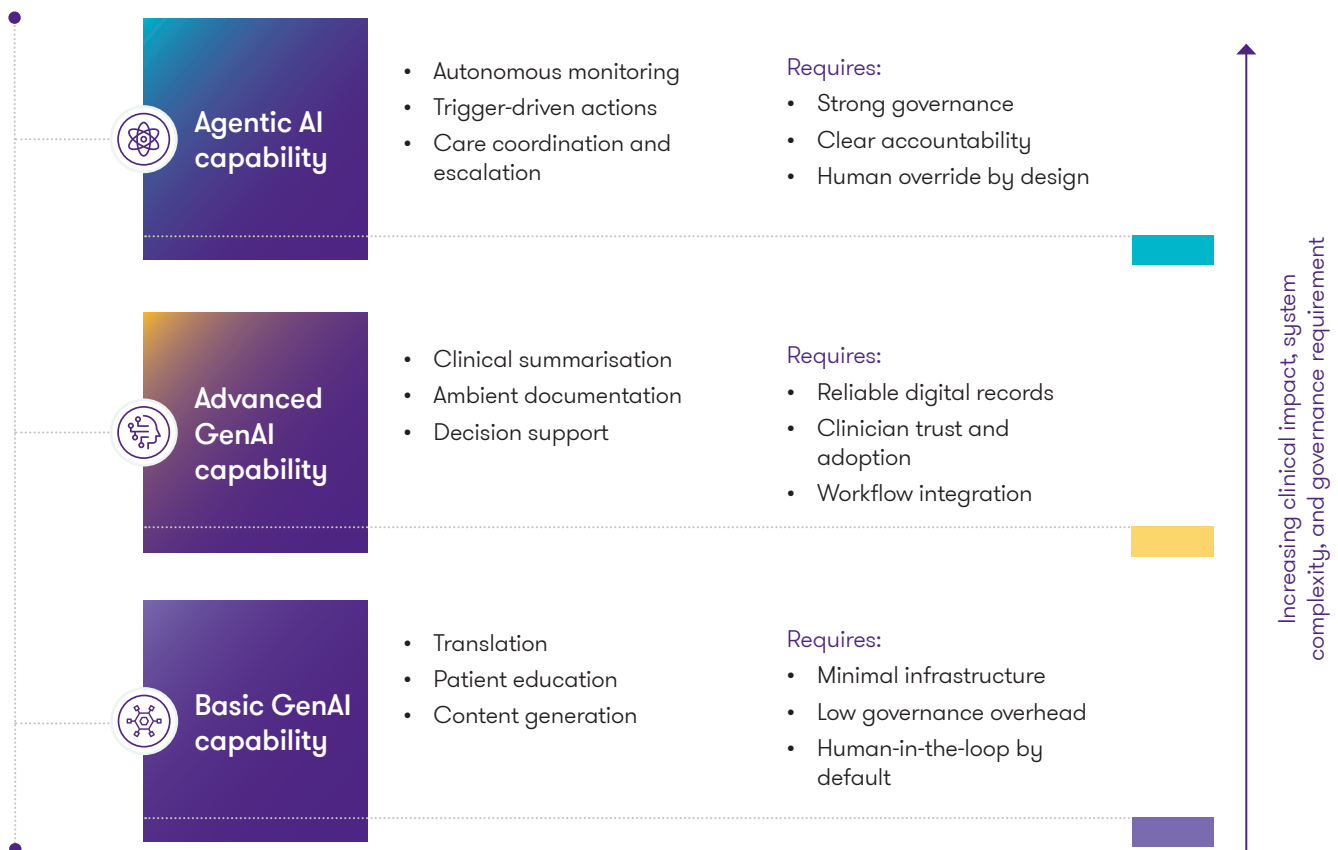
AI adoption in healthcare is not a single leap, but a layered progression in which higher levels of autonomy depend on progressively stronger digital, human, and governance capabilities.

3.1 From digital foundations to intelligence at scale

India’s transition towards AI-enabled healthcare builds directly on access platforms and digital public infrastructure established under ABDM. With identity, interoperability, and consent frameworks increasingly in place, the system is now positioned to adopt more advanced forms of intelligence.

This transition received national validation in March 2024, when the Union Cabinet approved the IndiaAI Mission with a budget outlay of INR 10,371.92 crore⁸, establishing AI as a strategic national priority. Healthcare forms a central pillar of the Mission, with a focus on democratising access to AI tools, including in rural and underserved settings. By March 2025, AIIMS Delhi, PGIMER Chandigarh, and AIIMS Rishikesh were designated as Centres of Excellence for AI, tasked with leading indigenous development and clinical integration.

If ABDM provides the digital rails, AI is the intelligence layer that enables the system to act on data to support decisions, coordination, and continuity at scale.



7. Press Information Bureau website, <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2178092®=3&lang=2>

3.2 GenAI: Expanding health literacy and clinical productivity

GenAI represents the first major wave of this intelligence layer. Its value in healthcare lies less in automation, and more in its ability to translate complex information into usable knowledge — for patients, clinicians, and frontline workers alike⁸.

In India's multilingual and culturally diverse context, GenAI systems trained on regional language data are improving health literacy by generating explanations of conditions, procedures, and care plans in local dialects. This capability has direct implications for treatment adherence, informed consent, and patient trust.

Several national initiatives are shaping this ecosystem:

BharatGen, India's sovereign large language model initiative, aims to reflect the country's linguistic, cultural, and social diversity

BHASHINI, formalised through an MoU between the National Health Authority and the Digital India BHASHINI Division, integrates multilingual translation services across digital health platforms including PM JAY and ABDM

AI4Bharat, led by IIT Madras and the ekStep Foundation, has released opensource language models such as IndicBERT and IndicBART tailored to Indian languages

Together, these initiatives ensure that GenAI capabilities remain inclusive, context aware, and aligned with public digital infrastructure.


8. IndiaAI website, <https://indiaai.gov.in/article/ai-in-indian-healthcare-emerging-trends-and-opportunities-in-2025>





3.3 Ambient clinical intelligence: Reducing administrative burden


A second, high impact application of GenAI lies in ambient clinical intelligence — systems that passively assist clinicians during consultations.

India faces a critical workforce strain in the healthcare sector:

 Doctors severely outnumbered by patients

 Rural doctors carry disproportionate care burden

 Specialist shortfall worsening year on year

 Clinician time spent on administrative tasks

Ambient AI scribes address this by processing doctor and patient conversations in real time, identifying speakers, extracting clinically relevant information, and generating structured notes without retaining raw audio.

Indian providers and start-ups are already adopting these capabilities:

- CareScribe, India’s first AI medical scribe, enables clinicians to speak in Hindi, Tamil, Telugu, Kannada, Malayalam, or English, generating instant clinical documentation
- Ekko Medical Solutions launched an ambient AI platform in March 2026 in Chennai for hands free generation of clinical notes
- A leading hospital chain has allocated approximately 3.5% of its digital budget to AI driven documentation and scheduling, aiming to free 2–3 hours per clinician per day

These tools demonstrate how GenAI can augment human capacity without altering clinical authority or accountability.



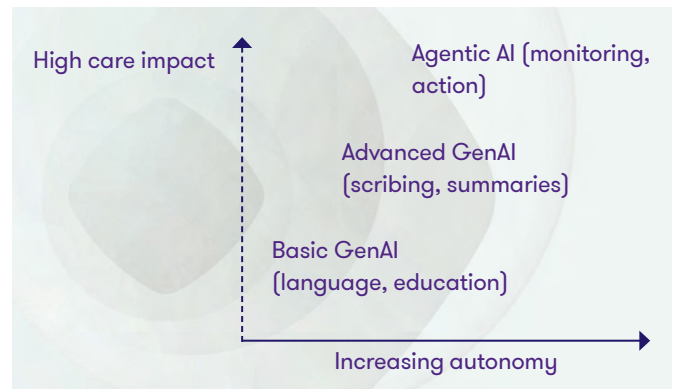
3.4 From GenAI to Agentic AI: Maturity progression

While GenAI focuses on language, summarisation, and decision support, agentic AI represents a deeper shift — from intelligence that informs, to intelligence that acts.

Agentic systems can:

- Continuously monitor data
- Trigger actions when thresholds are crossed
- Coordinate across systems
- Escalate to human supervision when intervention is required

This progression reflects a maturity curve, not a binary leap.



3.5 Agentic AI in practice: Continuity of care at scale

Agentic AI is particularly relevant for conditions where care continuity is difficult to sustain at scale⁹.

In oncology and chronic disease management, agentic systems can:

- Monitor wearable or remote monitoring signals
- Track prescription fulfilment via ABDM linked data
- Detect non adherences or early signs of non response
- Trigger follow up appointments
- Route communications among specialists autonomously

These capabilities address real gaps:

- Cancer patients in India exhibit a 25% missed care rate
- NCD patients frequently miss follow ups and medication refills

Indian innovation reflects this trajectory:

- Dozee uses contactless AI sensors for continuous patient monitoring
- Over 82 crore health records linked under ABDM, combined with a USD 1 billion allocation for AI driven digital health services (Union Budget 2025–26), provide the substrate for such systems¹⁰.

At system scale, the challenge is no longer knowledge alone, but timely action and coordination — precisely where agentic AI adds value.

“

The next leap isn't 'AI in hospitals'; it's AI across the patient journey. GenAI turns fragmented data into shared understanding for clinicians and citizens; agentic AI turns that understanding into timely actions—referrals, follow-ups, adherence nudges—while governance keeps autonomy proportional to risk. That's how India converts access at scale into outcomes at scale



Ashootosh Chand
Partner, Digital Transformation
Grant Thornton Bharat

9. PMC home-NIH website, <https://pmc.ncbi.nlm.nih.gov/articles/PMC12890637/>

10. Press Information Bureau website, <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2101737®=3&lang=2> pdf

3.6 Empowering frontline health workers

India's healthcare delivery relies heavily on its frontline workforce:

- ~1 million ASHA workers
- Serving 800–900 million people
- Supported by e Sanjeevani, which processed 282 million teleconsultations between April 2023 and November 2025¹¹

AI tools are being designed to support, not replace, this workforce¹²:

- ASHABot, developed by Khushi Baby with Microsoft Research India, is a WhatsApp based assistant supporting ASHAs in Hindi, English, and Hinglish
 - 24,000+ interactions
 - 869 ASHAs onboarded in Udaipur district
 - Wadhvani AI's Shishu Maapan app supports newborn health monitoring via smartphone video
 - Deployed with 700+ ASHAs since 2023

These examples reinforce a key design principle: AI at the last mile must be assisted, multilingual, and human led.



11. World economic forum website, <https://www.weforum.org/stories/2025/04/india-healthcare-ai-innovation/>

12. Press Information Bureau website, <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2227410®=3&lang=1>

3.7 Operational efficiency, and hospital workflows

AI driven workflow optimisation is delivering measurable gains in hospital operations:

- AI-enabled patient triage models analyse vitals, history, and risk scores to prioritise care
- A Jaipur multi speciality hospital study (5,000+ cases) showed:
 - 40% reduction in emergency wait times
- An AI powered monitoring system adopted by a leading hospital:
 - Reduced Code Blue events by 80%
 - Reduced nurse workload by 70%
 - Earned the HMA Excellence Award (2024)

These outcomes indicate that AI's operational value extends beyond clinical decision making to system throughput and resilience.¹³

3.8 Ethics, bias, and accountability

As AI gets increasingly embedded in healthcare delivery, algorithmic bias emerges as a systemic risk . Models trained on skewed or incomplete datasets can inadvertently put certain populations at a disadvantage.

Mitigation requires:

- Multi site, demographically representative training data
- Continuous performance auditing
- Clear accountability frameworks

Institutions such as IIT Madras's Centre for Responsible AI, working with partners including Roche Diagnostics, are advancing methodologies for ethical and accountable AI adoption .

Critically, accountability for AI assisted decisions remains with clinicians, institutions, and developers, consistent with India's ethical guidelines.

Conclusion

This chapter discusses how GenAI and agentic AI form the intelligence layer of India's healthcare architecture. Together, they enable systems that:

- Understand language and context
- Reduce cognitive and administrative burden
- Act proactively to maintain continuity of care
- Support frontline workers at scale

When aligned with ABDM's digital foundations and designed for India's readiness gradient, AI becomes a capability that converts access into outcomes — rather than a disconnected technological overlay.

The next chapter examines how such capabilities are developed, scaled, and governed through innovation ecosystems, partnerships, and investment frameworks

13. <https://arxiv.org/pdf/2604.00215>





04

**Aatmanirbhar
Bharat and the US-
India innovation
corridor**

4.1 From cost centres to capability engines

India's GCCs have undergone a structural transformation over the past decade. Once positioned primarily as transactional, cost arbitrage units, GCCs in the healthcare and life sciences sector are now evolving into strategic hubs for global R&D, regulatory science, and AI led innovation.



As of 2025, more than 80 healthcare and life sciences GCCs operate in India, placing the country at the centre of global healthcare value chains. Over 15% of India's GCCs workforce is now aligned to healthcare, with a significant 43% engaged in R&D intensive functions such as drug development, clinical documentation, pharmacovigilance, and regulatory submissions.^{14, 15}

This marks a decisive shift from execution support to capability ownership, with leading organisations expanding India GCCs mandates to include end to end responsibility for critical global processes.

4.2 AI-first innovation platforms

Healthcare GCCs in India are increasingly positioned as AI first innovation platforms, rather than downstream support centres. AI adoption within Indian healthcare GCCs has increased from 65% to 86% over the past five years, reflecting deep integration across analytics, clinical operations, and documentation workflows.

Several GCCs have now evolved into global centres of excellence:

- One major GCCs has emerged as a global data science hub supporting drug discovery and development
- Another leverages its India base for engineering innovation in connected care and digital surgery platforms

Importantly, GCCs are not only applying AI — they are designing and operationalising agentic AI systems that can autonomously execute multi step healthcare workflows such as:

- Prior authorisation
- Resource scheduling
- Risk scoring and escalation

This reflects a broader shift towards semi autonomous healthcare operations, developed and validated from India.



14. Press Information Bureau website, <https://www.pib.gov.in/PressNoteDetails.aspx?NotelD=154488&ModuleId=3®=3&lang=2>

15. Press Information Bureau website, <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2025/dec/doc20251211727601.pdf>

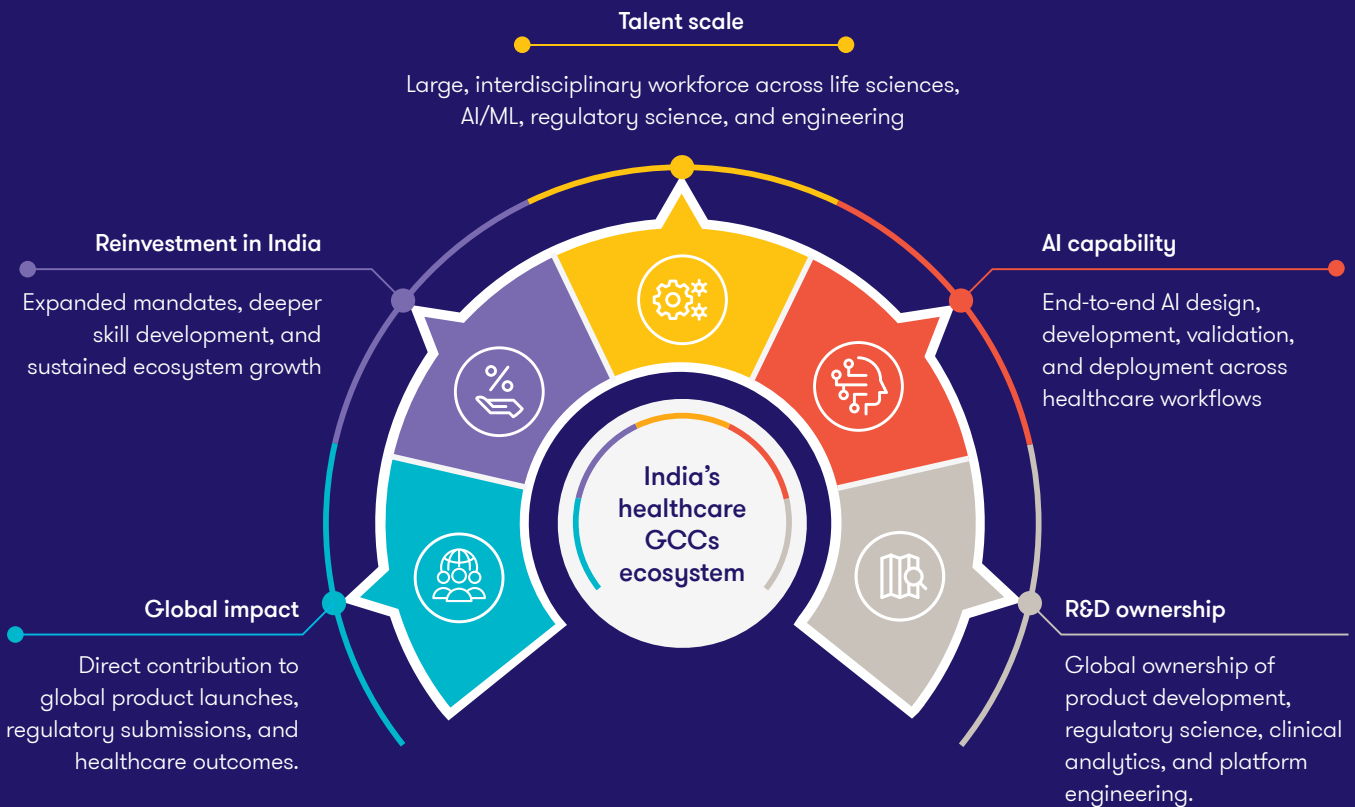
4.3 India's talent advantage and interdisciplinary scale

A critical enabler of this transformation is India's talent pipeline. Each year, India produces approximately 2.3 million STEM graduates, creating an unparalleled pool of engineers, data scientists, regulatory professionals, and clinicians.

Healthcare GCCs are increasingly drawing on interdisciplinary talent, combining:

- Bioinformatics and life sciences
- AI/ML and data engineering
- Regulatory science and clinical research

Innovation hubs in Hyderabad and Bengaluru are emerging as global healthcare innovation clusters, supported by collaborative ecosystems involving GCCs, startups, academic institutions, and industry partners.



4.4 Policy enablement and the Aatmanirbhar innovation stack

This shift is reinforced by a supportive policy environment. Institutions such as NITI Aayog and the Department of Pharmaceuticals have consistently emphasised:

- Digital health adoption
- AI-enabled innovation
- Indigenous capability development

Liberalised FDI norms, sustained investment in digital public infrastructure, and targeted MedTech and biotechnology initiatives are collectively enabling GCCs to scale both capability and impact.

In this context, Aatmanirbhar Bharat does not imply isolation. Instead, it signals capability sovereignty — the ability to design, build, and govern critical AI and healthcare capabilities domestically, while remaining deeply integrated into global value chains.

4.5 The US–India healthcare innovation corridor

As global MedTech and pharmaceutical companies increasingly anchor critical capabilities in India, GCCs are emerging as the backbone of the US–India healthcare innovation corridor.

Rather than functioning as offshore extensions, Indian GCCs are:

- Co creating AI models and platforms
- Shaping regulatory and clinical workflows
- Driving global product and process innovation

In doing so, they are redefining the global operating model for healthcare enterprises — moving from distributed execution to globally integrated, India anchored innovation.

What this means for the healthcare sector

The evolution of healthcare GCCs carries clear implications:

- GCCs strategy is no longer about cost efficiency, but capability concentration.
- AI development, validation, and deployment are increasingly India led.
- Regulations, talent policy, and infrastructure investments must align to this new role.
- The US–India corridor is becoming structurally indispensable for global healthcare innovation.

Indian GCCs are not just contributing to global healthcare systems — they are actively shaping their future, particularly in the age of AI-enabled and agentic healthcare delivery.



A handshaking business deal over a desk with financial documents and a calculator. The background is a blurred office setting with a person in a white shirt. A large, semi-transparent purple circle is overlaid on the image, containing the text.

05

Financing the vision: Capital, start-ups and public - private models

5.1 Financing the next phase of healthcare transformation

Expansion of healthcare system in India is shaped by the interaction of public expenditure, industrial incentives, and private capital, operating over long time horizons. Between FY 2023–24 and FY 2025–26, public healthcare allocations and incentive programmes have provided a multi-year planning envelope within which private players allocate capital.

In FY 2024–25, the Union Government allocated approximately INR 90,171 crore to the healthcare sector, with explicit emphasis on infrastructure, digital systems, and preventive care. Within this, allocations to the Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) were expanded to INR 4,108 crore, reflecting a continued focus on capacity creation across districts and blocks. These allocations provide the demand-side and infrastructure certainty that underpins private investment decisions.

Capital flows shaping India's healthcare ecosystem



Healthcare transformation in India is being shaped by converging capital pools – impacts depends on how effectively this capital flows into system integration and last-mile delivery.

Capital sources	Capital channels (Transformation engines)	Deployment priorities (Where capital is deployed)
<p>Public capital</p> <ul style="list-style-type: none"> PM-JAY funding (INR 82,000 Cr+ approved) ABDM investments (~ INR 2,000 Cr+) State health budgets PLI schemes for pharma, Medtech 	<p>1. Startups and innovation ecosystem</p> <ul style="list-style-type: none"> Diagnostics AI and imaging Remote monitoring and wearables Clinical decision support Digital health platform and care navigation 	<p>Tier 1 : Urban/mature markets</p> <ul style="list-style-type: none"> Hospital expansion and consolidation Diagnostics network scale-up Digital platform and consumer health
<p>Private capital</p> <ul style="list-style-type: none"> PE/VC investments (USD 20-25 billion in last decade) Strategic investors Family offices and corporates 	<p>2. Provider platforms</p> <ul style="list-style-type: none"> Hospitals and multi-speciality chains Diagnostics and pathology networks Care delivery networks and clinics HealthTech enablement platform 	<p>Tier 2 : Scaling layer</p> <ul style="list-style-type: none"> Operational efficiency AI integration and automation Care coordination and patient management
<p>Global capital</p> <ul style="list-style-type: none"> Sovereign funds and DFIs (IFC, World Bank) GCC's investments and R&D Multinational strategic capital 		
<p>Philanthropic capital</p> <ul style="list-style-type: none"> Philanthropic foundations CSR funding Impact investors 	<p>3. Public health systems</p> <ul style="list-style-type: none"> Primary healthcare (AAMs, HWCs) Digital public infrastructure (ABDM, UPI, NHCX) National health programmes Population health and preventive care 	<p>Tier 3 : Underserved/Bharat</p> <ul style="list-style-type: none"> Primary care infrastructure Rural Medtech and diagnostics Last-mile delivery and telehealth

5.2 Public policy as a demand- and risk-shaping mechanism

Public policy has increasingly focused on lowering execution risk in capital intensive healthcare segments, particularly manufacturing, diagnostics, and digital care coordination.



Under the production-linked incentive (PLI) schemes across pharmaceuticals, bulk drugs, and medical devices, reported investments reached approximately INR 1.61 lakh crore by November 2024, generating production worth INR 14 lakh crore and supporting more than 11.5 lakh jobs (direct and indirect).



The Department of Pharmaceuticals reports that from April–December FY 2024–25, FDI inflows into pharmaceuticals and medical devices reached INR 11,888 crore, with INR 7,246 crore approved for brownfield projects, signalling steady interest in manufacturing and platform capacity.

Digital infrastructure

The ABDM, launched with an initial allocation of INR 1,600 crore, has transitioned from foundational build out to adoption and scale. By 2025, more than 8,000 healthcare facilities were actively using ABHA based workflows, and the National Health Authority has indicated plans to seek approximately INR 2,000 crore to extend ABDM till 2030.¹⁶

These interventions collectively reduce coordination and adoption risk for private capital by establishing standards, interoperability, and long term demand visibility.

5.3 What capital activity indicates about system priorities

PE and M&A activity from 2024 to early 2026, when viewed alongside public investment priorities, points to alignment rather than divergence between capital flows and system needs.

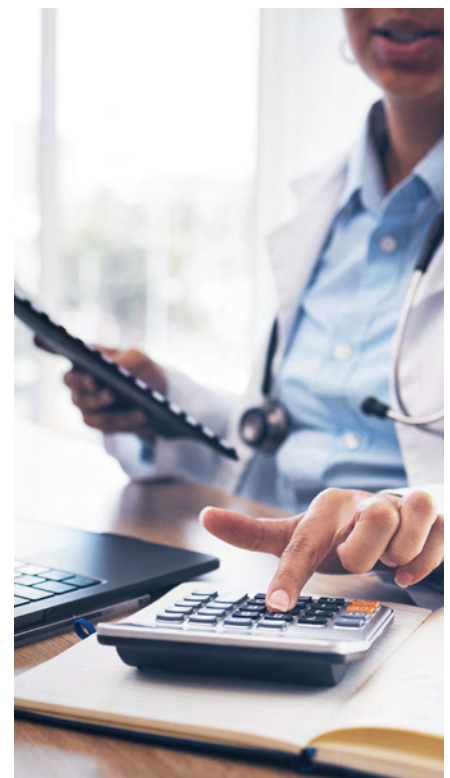
- Across five quarters, healthcare transactions consistently ranged between 57 and 78 deals per quarter, indicating stable participation regardless of market cycles.¹⁷
- M&A value concentration occurs primarily in pharmaceuticals and hospitals, where capacity aggregation and regulatory scale are critical.
- PE/VC deal volumes are higher in count and more dispersed, particularly across health technology, diagnostics, medical devices, and wellness segments that align closely with digital health, preventive care, and outpatient expansion initiatives.

This pattern suggests capital reinforcement in areas where policy has already reduced execution friction.

Capital allocation mirrors healthcare system constraints

Public expenditure and private capital converge most clearly around persistent structural constraints:

- Diagnostics and oncology benefit from infrastructure spending under PM-ABHIM and complementary private consolidation.
- Medical devices attract both PLI-driven manufacturing investment and PE funding, addressing import dependence (currently estimated to exceed 70% for certain device categories, as per Department of Pharmaceuticals disclosures).



16. Department of Pharmaceutical website, <https://pharma-dept.gov.in/schemes/guidelines-production-linked-incentive-pli-scheme-promotion-domestic-manufacturing-critical>

17. Grant Thornton Bharat Annual Dealtracker 2025

- Digital and AI-enabled platforms leverage ABDM rails, reducing marginal cost of scale and attracting modular capital deployment.
- Capital thus appears to respond to operational bottlenecks and delivery gaps, rather than abstract technology narratives. The majority of healthcare transactions remain India centric, reflecting a financing orientation towards domestic capacity building. Where cross border M&A occurs, it is typically:
 - Capability specific (regulated market pharma assets, specialised medical devices)
 - Aligned with export-linked manufacturing or technology acquisition

The Department of Pharmaceuticals, Government of India, indicates that the country remains among the top-ten FDI destinations globally in pharmaceuticals. The policy around greenfield automatic routes and brownfield approval mechanisms continues to drive inbound flows.

Capital allocation is shifting:

Earlier phase	Current focus	Recent investment trends indicate:
Consumer health platforms	Provider-side infrastructure	<ul style="list-style-type: none"> • Increased interest in multi-speciality hospital chains • Consolidation in diagnostics platforms • Focus on operational optimisation and care delivery models
Telemedicine and wellness	Hospital operations and diagnostics	
Growth-led models	Efficiency and outcomes	
Capital is moving closer to the point of care, where efficiency and outcomes can be directly influenced		

Key investors and strategic focus in India healthcare

Investor	Type	India healthcare focus	Strategic insight
TPG Growth	PE	Hospitals, platforms	Scaling multi-city providers
Quadria Capital	Healthcare PE	Hospitals, diagnostics	Integrated delivery models
General Atlantic	Growth equity	Digital health	Tech-enabled platforms
Kedaara Capital	PE	Hospitals	Governance-led scaling
GIC	Sovereign	Hospitals, diagnostics	Long-term capital
Temasek	Sovereign	Healthtech, providers	Digital + infrastructure
Blackstone	PE	Hospitals, diagnostics	Consolidation strategy
Asia Healthcare Holdings	Platform	Specialty care	Focused scaling
IHH Healthcare	Strategic	Hospitals	Network expansion
Reliance / Tata	Conglomerates	Integrated ecosystems	End-to-end healthcare models
Peak XV / Accel	VC	Healthtech startups	Early-stage innovation

India's healthcare financing landscape is best understood through the interaction of policy signals, incentive design, and capital allocation patterns. Public investment in infrastructure, digital systems, and manufacturing lowers systemic risk, while private capital responds by allocating resources towards scalable delivery models and capacity integration.

As digital public infrastructure, AI capability, and GCC led execution mature, financing operates increasingly as an enabling layer of the healthcare system itself, rather than as a standalone market activity.



06

Regulatory
transformation and
ethical governance

India's healthcare transformation now sits at the intersection of three major forces:

1. Expanding clinical and digital infrastructure
2. Accelerated innovation in MedTech and SaMD
3. Emergence of agentic, autonomous AI systems

A coherent regulatory and ethical governance architecture is therefore essential — not to slow innovation, but to provide clarity, predictability, and safeguards as the healthcare system becomes more digital, data driven, and intelligence enabled.

This chapter outlines:

- India's evolving regulatory foundations
- How oversight mechanisms are being modernised
- The trust framework required for agentic AI in healthcare

6.1 India's evolving regulatory foundation

India's regulatory architecture for healthcare innovation today rests on three pillars — medical device regulation, digital health governance, and data protection. Together, they establish the baseline upon which AI and autonomous systems will operate.

MDR 2017 provides risk based regulation of medical devices, including software that meets the definition of a medical device. Its alignment with IMDRF principles, ISO 13485 quality requirements, notified conformity assessments, and comprehensive device coverage (through phased notifications between 2020-2023) ensures that India's device framework is structurally compatible with global regimes.

Software as a Medical Device (SaMD) is governed using the same principles — intended use qualification, Class A-D risk categorisation, software lifecycle requirements (IEC 62304), and health software safety standards (IEC 82304-1). This enables India to regulate AI-enabled diagnostics and decision-support tools within a recognised international framework.

Digital governance under the National Digital Health Blueprint (NDHB), ABDM, and the DPDP Act adds the missing layer of interoperability, consent, data rights, and traceability. ABDM's registries, consent managers, and health information exchange protocols define how digital health products operate within the national ecosystem, while the DPDP Act ensures lawful processing, purpose limitation, and individual data rights.

Together, these frameworks constitute India's regulatory foundation for digital health and SaMD, ensuring that core safety, quality, consent, and interoperability protections are in place as newer technologies emerge.

ABDM Sandbox accelerating innovation

More than 1,000 digital health applications, telemedicine platforms, diagnostic networks, hospital systems, have used the ABDM Sandbox to test interoperability with ABHA, HIECM, and UHI APIs, significantly reducing integration time and improving compliance readiness.

This illustrates the power of a DPI based regulatory enabler for digital health, and indicates the need for a parallel sandbox for AI and SaMD under CDSCO.



6.2 Modernising oversight for a high innovation healthcare system

As India's MedTech and digital health sectors scale, regulatory authorities are modernising oversight to support innovation without compromising patient safety.

The CDSCO has expanded the SUGAM digital licensing platform, introduced faster pathways for Class A and B devices, strengthened zonal offices, and clarified documentation expectations for SaMD clinical evaluation.

These efforts increase predictability and reduce administrative burden, which is critical for start-ups, device manufacturers, and digital-first companies.

However, the next leap requires structured regulatory sandboxes. India currently operates ABDM, BIRAC, and Ministry of Electronics and Information Technology (MeitY) sandboxes, but a CDSCO-led clinical and algorithmic sandbox is essential for:

- AI-enabled and adaptive SaMD
- Remote monitoring and IoT health devices
- Ambient and conversational AI systems
- Early forms of agentic models
- Algorithms that update post-deployment

Such a sandbox would enable supervised real-world testing, iterative risk assessment, and structured pathways from pilot to approval — mirroring regulatory innovation in the UK, Singapore, and Canada.

Parallel to sandbox development, India is also aligning with global standards that govern device safety, software quality, and cybersecurity. Increasing convergence with ISO 13485 (QMS), ISO 14971 (risk management), IEC 60601 (electrical safety), IEC 62304 (software lifecycle), IEC 82304-1 (health software), and IMDRF SaMD frameworks positions Indian manufacturers for global market integration and raises domestic quality benchmarks.

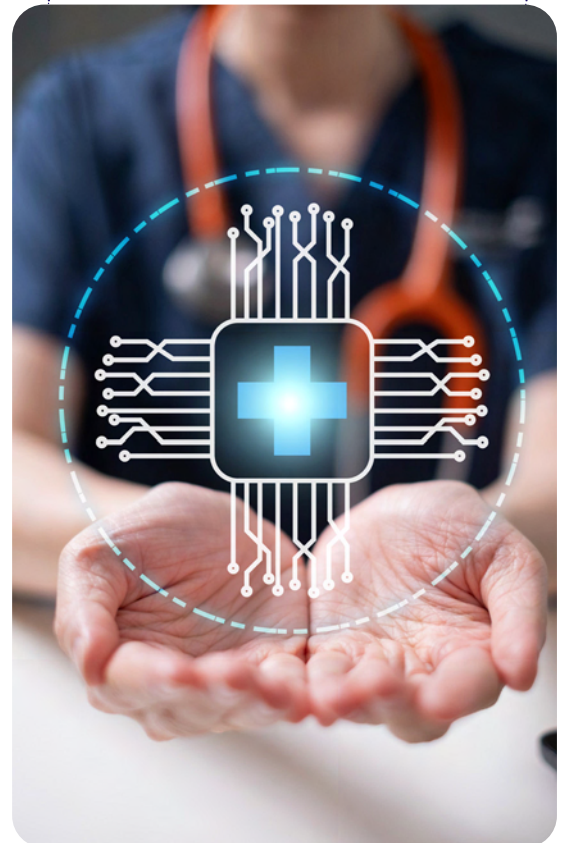
Regulatory modernisation is therefore moving in two directions simultaneously:

1. Reducing friction for innovators
2. Raising safety and quality expectations as India integrates into global value chains

PLI-driven MedTech exports and standards harmonisation

Under the PLI scheme, Indian companies manufacturing MRI coils, monitoring systems, stent components, and surgical robotics modules have expanded exports. Compliance with IEC 60601, ISO 13485, and EU MDR documentation was mandatory for market entry.

This demonstrates why alignment with global standards is vital for India's ambition to become a global MedTech manufacturing hub.



6.3 Governing agentic and autonomous AI: India's trust framework

The shift from assistive AI to agentic, autonomous AI introduces a fundamentally different risk paradigm. Traditional AI governance, such as the EU AI Act or earlier ISO standards, assumed AI systems would support clinical decisions — not initiate them.

Agentic AI systems now demonstrate abilities to:

- Escalate clinical alerts
- Initiate or modify care pathways
- Synthesise real-time data streams
- Interact with patients autonomously
- Adapt post-deployment
- Operate continuously without clinician intervention

This demands a governance architecture built around action-level safety, traceability, accountability, and proportional oversight.

Global signals: The EU, Singapore and ISO

The EU AI Act classifies all clinical AI as high-risk, requiring human oversight, risk assessment, documentation, post-market monitoring, and incident reporting — effectively mandating Human-in-the-Loop (HITL) for consequential actions.

Singapore's Agentic AI Primer (2025) goes further by aligning governance with operational realities: auditable autonomy, adaptive safeguards, and bounded behaviour for autonomous systems.

ISO/IEC has established a three-part AI governance stack, ISO/IEC 42001 (AI management systems), ISO/IEC 23894 (risk management), ISO/IEC TR 24027 (bias assessment), each now being adapted for agentic system oversight.

India's model: Layered and adaptable

Published in 2025, MeitY's AI Governance Guidelines, create a soft law, multi-layer governance system that integrates:

- DPDP Act (data rights)
- IT Act (cybersecurity)
- BNS (liability)
- MDR/SaMD (safety and quality)
- ABDM (consent, auditability, interoperability)
- ICMR Ethical Guidelines (clinical safeguards)



The guidelines introduce seven “AI Sutras”—Trust, People First, Innovation Over Restraint, Fairness, Accountability, Understandability, Safety — and propose institutional mechanisms including the AI Governance Group (AIGG), the Technology and Policy Expert Committee (TPEC), and the AI Safety Institute (AIS).

This layered model allows India to regulate outcomes and behaviours, not only models.

HITL and HOTL: The operational framework

India’s future oversight must adopt a risk graded model:

- HITL for high-risk clinical decisions
- Human on the Loop (HOTL) for low risk operational actions

HITL ensures clinicians retain authority for clinical interventions.

HOTL allows AI autonomy within bounded, auditable contexts.

The challenge is that agentic systems must classify the risk of their own actions—a capability that is emerging but not yet fully mature.

India’s emerging trust framework for AgenticAI in healthcare AI

India is building a uniquely layered, risk-proportionate governance model for next-generation healthcare AI, combining:

- MDR/SaMD safety and lifecycle regulation
- ABDM interoperability and auditability
- DPDP Act data rights
- AI Sutras and institutional governance under IndiaAI
- ICMR clinical ethics
- CDSCO authorisation pathways

This model avoids rigid, over-prescriptive regulation while establishing the guardrails required for safe, accountable, and trustworthy autonomous healthcare systems.



Ambient AI scribes: Consent, data rights and ethical boundaries

Hospitals piloting AI-based medical scribe tools encountered issues involving:

- Patient consent for always-on audio processing
- Storage/deletion of raw voice data
- Accuracy in multilingual settings

These challenges illustrated why India requires multi-layered governance — DPDP Act for data rights, ABDM for consent and audit, ICMR for ethical oversight, and MeitY for AI governance.



Conclusion



Building India's health system of the future

India stands at a decisive moment.

The country has built healthcare access at population scale, established digital public infrastructure unmatched globally, and is now shaping the next era of healthcare through AI, advanced MedTech, and global innovation ecosystems.

If the past decade was about building platforms and infrastructure, the next two decades will be about:

- Turning access into outcomes
- Turning data into intelligence
- Turning intelligence into autonomous capability
- Turning capability into global leadership

India can position itself not merely as a beneficiary of global health innovation, but as a shaper of the world's health systems by 2047.

To anchor this ambition, this report proposes a 20 year roadmap built around three horizons.



The roadmap to 2047: A 3-, 10- and 20-year transformation pathway

India's healthcare transition requires a long horizon view.

The following roadmap outlines system level milestones across access, technology, and investment for 2027, 2035, and 2047 — aligning policy, industry, and innovation trajectories.

India's healthcare transformation roadmap

	<p>2027</p> <p>Near term</p> <p>Foundation strengthening and acceleration</p>	<p>2035</p> <p>Medium term</p> <p>System intelligence and care automation</p>	<p>2047</p> <p>Long term</p> <p>A trusted autonomous global health leader</p>
Access	<ul style="list-style-type: none"> ABDM adoption mainstreamed across public and private providers UHI operational across major metros and Tier-2 cities Digitisation of primary health centres (PHCs) and district hospitals accelerated 	<ul style="list-style-type: none"> National continuity of care systems operational across states Community health workers fully supported by AI-enabled tools Digital + Physical hybrid care models standardized for NCDs and maternal/child health 	<ul style="list-style-type: none"> India transitions to a fully coordinated national health system, integrating hospitals, PHCs community care, and home-based monitoring AI-supported care essentially universal, with equitable deployment across rural and low-resource settings
Technology	<ul style="list-style-type: none"> AI-enabled clinical documentation and diagnostics deployed widely in hospitals SaMD/SaMD- AI approvals streamlined via CDSCO digital pathways First wave of regulatory sandboxes operational for AI, remote monitoring, and digital therapeutics 	<ul style="list-style-type: none"> Agentic AI deployed selectively in low-risk and medium-risk settings under HOTL governance AI-driven population health surveillance with secure, privacy-protected data exchange India establishes global benchmarks for AI governance tailored to emerging markets 	<ul style="list-style-type: none"> Safe, governed, accountable autonomous AI systems executing clinical and operational tasks within clearly defined human oversight frameworks India becomes a global hub for agentic AI safety, with the AI Safety Institute as a reference Standardised exportable models for digital health, AI governance, and affordability- focused MedTech
Investment	<ul style="list-style-type: none"> Greater domestics manufacturing under PLI: India becomes preferred base for value MedTech The US- India healthcare corridor deepens through GCC R&D hubs and co-development of AI tools 	<ul style="list-style-type: none"> India emerges as a top-5 global MedTech manufacturing hub GCCs lead global development of AI-enabled clinical decision tools and biosimilar R&D Significant increase in investment in medical devices, diagnostics, and predictive care platforms 	<ul style="list-style-type: none"> India becomes a global health innovation superpower, exporting technologies, governance frameworks, and interoperable platforms to the Global South Deep US- India innovation corridors emerge across AI safety, MedTech, bioengineering, and health security

Enablement Foundations	Trust, safety and ethics	Digital public infrastructure	Skilled workforce	Research and innovation	Sustainability and inclusion
	Robust AI governance, privacy, and data security	ABDM, UHI, NHCX, and interoperable standards	Upskilling clinicians, CHWs and digital talent at scale	AI, genomics, bioengineering and health systems research	Affordable, equitable and environmentally responsible care



Our North Star– Equitable access. Trusted technology. Sustainable Innovation. Better outcomes for every Indian

Capital availability in healthcare is significant, but its distribution across different layers remains uneven — particularly in the last mile.



Near-term milestones (2027)

India's immediate priority is strengthening the digital and physical foundation of the health system.

Access

- ABDM adoption becomes mainstream across providers.
- UHI is operational and scaling across major metros.
- Digitisation of PHCs and district hospitals accelerates continuity of care.

Technology

- AI-enabled diagnostics, summarisation, and clinical documentation deployed at scale.
- Streamlined CDSCO pathways for SaMD and digital health products.
- Early AI regulatory sandboxes enable supervised testing and evaluation.

Investment

- Domestic MedTech manufacturing expands under PLI incentives.
- GCCs deepen their global R&D mandates in AI, MedTech, and clinical analytics.



Medium-term milestones (2035)

By the mid 2030s, India builds systemic intelligence into healthcare delivery.

Access

- A national continuity of care network has emerged.
- Community health workers use AI tools for triage, counselling, and follow-up.

Technology

- Early agentic AI systems deployed with HOTL oversight in low risk settings.
- Secure population health surveillance, protecting privacy, becomes standard.
- India develops globally recognised frameworks for AI safety and governance.

Investment

- India becomes a top 5 global MedTech manufacturing hub.
- Significant investment flows into diagnostics, clinical AI, robotics, and remote care platforms.



Long-term milestones (2047)

By India's centenary year, the system evolves into a globally recognised, AI-enabled healthcare architecture.

Access

- India will have a fully coordinated national health system integrating hospitals, PHCs, home care and digital services.
- AI-supported and equitable care will be deployed across urban and rural India.

Technology

- There has to be safe, accountable autonomous AI systems reliably executing bounded clinical and operational tasks.
- AISI emerges as a global reference institution for AI safety in healthcare.
- India exports digital health architectures and agentic AI governance models.

Investment

- India becomes a global health innovation leader, shaping next-generation MedTech, AI safety, and biomanufacturing.
- Deep US-India innovation corridors will advance AI governance, health security, and medical engineering.



Policy recommendations

Below is an integrated, precision focused set of recommendations aligned with system scale and India's long-term strategic positioning.

For the Ministry of Health and Family Welfare (MoHFW)

- The Ministry should establish a National Care Coordination Framework to operationalise continuity of care across ABHA-linked records.
- It should accelerate digitisation of PHCs and district hospitals to reduce readiness disparities.
- It should expand public procurement frameworks for AI, remote monitoring, and digital therapeutics, with transparent evaluation templates.
- It should integrate AI readiness and digital health modules into medical and paramedical education.

For MeitY and IndiaAI Mission

- They have to operationalise the AI Governance Group (AIGG) and AI Safety Institute (AISI) with sector-specific (including healthcare) working groups.
- Together they should issue sectoral implementation playbooks for HITL/HOTL oversight in Agentic AI.
- They should expand the IndiaAI compute infrastructure with secure health-data sandboxes.
- They should enable responsible cross-border AI health research through localised, privacy-preserving computer.

For CDSCO

- CDSCO must launch a Regulatory Sandbox for SaMD, AI/ML devices, and adaptive algorithms.
- It should publish guidance for clinical evaluation of AI-enabled SaMD, including drift detection and post market surveillance for continuously learning systems.
- It should expand device testing and calibration labs to support connected-care technologies.
- It should strengthen notified bodies for software and cybersecurity audits.

For NITI Aayog

- The organisation should develop a National AI-in-Health Mission, parallel to National Health Mission, integrating funding, governance, and evaluation
- It should create a national framework for Health System Digital Maturity, enabling states to benchmark readiness
- It should drive multi-ministerial convergence (MoHFW, MeitY, DoP, DPIIT) for India's MedTech export strategy
- It should oversee outcome-based monitoring of AI deployments in public health programmes

Way forward

India's journey to 2047 will not be achieved by the government alone. Three constituencies must lead alongside policymakers:

1. Industry (providers, Medtech, pharma, Healthtech)

- Build AI systems that are safe by design, not retrofitted for compliance
- Invest in "India-first, globally scalable" MedTech and AI solutions
- Commit to rigorous real world validation and interoperability with ABDM
- Develop transparent data and model governance practices

2. Investors (PE/VC, sovereign funds, strategic investors)

- Shift focus from short-term platform plays to infrastructure, Medtech, and care delivery models that scale nationally
- Support startups in regulatory navigation, clinical validation, quality certification
- Back AI companies building for HITL/HOTL aligned risk tiers, not unconstrained autonomy

3. US-India partnership (GCCs, universities, agencies, regulators)

- Co-develop AI safety benchmarks, including red teaming, drift testing, and autonomous systems oversight
- Expand the US-India Health Innovation Corridor for clinical trials, agentic AI validation, and Medtech engineering
- Build joint standards on AI ethics, genomic data governance, and precision-medicine toolchains
- Leverage US regulatory experience and India's scale to define Global South AI governance models

The foundations exist. The momentum is real. The next two decades will determine whether India's health system becomes simply bigger or truly world leading.

The roadmap to 2047 is not a prediction. It is a choice. And the choices made now will define the health, longevity, and productivity of more than a billion citizens.



About The American Chamber of Commerce in India (AMCHAM)

AMCHAM India is the leading apex chamber of US industry in India. Established in 1992, AMCHAM has over 400 US companies as members and plays a pivotal role in fostering strong ties between the US and India. The incumbent US Ambassador to India is the Honorary President of AMCHAM. The chamber enjoys a close relationship with the US Embassy and complete support in fulfilling its objectives. Country Heads of leading US companies constitute the elected national executive board. The chamber's mission is to assist member companies to succeed in India through advocacy, information, networking and business support services. Headquartered in New Delhi, AMCHAM extends its influence through regional chapters in Bengaluru, Chennai, Hyderabad, Kolkata, Mumbai and Pune.

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