



Technology transformation for future-ready healthcare

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Technology transformation for future-ready healthcare

Grant Thornton Bharat and Association of Healthcare Providers (India) (AHPI) have tried to understand the healthcare providers' and practitioners' perspectives on leveraging technology across key touchpoints, preferences, challenges and outlook.

This report is based on a survey of 50+ healthcare leaders and professionals associated with hospitals of different sizes, specialities and locations.

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Foreword



Dr. Girdhar J. Gyani **Director General** AHPI

The Indian healthcare system needs to overcome key healthcare challenges and progress towards the path of universal health coverage.

Over the years, India has made rapid strides in health parameters such as life expectancy, mortality rates and immunisation. The Indian healthcare system is currently at a critical juncture, where it needs to overcome key healthcare challenges and progress towards the path of universal health coverage (UHC).

Significant achievements and progress have been made through a number of initiatives, including the flagship Ayushman Bharat Yojna and Ayushman Bharat Digital Mission (ABDM) to provide tertiary and secondary care to the underprivileged and promote digitalisation. However, with the recent pandemic, rising disposable incomes and lifestyle changes coupled with population increase, the disease patterns are changing significantly.

The pandemic has only accelerated the adoption of technology as we endeavour to make healthcare affordable and accessible to all.

Hon'ble Prime Minister of India has expressed his desire of opening more than 3,000 new hospitals in tier II/III cities where the private sector will play a pivotal role in developing patientcentric infrastructure, technology integration and use of telemedicine for standardisation of practices. This would lay the foundations for a wider healthcare marketplace with innovative product offerings and encourage new market entrants in the wake of possible newer investment avenues and technological advancements. There is a compelling need to make the way health is sought smarter, with greater attention to patient safety. More focus should

go towards monitoring and measuring sentinel events as well as medical errors.

In this report, the Association of Healthcare Providers (India) and Grant Thornton Bharat have tried to analyse and understand imminent changes pertaining to technology in the healthcare arena. The report is based on a survey of 50+ healthcare leaders and professionals associated with hospitals of different sizes, specialties and presence.

Industry leader view



Replacing a typewriter with a computer is not digitalisation in the healthcare sector.

Dr. Devi Prasad Shetty Founder Member AHPI Founder and Chairman Narayana Health

In today's time, no industry can function without technology and healthcare is no exception. However, the level of acceptance and extent of implementation vary.

When patients walk in, there are hundreds of data points for doctors to consider, as opposed to a finite number until a few years ago. Diagnosis is challenging in a limited period of a few minutes. At this pace of technological evolution, we will soon see smart software make a smarter diagnosis. While technology cannot replace doctors, in the next 10 years, doctors mandatorily taking a second opinion from technology will be a reality. Effective use and integration of technology can go a long way in aiding healthcare professionals.

Various reports indicate inefficient communication as a leading reason for preventable patient fatalities. A lot of time lapses between the diagnostics tests and report review by the doctors.

Unfortunately, while most of the current generation tech tools digitise the reports, they are not designed to ease the process for doctors. The tools need to be intuitive and enhance ease of accessibility on mobile. Complex tools do not benefit hospitals and will continue to impede the adoption of technology, especially considering the lead time for the investment to improve the top line and bottom line.

Smart electronic medical records (EMR) have the potential to be a game-changer for healthcare. They will also boost telemedicine as practitioners will be able to study patient history while remote-consulting and be better placed to prescribe treatment. Currently, most of the EMR effort is primarily spent on converting paper into digital format. We need to build smart tools. Digitalisation also needs to be accompanied by a restructuring of the processes and behavioural change, failing which productivity gains are unlikely.

Health insurers and other corporate payers have the power to accelerate digitalisation in healthcare. Increased integration of insurers, hospitals, and claim processors will increase the demand for digitisation of patient health records to drive efficiency.

As we move ahead, the development of doctor-friendly solutions would promote technology adoption, and improved healthcare delivery and patient outcomes would follow.

Executive summary



Bhanu Prakash Kalmath S J Partner and Leader Healthcare and Lifesciences Grant Thornton Bharat



Santhosh Chandrasekaran Executive Director Lead Advisory Grant Thornton Bharat

India's healthcare system is vast but faces many challenges. The country is home to the best medical talent and has more than one million doctors and almost two million nurses and midwives – still not adequate for the 1.4 billion population. Quality and advanced healthcare facilities have a skewed presence in cities, where only less than one-third of the population resides.

For a large and diverse country like India, developing accessible and affordable healthcare facilities is the biggest challenge, creating an opportunity for private players. On the parameter of universal health coverage, which involves all people receiving high-quality health services when needed, without experiencing financial hardship, India has progressed in the last three decades – the UHC index value has increased from 27 (1990) to 42 (2010) to 61 (2019).

India has successfully embraced the digital mindset in the last decade and adopted digital payments and electronic currency. Grant Thornton Bharat and AHPI's survey also reflects this sentiment

- more than 80% of the respondents said they wanted to enhance their digital and IT infrastructure spending budget.

However, the primary factor fundamental to digitalisation is the availability of technology tools that facilitate the creation of smart hospital infrastructure. Investments in the digitalisation of hospital infrastructure are aimed at improving patient outcomes, driving productivity, undertaking sustainable, well-governed and profitable operations, and ensuring patient privacy through adequate cybersecurity. Our survey also indicated that healthcare companies need to invest significantly in technology to address cybersecurity threats and data privacy issues.

Digital transformation in the healthcare sector is happening at a fast pace and has an evident impact. For example, specialist doctor consultations are now available in lower-tier cities and rural areas in India – something unthinkable a few years ago. Despite the pace of change, telemedicine revenue still accounts for less than 5% for over 75%

of the survey participants. The growth of internet penetration and adoption in the country is expected to facilitate internet-based healthcare solutions, which can accelerate the healthcare infrastructure creation per capita at a much lower cost and reach of healthcare services to all, especially in rural areas. 5G networks will only advance this initiative. Our survey of hospitals also indicated that 80% are planning to leverage 5G for better healthcare outcomes in the next 12 months.

Our survey also revealed that more than 60% of respondents had implemented technology tools such as health information management system (HIMS), electronic health record (EHR) and electronic medical record (EMR), indicating the intent to move towards a digital ecosystem.

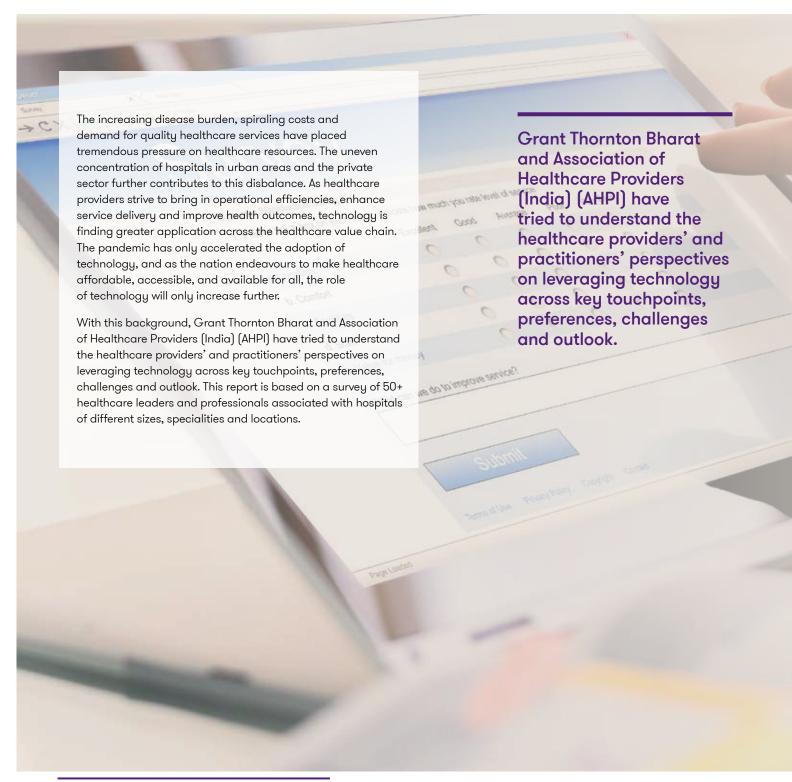
From the physician, payer and provider perspective, adoption of EMR is likely to reduce medical error incidences and facilitate the effective transfer of patient records from one service provider to another.



About the survey

Respondent profile

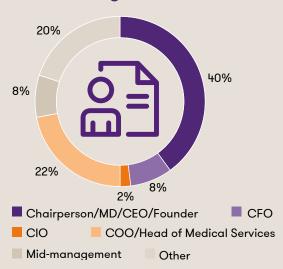
50+ healthcare leaders and professionals from across India



Holding structure



Role in the organisation



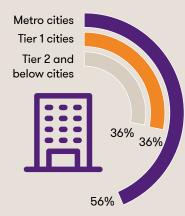
Capacity



Location



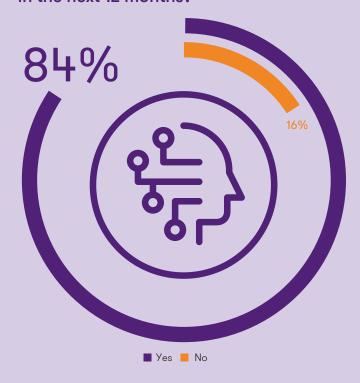
Presence



Technology spend: Outlook



Do you plan to significantly increase the budget on digital solutions and technology initiatives in the next 12 months?



plan to leverage 5G to drive healthcare outcomes

are not confident that their technology infrastructure is sufficient to prevent cyber threats

feel their technology infrastructure can ensure patient data privacy

Addressing cyber threats and data privacy breaches



Ensuring data privacy



Encryption is a technique by which data is enciphered such that only those with the key to the enciphered text may gain access to the data. Encryption can help to protect data from unauthorised access and should be used for any data stored or transferred electronically.

Using privacy information management system (PIMS)



PIMS enables an organisation to set and define access controls so that only authorised personnel can have access to sensitive data. PIMS may also be used to monitor data access and usage of personal data by a specific user and help identify a potential threat to the personal data.

Providing appropriate training



Organisations should ensure that all personnel with access to sensitive data receive proper training on data privacy and security protocols. The training should include best practices on data handling, data storage and incident reporting.

Staying up-to-date



Keeping up with the latest data privacy and security developments.

Focusing on security policy



Drafting a comprehensive security policy that encompasses every angle of data handling and its storage and mandatory employee training on data protection best practices are also of paramount importance.

Ramping up security measures



Exploring additional security measures such as multi-factor authentication, anonymisation and encryption.

Technology budget allocation: Priority areas

Priority areas The future of healthcare lies in working hand-in-hand with technology, and the sector must embrace emerging technologies to become future-ready. **Billing function** 01 With hospital chains having presence across multiple locations, running efficient operations with robust governance mechanisms and achieving better health **Patient** outcomes are a challenge. Further, with the large 02 engagement volume of transactions scattered with multiple manual touchpoints, control environment without technological intervention will be less reliable. Integration of multiple Electronic health records/ 03 platforms operating autonomously or a unified electronic medical records technological solution could address numerous issues plaguing the industry. These issues include digitisation of patient records, manual billing, discount authorisation, 04 **Operations excellence** multiple rates with multiple players, teleconsultation reconciliation, monitoring of near-expiry medicines and credit card reconciliation. With the mounting pressures Patient care/delivery and on the regulatory front to protect personnel data, 05 health outcomes continued manual interventions in these areas could prove counterproductive. Revenue enhancement 06 and cost optimisation Efficiently run 07 support functions 08 Tele consultation 09 Regulatory compliance

Prevent cyber threats



have seen an operational efficiency gain of up to

from technology implementation

Healthcare organisations have primarily grown through inorganic mode, bringing in further complexities of disintegrated technology platforms, processes and people practices, impacting the ability to run efficiently and enhance the patient experience.

The absence of an all-encompassing hospital information system (HIS) might be a sore point for the industry. However, technology has enabled the integration of multiple platforms, even with diverse operating systems. This unification could aid in mitigating business risks and have efficient and reliable management reporting.

Technology infusion into operations is no longer just an option or a good to have cosmetic, but a necessary cog in the wheel for better healthcare outcomes, patient engagement, efficient operations, governance management, revenue maximisation and standardising the protocol.

The data on operational efficiency gain will only encourage more healthcare players to view this as a lucrative opportunity considering a large part of the technology investment will get paid back by these gains and resulting revenue maximisation, which was lacking earlier.

Bhanu Prakash Kalmath S J

Partner and Leader Healthcare and Lifesciences **Grant Thornton Bharat**

Compliance management: Leveraging technology



Do you use any technology platform to track and monitor adherence to regulations, statutory compliances and litigations?



Monitoring and tracking statutory and regulatory compliances through an automated solution can help healthcare organisations to prepare for selfassessments quickly, efficiently and effectively. As a result, healthcare providers can assess compliance status and risk posture faster than a manual compliance management system. Automating evidence collection, monitoring 24/7, providing security awareness training and monitoring internal organisational policies are concrete steps to ensure healthcare compliances. With tools and software for healthcare compliances, organisations can stay up-todate and safe in real time, avoiding penalties and fines by reducing manual compliance dependencies and human errors.

Vipin Gupta

Executive Director CFO Services Grant Thornton Bharat

Leveraging technology for tax efficiencies



Organisations can integrate tools with their ERPs to comply with various laws



Implementation of software developed by the Application Service Provider (ASP) and GST Suvidha Provider (GSP) has helped organisations to minimise manual efforts for GST compliance and has simplified filing of regular GST returns. Further, integration of such software with ERPs can help generate e-invoices and e-way bills directly from own ERPs. Such software can also be used to prepare various reconciliations for day-to-day tax compliances and to respond to

communications from tax authorities.



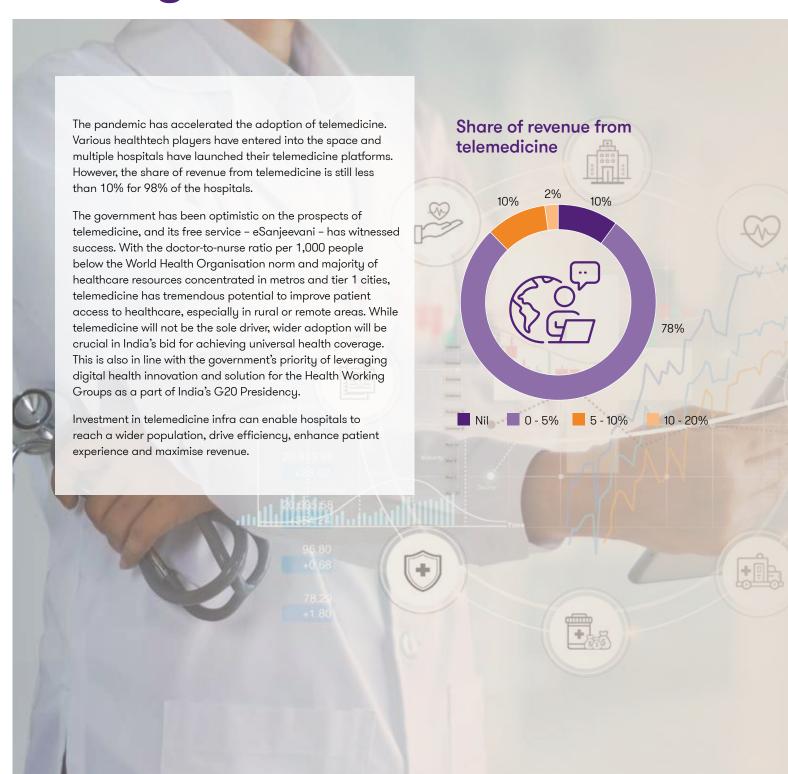
Under the recent amendments, GST is applicable at the rate of 5% on provision of a non-ICU room by a clinical establishment having charges exceeding INR 5,000 per day to a person receiving healthcare services. Such amendments have led to substantial changes, ranging from documentation requirements to reporting in GST returns. Technological intervention can aid in proactive implementation of such amendments.



Large healthcare organisations have a high volume of transactions which are impacted by the introduction of section 194R under the income tax law. Tech tools and software can help the tax teams at hospitals to keep a check on such compliances and ensure required deduction as per the section.

Technology has huge potential to reduce manual efforts; however, the dynamic nature of the tax laws requires constant monitoring and updating of tools and software to remain compliant.

Telemedicine and EMR: Harnessing true power of digital



have implemented

Lack of EMRs is an impediment in the adoption of telemedicine. While 62% respondents indicated that they have implemented EMR, focus has largely been on moving from paper to digital format and shifting processes from manual to electronic mode.

do not have EMR 54% integrated with billing systems

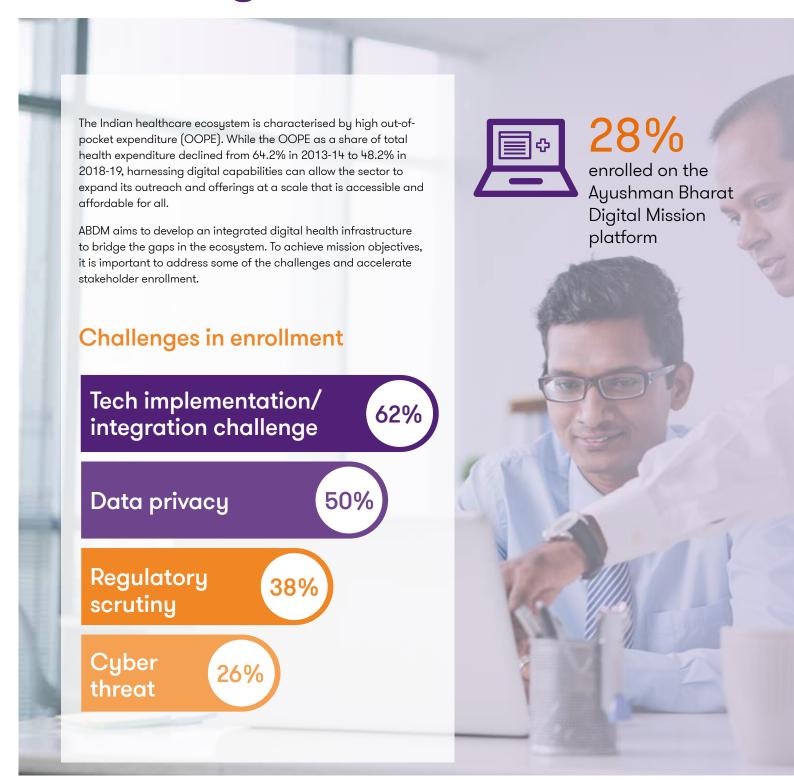
This is further substantiated from the survey result, with 54% of the respondents stating that they do not have EMR integrated with billing systems. Smart and integrated EMR can bring in significant efficiencies in billings and enhance patient experience.

Interoperable EMR can truly revolutionise healthcare by improving patient safety and enhancing continuity of care. It can enable better clinical decision-making, particularly in the case of telemedicine, by equipping doctors with the patient history. Further, it can reduce administrative burden and increase efficiency, enabling hospitals to focus on patient care rather than data management. Moreover, patient-authorised sharing of EMR for a specific period will result in better control of data in the hands of the data owners.

The survey indicates an increasing intent amongst healthcare service providers to move towards a digital ecosystem. However, various challenges exist which will need to be ironed out to increase the uptake of EMR and realise the two-pronged benefits for both patients and hospitals. We have seen resistance in the workforce at various levels to adopt EMR. As most of the EMR systems take time to master, a robust training programme for staff, including doctors, needs to be in place for its implementation in letter and spirit. Further, a regular audit of the EMR compliance rate by physicians and incorporating feedback will help improve EMR adoption. Hospitals should also look at incentivising staff to encourage higher adoption of technology. These initiatives will help us actualise the true potential of EMR in addressing incidences of medical errors, improving the quality and safety of care and reducing the operating cost of hospitals.

Dr. Girdhar J. Gyani **Director General AHPI**

Ayushman Bharat Digital Mission: Enrollment and challenges



Data privacy and management

Currently, sensitive personal information of the beneficiary is documented offline in the registers/through a signed photocopy of identity documents. The issue is exacerbated by the lack of robust data management rules. The data processor and data controller, at an institutional level, are not independent of each other. This problem confirms the long-standing argument that digitising the records alone will not ensure data privacy for the patients. ABDM must rejig the data management architecture and establish/handpick existing institutions that are independent (at a regulatory level and desirably at a legislative level) to implement, manage and process beneficiary and other data sets.

Ecosystem development

The existing onboarding framework for intermediaries, such as pharmacists and medical equipment providers, does not talk seamlessly to the database of statutory requirements. This potentially creates a network of unverified intermediaries on the platform. It has a cascading effect on the legitimacy of the service provider and the platform.

Inter-state equalisation conundrum

Health is a state subject, and as a result there is a disparity in the burden of providing healthcare and funding it. Interoperability will allow the beneficiaries to avail of services from any part of the country. The already well-off states experience a higher influx of patients and are able to further invest in the infrastructure. On the other hand, the not so well-off states end up paying for the development. The same is true for innovators who would want to test their products in areas that cater to a wide range of demography. The platform must ensure the equitable distribution of resources that will allow for holistic development.

There is no doubt that India needs a healthcare platform that assures data privacy, access to care, innovation, data management and convergences/ collaboration. The government recognised and launched ABDM with a vision to create a common digital platform. If implemented as envisaged, it can provide the ecosystem with a variety of resources to deliver/access state-of-art healthcare services. To actualise the potential, we need to appreciate the existing challenges that may act as a thorn in the otherwise stellar architecture. The new digital care architecture of healing spaces, home care, diagnostic centres, telecare and remote monitoring should seamlessly integrate with the existing physical infrastructure. Harnessing the full potential of technology will be possible if we simultaneously continue our investment in the physical healthcare infrastructure. We need to design flexible digital spaces that will allow the next-in-line leaders to deliver state-of-the-art healthcare services using technology.

Ramendra Verma

Partner
Public Sector Consulting
Grant Thornton Bharat

Way forward

The government's digital push has ensured effective proliferation of social sector schemes, resulting in mass outreach and direct impact. The government should also focus on leveraging technology for accessibility, affordability and making quality healthcare services available at all levels. A recent example of a public-healthfocused digital is CoWIN, which facilitated a successful nationwide vaccination programme by ensuring tracing and monitoring during COVID-19.

The transition towards smart and connected hospital is not far behind, with technology tools, equipment and devices, and digital solutions becoming increasingly available both within and outside India. We believe the attractive healthcare market conditions, economies of scale along with fair competition will drive this trend. The convergence of various healthcare service providers and healthcare insurance service providers using technology platforms will increase the insurance penetration amongst the population, ensure the availability of insurance plans at an attractive premium and facilitate efficient settlement of patient's medical claims.

The Union Budget 2023 accords significant focus to digital innovation in healthcare. Artificial intelligence (AI), business intelligence (BI) and machine learning (ML) tools are going to have a path-breaking effect on operational efficiencies and healthcare outcomes. These tools can address issues such as clinician burnout, faster interpretation of diagnostic results, improving the clinical workflows, and personalised or customised healthcare programmes. Further, with the right set of data protection measures, medical tourism will also receive a boost.

The success of digitalisation in healthcare is entirely dependent on early adoption, proper training and incentivising the clinicians, nurses and bio-mechanical professionals on effective use of technologies. Another way of ensuring a smooth transition and effective adoption is by providing adequate impetus to digital trends in the healthcare sector, medical technology, and use and adoption of such technologies for prognosis and procedures as part of the academic programme and syllabus for medical professionals.

Creating an intelligent health system will make doctors better at what they do, while improving patient experiences. A concerted effort and hassle-free approach by all the key stakeholders to develop technology and solutions that reach all levels of the healthcare ecosystem will facilitate a win-win scenario for India in its journey towards digitalisation of its healthcare infrastructure.

About Association of Healthcare Providers (India)

AHPI represents the vast majority of healthcare providers in India. It is registered under Indian Society Registration ACT- 1860 as "not for profit" organization. It educates to its members and at the same time, advocates with the government, regulatory bodies and other stake holders on issues, which have bearing on enabling its member organizations in delivering of Universal Healthcare Services to the community at large.

AHPI's vision is to have healthy India, encompassing society, community and common man at grass root.

AHPI works with all stake holders in establishing a national system where, common man can avail assured universal access to basic health services. The Federation facilitates its members and partnering bodies, in carrying out healthcare improvements to serve the community effectively and efficiently.

AHPI undertakes advocacy for healthcare reforms, infrastructural issues, taxation and tariff issues, health insurance concerning matters and any other difficulties face by the healthcare organisations or community for healthcare delivery or obtaining healthcare services with equity. The AHPI Institute of Healthcare Quality develops and conduct various healthcare management courses focusing on patient safety and healthcare quality, whereas AHPI Healthcare Certification Centre an another subsidiary body of AHPI develops standards for different categories of healthcare establishments, certification of compliance of various standards by the healthcare agencies and customised certified training programs and training (QMS and healthcare managerial training) for the industry. AHPI also provides information assistance to its member organization on various problematic issues face by the client members.

AHPI in a short period of time has become the esteemed organisation in the healthcare industry comprising of about 10,000 hospitals as its members.

AHPI aims at integrating healthcare providers to work jointly with the stakeholders including government and society for well being of common man and build healthy India. To make this task easier we have divided the work and created empowered teams at the state level. Maharashtra, Karnataka, Tamil Nadu, Gujarat, Delhi NCR, Jharkhand, Andhra Pradesh, Telangana, Rajasthan, Punjab, Kerala, Odisha, North East, MP and West Bengal now have AHPI chapters.

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Acknowledgements

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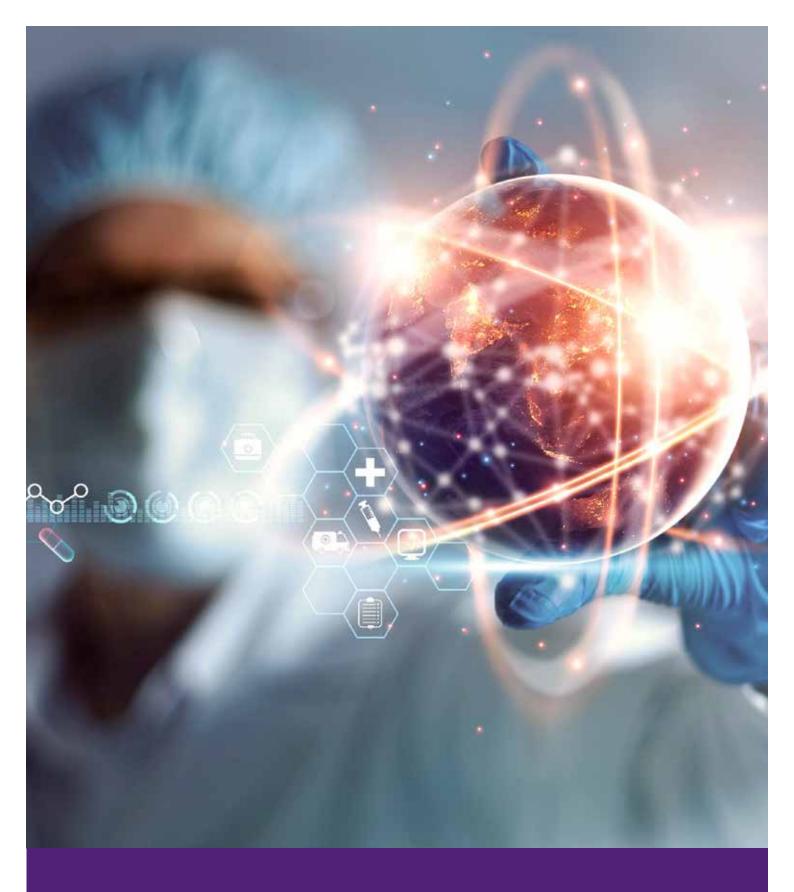
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