

India's Healthcare Challenges and Way Forward

December 2023

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ASSOCIATION OF HEALTHCARE PROVIDERS (INDIA)

The Association of Healthcare Providers - India (AHPI) is a registered not-for-profit organisation dedicated to improving healthcare in India. AHPI represents the majority of healthcare providers across India and collaborates with stakeholders to establish a national system that ensures universal access to basic health services, supporting its members and partner organisations in implementing effective healthcare improvements. AHPI engages with various associations, accrediting bodies, regulatory agencies, research organisations, and academic institutions to address healthcare challenges. Through their 20 regional chapters, AHPI advocates for healthcare reforms, infrastructure development, taxation and tariff issues, health insurance matters, and other challenges faced by healthcare organisations and the community in delivering quality healthcare.

The Institute of Healthcare Quality, an initiative of AHPI, offers healthcare management courses focusing on patient safety and quality improvement. Their Healthcare Certification Centre develops standards for different healthcare establishments, provides certification of compliance, and conducts customised training programs for the sector. During the Covid-19 pandemic, AHPI played a crucial role in coordinating efforts between member hospitals, the central government, and state governments. They actively participated in implementation and advocacy, providing equipment support to member hospitals. AHPI, received the Waterfalls Global Award 2022 from the Government of the UAE for exceptional services during this challenging period.

AHPI's comprehensive approach contributes to the advancement of healthcare in India. By addressing key issues, developing standards, providing training, and fostering collaborations, AHPI plays a vital role in promoting quality healthcare delivery and facilitating positive change in the healthcare sector.

FOREWORD

India's Healthcare Sector is gradually but surely taking centre stage. Government of India is aggressively pursuing universal health coverage through AYUSHMAN BHARAT PM JAY and same is the case with state governments with similar schemes (26 states have already merged their schemes with AB-PMJAY). Thanks to National Digital Health Mission, digital health interventions are coming in a big way. Thanks to growing awareness about healthcare/ wellness needs among the population, it is becoming incumbent on healthcare providers both public and private to meet critical gaps in demand-supply of healthcare services. Government is looking at private sector for bigger investment more so in Tier-III towns. Private sector is already major player in providing tertiary care, but is finding difficult in respect of financial viability. All in all, it is challenging time for all sectors of healthcare industry but simultaneously there is even bigger opportunity for private sector to step in, building healthcare infrastructure and be the global leader/ Vishwa Guru in healthcare sector by 2047 if not earlier.

Keeping above in view, AHPI organized **'Healthcare Leadership Summit'** on 14th Oct 2023, to discuss the key challenges and opportunities, which can enable India to be Vishwa Guru in healthcare sector by 2047 if not before. The summit was attended by various stakeholders including top leaders representing hospitals, medical education institutions, pharmaceuticals, information technology & medical equipment/ devices. Additional CEO, National Health Authority participated in the summit as Guest of Honour.

The SUMMIT also marked launch of AHPI Leadership Forum, which will be membership-based forum and shall form strategic front of AHPI. The SUMMIT will now be annual event, which will dwell on leadership issues and would provide platform for interaction among leaders from healthcare as well as from other sectors.

The whitepaper is based on deliberations, which took place during summit. It mainly focused on the challenges in the way of achieving universal health coverage, including making healthcare available, accessible and affordable besides improving quality and patient safety.

We extend my sincere gratitude to all the individuals who actively participated in this endeavour. Their invaluable contributions, insights, and perspectives have profoundly shaped the recommendations and suggestions outlined in this paper

We earnestly hope that these proposals will be embraced by the government and other relevant stakeholders to effect much desired improvements in India's healthcare landscape.

Dr Girdhar Gyani
DG, AHPI

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EXECUTIVE SUMMARY

India's healthcare sector is gradually but surely taking a centre stage. India is committed to achieving Universal Health Care (UHC) for all its citizens by 2030, which is fundamental to achieving the other Sustainable Development Goals. The launch of the flagship Ayushman Bharat Program in 2018 is potentially an important step in this direction with two major components viz Health and Wellness Centers (aiming to strengthen primary healthcare services) and Pradhan Mantri Jan Arogya Yojna (PMJAY) and insurance mechanism for secondary and tertiary hospitalization for bottom 40% of population. Following is the gist of challenges & opportunities which came up during discussions so as to realize UHC in letter and in spirit.

Shortage of Basic Healthcare Infrastructure: One of the primary challenges in India's healthcare sector is the shortage of healthcare infrastructure. The private sector has approximately 1,185,242 beds while public sector has approximately 7,13,986 beds. This leaves India with an average of less than 1.4 beds per 1000 population, significantly lower than the WHO suggested norm of 3.5 beds per 1000 population. The government's investment in healthcare stands at less than 2% of GDP, and that of private sector just under 3% of GDP, both together falling far short of the global average of 9.5% of GDP spent. The shortage of beds and lack of adequate funding pose a fundamental challenge in providing health and wellness access to the masses.

Poor Accessibility: More than inadequate availability of basic healthcare infrastructure, it is the grossly uneven accessibility, especially with urban-rural and rich-poor divide, which is found to be greater challenge. For example, state of Karnataka has 4.2 beds per 1000 population whereas state of Bihar has only 0.29 beds per 1000 population. Even within the states, there is big unbalance from district to district and only handfuls of districts have tertiary/ quaternary care facilities. This makes population to travel long distances within the state and even outside the state and in the process depriving of timely care.

Shortage of Healthcare Professionals: A shortage of healthcare professionals compounds the ongoing issue. While, the country has approximately 1.3 million registered allopathic doctors and 5,65,000 registered AYUSH doctors, but when it comes to having specialists, we are terribly short of them. For instance, there is shortages of surgeons, obstetricians and gynecologists, general physicians, and pediatricians ranging from 74.2% to 81.6% of the required strength in the community health centers (CHCs). Similarly, registered nursing personnel stands at 3.3 million, which does not meet requirement of 1/3 doctor-nurse ratio. As Council for Allied & Healthcare Professional has still not come in operation, there is no authentic count of this category, while it is known that majority of this category of professionals do not possess any recognized qualification, making it a highly unorganized sector.

Disease Burden: Over the recent years, non-communicable diseases (NCDs) such as cardiovascular diseases, cancer, chronic respiratory diseases and diabetes have reached alarming proportions in

India. For example, cardiovascular diseases alone account for one in three deaths in the country, with nearly 17.9 million people affected each year. Growing NCD menace is having big impact on productivity and economy of nation and needs urgent intervention.

Lack of Focus on Promotive & Preventive Care: The healthcare system in India has traditionally been oriented towards curative care, with little focus on preventive care. This results in delayed diagnoses and a heavy financial burden on patients and on the overall system. Lack of awareness is also one of the reasons hindering the potential growth of preventive healthcare and spending on it. To address these challenges effectively, there needs to be aggressive initiative towards promotive and preventive care by involving community at grass root through local governmental agencies and NGOs.

Financial Sustenance: More than 70% of OPD, 60% of IPD and 85% of tertiary care services come through private sector. With launch of Ayushman Bharat PMJAY in year 2018 and coupled with already operative government insurance schemes like CGHS, ECHS, ESI etc., it is estimated that about 70% of the population is receiving healthcare services either free or through contributory mode. Government utilizes private hospitals in providing care to the beneficiaries from these schemes. The issue here is that rates for most of the procedures at which government reimburses to private hospitals is far lower than the operating expenses, due to which hospitals are finding difficult to sustain. This is one of the reasons which discourages private sector for new investment in Tier-III towns.

Stringent Regulatory requirements, lack of innovation and Research funding in pharmaceuticals: Indian pharmaceutical industry is a significant player in the global pharmaceutical market. India is known for its contribution in generic drugs to the developing countries. But the regulatory hurdles, lack of innovation and research funding pose major challenges in growth of pharma sector. Streamlining regulatory requirements, raising investment in R&D and embracing digital technologies can address the challenges.

Negative Perception & Violence against healthcare professionals: There has been rise in the incidences of violence against doctors and healthcare establishments due to various reasons. One of the key factors is the cost, as there has been implanted perception that private sector hospitals were profiteering. Government needs to bring central ACT to have stringent measures by which violence can be prevented.

Indigenization of Medical Devices/ Equipment: The Indian medical devices industry can expand from $12 billion to $50 billion by 2030, reducing import reliance and even boosting exports. This could also create huge employment opportunities. It is recommended that government brings a separate law and regulatory framework separate from Drugs for medical devices to enable faster access to rapid innovation. There is also need to bring custom duty adjustments like done for consumer electronics to promote indigenous production.

Use of Technology/Digital Health: Technology has immense potential to revolutionize the health and wellness ecosystem by enhancing the efficiency, accessibility and effectiveness, more so when we have huge shortage of health infrastructure including specialist doctors. Digital health with its wider scope and emerging newer technology is already transforming and shaping the healthcare landscape Ayushman Bharat National Digital Health Mission is very promising initiative by government of India and which can take India's health system to the next level. It needs to be put on fast track mode through incentivization that will address the challenges in its adoption.

INTRODUCTION



Healthcare is gradually but surely taking center stage. The government of India is aggressively pursuing Universal Health Coverage (UHC) through Ayushman Bharat Prime Minister Jan Arogya Yojna (AB PM JAY) and the same is the case with state governments with similar schemes (26 states have already merged their schemes with AB PM JAY). With the launch of the National Digital Health Mission (now termed Ayushman Bharat Digital Mission) India can fast-track in realizing UHC. The government is looking at the private sector for bigger investment more so in Tier-III towns. The private sector is already a major player in providing tertiary care but is finding it difficult with respect to financial viability. All in all, it is a challenging time for the healthcare industry, as well as an opportunity to step up and be the global leader, like what has been achieved in the information technology sector.

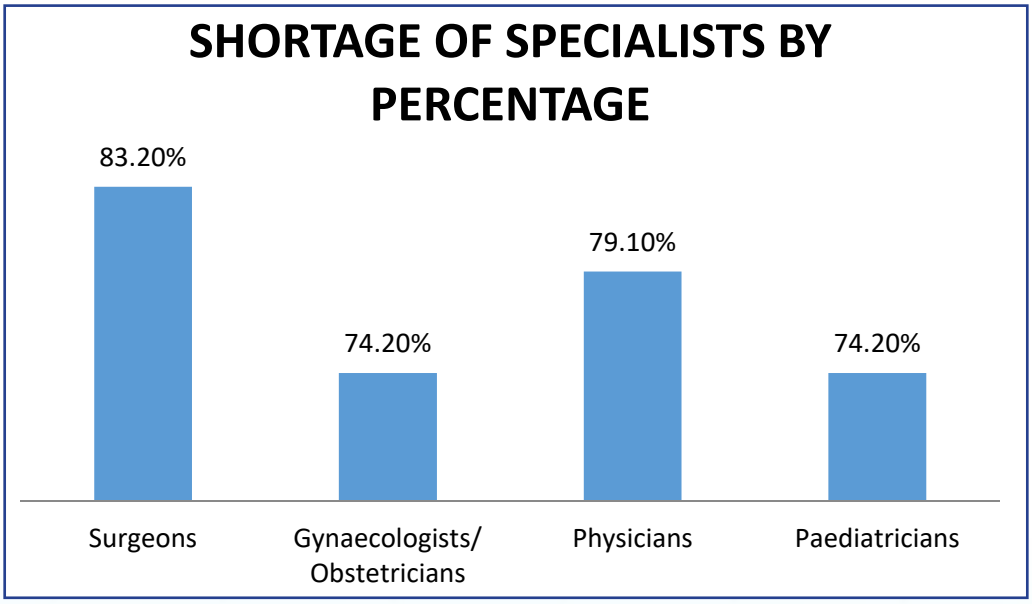
The BHORE committee report in 1946 found that 92% of healthcare delivery was by Public Sector while only 8% was by private/trust hospitals. It recommended the integration of; promotive, preventive and curative health services and the establishment of Public Health Centers (PHCs) in Rural Areas. It envisaged that healthcare services would predominately be in the Public Sector. In the first 30 years or so after independence, the priority was on: ROTI, KAPDA, MAKAN i.e., meeting the basic necessities. While, next 30 years saw the emphasis shifting to BIJLI, SADAK, and PAANI i.e., building infrastructure in the country. The year 2007 marked the first initiative which brought healthcare into the political arena when Andhra Pradesh launched the AROGYA SHRI scheme providing FREE health services to the entire BPL (below-poverty line population).

This was later followed by a few states like Tamil Nadu but the big thrust came with the launch of the AYUSHMAN BHARAT scheme in the year 2018, which aimed to provide nearly 40% of India's population with insurance cover of Rs 5 lakhs per family . By far this is the largest such operational scheme, anywhere in the world. Some of the states have covered additional populations under these schemes. For example, the states of Telangana and Andhra Pradesh are said to have provided BPL cards to close to 90% of the population to get benefits under the schemes. There are other welfare and contributory government schemes like CGHS, ECHS, ESI etc. Then we have employer-sponsored health insurance and voluntary private health insurance for sections of society. All put together, it can safely be estimated that more than 70% of India's population is covered under some or other health insurance schemes and out of balance 30%, some would definitely be capable of paying out of pocket. Therefore, AFFORDABILITY really should no longer be an issue and we need to look into what else is affecting the delivery of healthcare to communities at large. Keeping above in view, the AHPI roundtable discussions focussed on the following key topics among others as relevant.

IMPROVING AVAILABILITY AND ACCESSIBILITY TO QUALITY HEALTHCARE

In India, approximately 70% of the population is believed to have health insurance coverage through either public health insurance (for the lower income sector) or voluntary private health insurance (for the upper income sector). The remaining 30% of the population, which encompasses the middle income sector (40 crore individuals), currently lacks health insurance coverage, despite the fact that some individuals within this group would likely have the means to pay for healthcare expenses directly. The government aims to extend health coverage to this 30% by progressing toward a more comprehensive health insurance scheme.

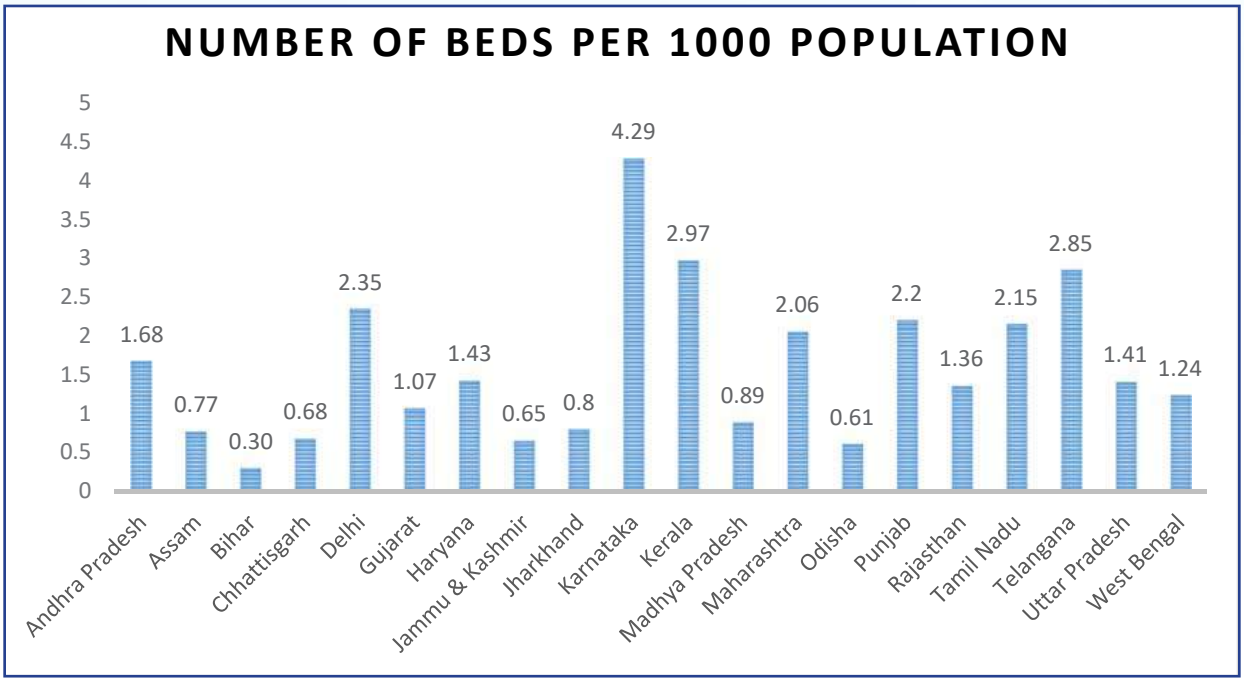
Improving Availability and Accessibility to Quality Healthcare is one of the fundamental requirements for achieving universal health coverage. It involves providing basic infrastructure in terms of healthcare professionals (doctors, nurses and allied healthcare workforce) and healthcare establishments including hospitals, nursing homes in urban and rural settings. The WHO norm is to have 3.5 beds per 1000 population.



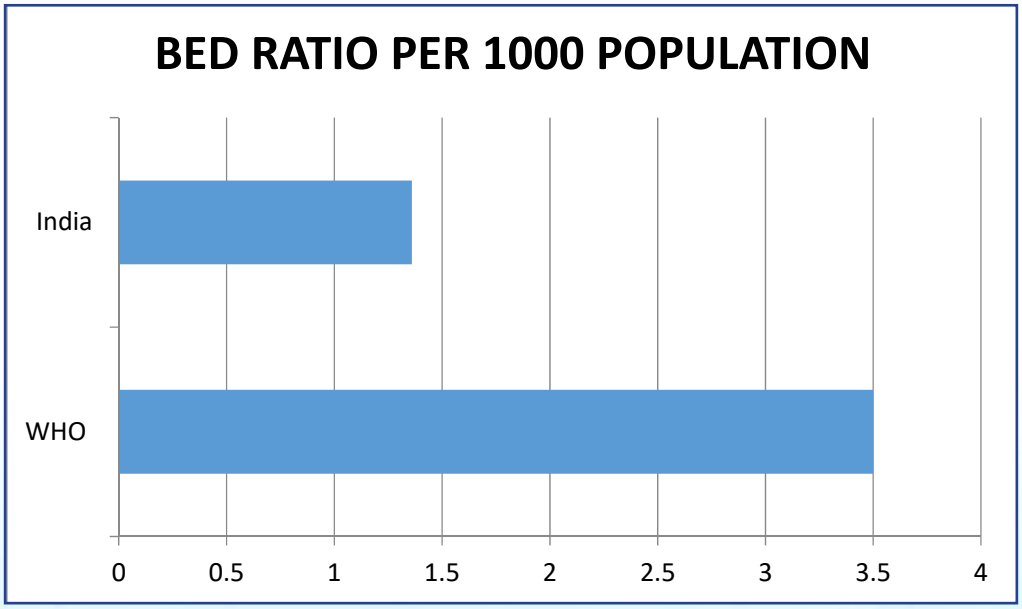
The graph shows the shortage of specialists by percentage in India.

As a rough estimate India has about 12-lakh beds in private sector and about 7.25 lakh beds in public sector, which makes about 1.36 beds per 1000 population. We therefore need to more than double the number of beds to match WHO requirement. Similarly, we need to address about the shortage of doctors in general and specialists in particular. We have 1.3 million allopathic registered doctors and 5.65 lakh AYUSH doctors, which make us 1doctor per 834 population,

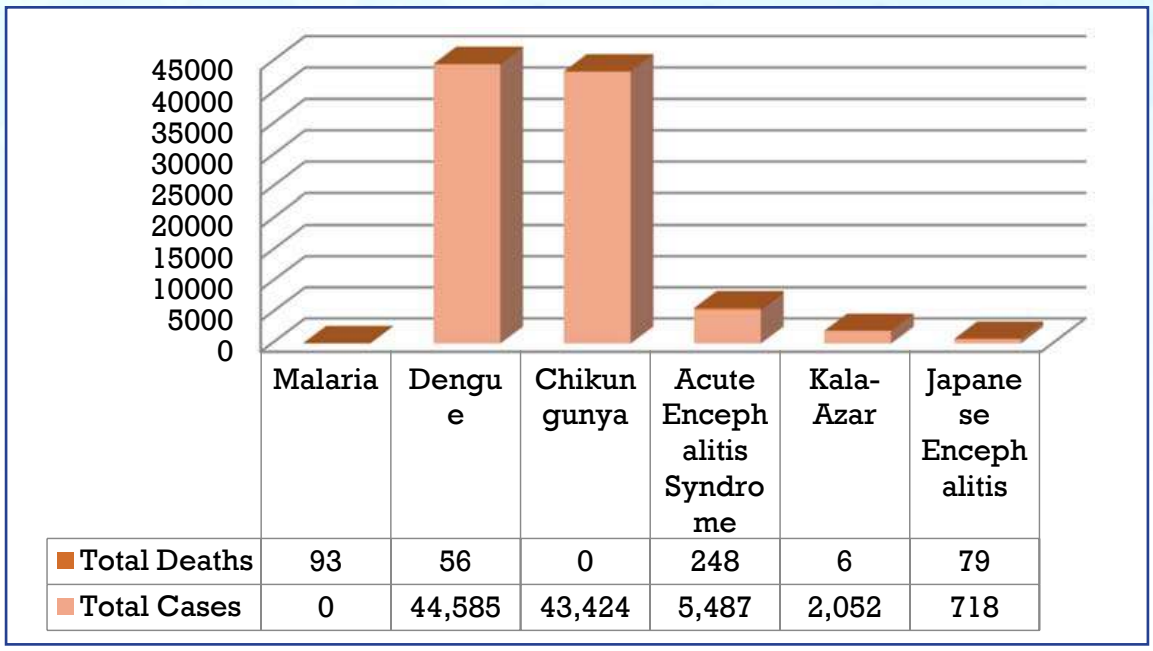
well above the requirement of WHO. But when it comes to availability of specialists, we need to work on it. Specialists are mostly consumed within Tier-1 and Tier-II cities and very few available for Tier-III and Rural India. As per information, there is shortage of surgeons by 83.2%, of Obstetricians/ Gynaecologists by 74.2%, of Physicians by 79.1% and of Paediatricians by 81.6% across 6000 Community Health Centres. With these constraints, provision of quality and safe care has remained a major challenge. The shortage of basic diagnostic and therapeutic equipment is also significant hurdle in general and in Tier-II/III towns in particular. These areas often face resource constraints and struggle to keep up with the evolving medical technology landscape.



The graph shows the bed ratio per 1000 population in 20 most populated states in India.



Graph shows the comparison of bed availability in India and the WHO suggested



	Malaria	Dengue	Chikungunya	Acute Encephalitis Syndrome	Kala-Azar	Japanese Encephalitis
Total Deaths	93	56	0	248	6	79
Total Cases	0	44,585	43,424	5,487	2,052	718

Graph shows Vector Borne Disease Morbidity and Mortality, 2020. Source- CBHI (Central Bureau of Health Intelligence)

Observations and Recommendations

(a) Most crucial component in making healthcare available is to have adequate number of doctors in general and specialists in particular. There is urgent need to have equal number of UG and PG seats. NMC needs to initiate process by which PG seats can be increased. It also needs to adopt new measures to have more DNB and Fellowship routes including diploma programs. Unless it is done, achieving UHC will remain distant dream.



(b) Second component in making healthcare available is to ensure having adequate number of beds through appropriate number of hospitals in different tiers like primary, secondary, tertiary and quaternary. We need to more than double the number of beds to meet WHO norm. Government needs to incentivise private sector in a big way to invest in this sector. This will help saving capex part for government and utilise on provision through empanelled hospitals.

(c) Making healthcare accessible is another challenge. AHPI has compiled bed density for various states and it shows huge un-balance. Government needs to take note of this disparity and initiate measures through graded incentivisation to bring balance.

(d) Public sector needs to formalize good referral system to avoid crowding of tertiary and quaternary care hospitals like AIIMS and better utilizing/ accounting of PHCs/ CHCs and District Hospitals



SETTING UP OF TERTIARY CARE HOSPITALS IN TIER-III TOWNS

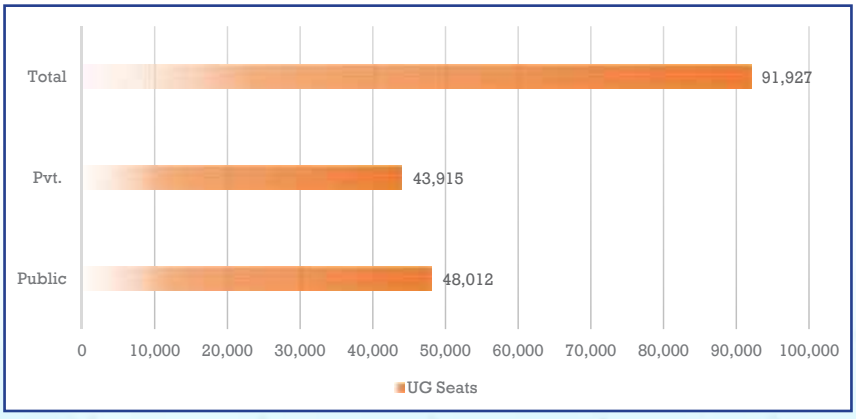
At the time of launch of Ayushman Bharat in year 2018, Hon Prime Minister had suggested to have 3000 new hospitals with bed size of 100 in Tier-III towns. This has not happened largely due to non-availability of specialists. With the result that population in these towns is deprived of tertiary care and people have to travel long distances to come to district hospitals or private hospitals in Tier-I/II cities. Some of the suggested measures to make it happen are summarized below:

(a) Market Research and Feasibility Study: Conduct a comprehensive market research and feasibility study to assess the healthcare needs, competition, and potential patient base in the Tier 3 city. This should include, understanding the local demographics and healthcare demands and disease patterns and factors affecting healthcare access in these regions.

(b) Health Information Systems: Developing electronic health records and health information exchange systems to ensure seamless communication between primary, secondary, and tertiary care facilities, implementing telemedicine services to connect tertiary care hospitals in Tier-III towns with specialists in larger urban centres and implementing referral systems for efficient patient transfers when necessary.

(c) Public-Private Partnerships (PPP): Collaborating with private healthcare providers to set up and manage tertiary care facilities in Tier-III towns. Government incentives and subsidies can be provided to encourage private sector involvement as appropriate. A nursing college/ school could be attached with tertiary care centre which will provide nurses from local region as well as improve opportunities for employment.

(d) Transportation and Connectivity: Improving transportation infrastructure to facilitate easier access to district level health facilities, providing affordable or free transportation options for patients who need to travel for specialized treatment available at district HQ.



Graph shows Number of Medical Seats (Public/ Private, UG).
Source- IBEF, India Brand Equity Foundation



Observation and Recommendation

Consider following the practice of deploying healthcare professionals in a rotational manner to distant peripheral regions (CHCs) from a central district healthcare facility.

(a) Encouraging private hospitals which have larger healthcare facilities in Tier-I/II to establish 100-bedded tertiary care units and utilize existing specialists to visit these centers on need basis including providing tele-consultations.

(b) Facilitate private sector in acquiring land and provide electricity at industry rate as against the present practice where hospitals are being charged electricity at commercial rates

(c) Provide private sector with loan at concessional rates and provide TAX holidays for specified period.

(d) Fast track approval for numerous clearances or do it through 'single window clearance' system.

(e) Allowing CSR Funds where private sector builds hospitals and provide services at AYUSHMAN rates.

(f) Government may consider inviting private sector to establish the 100 bedded hospitals in PPP mode, providing basic building and rest managed by private sector on revenue sharing model. To address this issue, a collaborative PPP approach can be utilized, where the public sector provides the necessary infrastructure and private entities are engaged as operators to manage these facilities. Such arrangements could potentially be more efficient by recognizing the irreplaceable role of the public sector in India, particularly in addressing deficiencies in the basic healthcare infrastructure

IMPROVING FINANCIAL SUSTAINABILITY OF HOSPITALS

One of important component of universal health coverage is to make healthcare affordable, which means providing care at the cost which population can afford (not free). Population caters to healthcare either by paying out of pocket or by taking private insurance. Government also provides healthcare through welfare or contributory schemes like AB-PMJAY, CGHS, ECHS, ESI etc. About 10-years back, roughly 30% of population had some kind of government or private insurance cover. With the time, government is aggressively aiming to cover more and more population and it is estimated that once PMJAY operates with full potential and along with other schemes like CGHS/ ECHS/ ESI, PSUs and Private sector insurance, it is estimated that 70% population will have some kind or other health insurance. We will therefore be very close to realize UHC. As government has limited network of tertiary care hospitals, it utilizes private hospitals to provide healthcare through these schemes and reimburses at government fixed rates. 45% of 2600+ hospitals empanelled with PM AB PMJAY are private hospitals. In a way it is good PPP model, but the concern is about the reimbursement rates, in most cases rates are found to be unviable for private hospitals. Further these rates remain unchanged for years. For example, packages rates fixed for CGHS in year 2014 have still not been revised. Tertiary/ quaternary care hospitals as such are unable to sustain and abstain from these schemes and that defeats very purpose for which these schemes are intended. In case of secondary care hospitals, it may not be feasible to opt out completely from these schemes in general as there is sizable section of population enrolled in these schemes but then delivery of care comes at the cost of poor quality. To sum up, government needs to work out costing of medical procedures on scientific basis to make the schemes viable. Government may also allow co-payment which would provide option to the beneficiaries to select hospitals of their choice by paying that extra amount over and above what is provided by government.

Strategies That Indian Hospitals Can Consider To Enhance Financial Sustainability

I. **Preventive Healthcare Programs:** Promote preventive healthcare programs and wellness check-ups

   Offer health packages and subscriptions to encourage regular health check-ups. Along with establish Home Health Vertical.

II. **Healthcare Technology:** Adopt healthcare information systems (HIS) and electronic health records (EHRs) to streamline operations, reduce paperwork, and improve data management. Use analytics to improve patient outcomes, reduce readmissions, and identify areas for cost reduction.

III. **Price Transparency:** Implement transparent pricing policies, clearly listing the cost of various treatments and services. This builds trust with patients and helps in decision-making. Provide itemized bills to patients, ensuring they understand the charges.

IV. **Health Insurance Participation:** Engage with government health insurance schemes and private health insurance providers to increase patient flow. Create mass awareness among community on promotive healthcare/wellness and need to have insurance.

V. **Continuing Medical Education (CME):** Encourage doctors and staff to participate in CME programs to keep their knowledge and skills up to date. Well-trained staff can enhance the quality of care and attract patients.

VI. **Collaboration with Medical Colleges:** Establish partnerships with medical colleges and universities to facilitate clinical training and research collaborations. This can enhance the hospital's reputation and bring in additional revenue.

VII. **Financial Planning and Management:** Develop a comprehensive financial plan and budget that aligns with the hospital's strategic goals. Monitor financial performance regularly, adjust strategies as needed, and plan for long-term sustainability. Apply shop floor quality tools to improve operational efficiency and in cutting down the waste.

Observations & Recommendations

(a) Regulatory Framework: Government is duty bound to have independent regulators for those services which affect the wellbeing of population. For this very reason we have IRDA, FSSAI, TRI, AICTE etc. Presently state governments directly take on this role which is not a good practice as in any case government will not have resources as well as expertise. It is time that we have Regulatory Body for Hospitals. There is wide spread perception that private sector was profiteering. It also results in violence. If we have regulator, it can establish costing of medical procedures on scientific basis. This will also solve long standing grievance of private sector to have logical pricing for reimbursement under government schemes like CGHS and PMJAY. Along with it will address host of other issues, which are presently being looked in to be government departments.

(b) Maintaining Viability: The AYUSHMAN Bharat scheme currently accounts for just 30% to 40% of total business in tertiary care private hospitals, with the majority being cash transactions and private insurance business as that only allows them to maintain financially viability. In a way it defeats very purpose for which these schemes were launched. In case government desires that tertiary care hospitals to take care of all beneficiaries, then it must restructure the schemes by fixing reimbursement rates on scientific basis including categorization of hospitals based on their location and level of infrastructure and specialization. It is also being suggested that government may consider introducing scheme for co-payment. Patient will have more options to choose a particular hospital and pay over and above the price fixed under particular scheme.

(c) Strengthen IT Infrastructure: Enhance the technological infrastructure to streamline the enrolment process, claims processing, and monitoring of healthcare providers. This can help reduce administrative burdens and improve transparency.

(d) Capacity Building: Invest in training and capacity building of healthcare providers, especially in Tier-2 and Tier-3 cities, to improve the quality of care they offer.

To sum up it is to be realized that private sector plays key role in provision of tertiary and quaternary care. Government needs to ensure that hospitals are compensated by way of reimbursement at the rates which are scientifically arrived at. Along with, provision of co-payment can be good option population was not looking entirely for free healthcare but would be willing to co-pay in cases of serious ailments and choose high ended quaternary care hospital. In case we do not care to look at financial sustainability of tertiary and quaternary care hospitals, we would end up with no new investment coming from private sector.



FAST-TRACK IMPLEMENTATION OF DIGITAL HEALTH MISSION

Technology has permeated every aspect of the healthcare sector and is now being accepted, adopted, and leveraged by multiple stakeholders such as healthcare institutions, professionals, and patients. This has resulted in a shift towards remote healthcare delivery, collection and utilisation of healthcare data, enhanced accessibility, operational efficiency, and personalised care.

Digital Health is going to be key driver in delivery of healthcare. Patients are expecting better service quality including timely care with empathy. Hospitals are deploying information technology to be smart hospitals. Similarly medical technology is making inroads to improve diagnostic accuracy and treatment plans by use of AI, Machine Learning, 3D Printing etc. Clinical Decision Support System is proving to be valuable tool to clinicians including residents. With increase in demand for home health, we would need wearable and remote sensing devices. Use of technology by way of telemedicine will also help in compensating shortage of consultants more so in remote locations. Government's initiative in this direction through e Sanjeevani has remarkably resulted in high utilization of Tele consultations.

National Digital Health Mission (NHM) has come out to be excellent initiative by government of India. National Health Authority has carved out workable road map to implement various elements of NHM, which include complete digital health ecosystem. The digital platform has key features — Health ID (ABHA), Health Physician's Registry (HPR), Personal Health Records, Digi Doctor and Health Facility Registry (HFR) among others. AHPI has partnered with NHA and there is need to fast track this program, which is crucial for leveraging technology to enhance healthcare accessibility, efficiency, and outcomes. The key components and areas within the scope of digital health are appended below;

I. **Healthcare Data Analytics :** As much as data has revolutionised the financial, marketing, and tech industries, it has also profoundly altered the health care field. IT tools and data analytics can be employed to gather and analyse healthcare data, enabling healthcare providers to make informed decisions and improve patient outcomes. By utilizing predictive analytics, hospitals and clinics can identify disease trends, allocate resources more efficiently, and offer preventive care. This is especially relevant in India, where non-communicable diseases are on the rise.

II. **Remote Monitoring and IoT Devices :** The Internet of Things (IoT) plays a vital role in remote monitoring of patients. IoT devices can track vital signs and health metrics, transmitting this data to healthcare providers in real-time. This is invaluable for managing chronic conditions, elderly care, and post-operative recovery. IT-driven remote monitoring can reduce the burden on healthcare facilities and enhance patient comfort and quality of care.

III. **Mobile Health (mHealth) :** In a country with a rapidly growing smartphone user base, mHealth apps can empower individuals to take control of their health. These apps can provide health information, track fitness, and offer tools for medication adherence. They can also help rural health workers collect and transmit data, enabling timely interventions and preventive care.

IV. **Healthcare Training and Education :** IT can also support the training and education of healthcare professionals in India. E-learning platforms and simulation tools can help in the continuous professional development of doctors and nurses. This can help in addressing the shortage of skilled healthcare workers.

V. **Health Information Exchange (HIE) :** Health information exchange platforms enable the secure sharing of medical information among healthcare providers and facilities. This can lead to better coordination of care, reduced duplication of tests, and improved patient outcomes. HIEs can be instrumental in India, given its fragmented healthcare system and multiple healthcare providers.

VI. **Electronic Health Records (EHRs) :** Implementing EHR systems in healthcare facilities across India can significantly improve patient care. EHRs allow for the secure and efficient storage, retrieval, and sharing of patient data, reducing the chances of medical errors and improving coordination among healthcare providers. These records can also aid in research and public health initiatives, contributing to better healthcare planning and policy development.

VII. **Health Apps and Digital Therapeutics :** Mobile applications designed to monitor health, provide health information, and deliver therapeutic interventions for various conditions can support self-management and patient engagement

VIII. **Wearable Devices and Remote Monitoring :** Integration of wearable technologies for real-time health monitoring, including fitness trackers, smart watches, and medical devices that can collect and transmit to healthcare providers

IX. **Telemedicine and Telehealth :** Telemedicine is considered to be the remote diagnosis and treatment of patients by means of telecommunications technology, thereby providing substantial healthcare to low income regions. These technologies enable healthcare professionals to provide medical consultations, diagnosis, and treatment remotely. This is particularly beneficial for patients in remote and underserved areas who lack access to healthcare facilities. Telemedicine between doctors involves the use of telecommunication technology to facilitate communication and collaboration between healthcare professionals. The key aspects and benefits of telehealth between doctors are remote consultations, collaborative decision making, second opinion, access to specialised care by patients in remote areas and medical education and training. Telemedicine not only increases access to healthcare but also reduces travel costs and waiting times, making healthcare more accessible to a larger segment of the population.

X. **Artificial Intelligence and Machine Learning :** Their applications can help analyse the data, support diagnostics, predict disease outcomes, and personalise treatment plans.

X1. **Big Data and Analytics :** This can be used for population health management and research by utilisation of large datasets, identify patterns and inform decision making process

XI. **Blockchain in Healthcare :** It has a crucial role to enhance security, integrity, interoperability of health data and support supply chain management

XII. **Virtual and Augmented Reality (VR/AR) :** VR and AR technology integration is widely used for medical training, simulation, patient education, and enhancing the delivery of certain type's therapies

XIII. **Genomics and Personalised Medicine :** Integration of genomic data into healthcare enables more personalised and targeted treatment approaches based on individual's genetic profiles.

XIV. **Robotic Surgery :** Robotic surgery has important role in patient care to enhance precision, efficiency, and rehabilitation.

Observations & Recommendations

(a) There should be incentives and guidance to encourage smaller diagnostic labs to embrace digital technology, as it presents a significant challenge to understand these technologies.

(b) An effective data entry framework must be established, as the current healthcare workforce lacks adequate training, hardware, and software to efficiently input and utilize this collected data. Without this, the vast amount of data generated could become useless.

(c) Doctors are already enrolled in digital systems but often lack the necessary skills to navigate these tools resulting in low adoption of digital health. Therefore, there is an urgent need for easy training which tweaking these tools to make them more user-friendly, particularly to accommodate the elderly population.

(d) Formulating an implant registry is highly necessary.

(e) Explore the feasibility of integrating the National Digital Health Mission's universal software for the specific needs of each hospital.

(f) A variable pricing structure should be introduced for hospitals registered under the AYUSHMAN scheme to encourage broader adoption in the healthcare industry.

(g) In the digital era, patients have migrated to the online world. Hence, healthcare professionals must also be accessible in this digital landscape to meet their requirements.

(h) Better API integration is required to ensure the smooth operation of Electronic Medical Records.

(i) Promote the integration of telemedicine services into mainstream healthcare delivery to ensure equitable and quality care

(j) Invest in educational programs to enhance digital literacy among healthcare professionals and general public.

(k) Encourage innovation and provide incentives for research and development in digital health technologies.

(l) Establish clear regulatory frameworks to govern digital health technologies, ensuring a balance between innovation and patient safety.

(m) National Medical College network (NMCN) needs to be extended to every medical college of India for interlinking the Medical Colleges across the country with the purpose of e-Education

(n) ABHA numbers and NDHM needs review to demonstrate value for the hospitals and doctors

(o) It is recommended to integrate ABDM program horizontally with other programs for its successful implementation

(p) Data safety and security needs to be addressed on priority basis particularly when we have learnt a lesson from the loss of significant data from ICMR (81.5 Core vaccination records)



INDIGENIZATION OF MEDICAL DEVICES/EQUIPMENT

The Make in India initiative was launched by Prime Minister in 2014 as part of a wider set of nation-building initiatives. Devised to transform India into a global design and manufacturing hub, make in India has been a timely response to huge demand in medical equipment/ device industry. It will have impact on affordability of healthcare services and make this equipment available to smaller hospitals in remote locations. There is need to incentivize private sector including establishing independent regulatory agency. Fast track approvals especially for life saving drugs, simplification of regulatory systems for recombinant products, will go long way to build competitive environment. Pharma industry may also be encouraged to invest in start-up and medium size medical device companies who can manufacture medical devices in affordable cost. Key challenges in indigenization of medical device/ equipment include;

- Adhering to stringent regulatory requirements
- Lack of skilled workforce
- Lack of infrastructure and facilities for production of medical devices
- Building a robust supply chain for raw materials
- Capital investment for setting up manufacturing plants
- Absence of Quality assurance and quality control infrastructure
- Lack of Research and development

Addressing these challenges requires a coordinated effort from the government, industry, and research institutions to create an ecosystem that fosters innovation, investment, and the sustainable development of the medical device

Observations & Recommendations

(a) Initiatives for changing regulations for medical devices, with the aim of establishing different legal frameworks for these products since they fall within the realm of engineering rather than pharmaceuticals.

(b) Need to endorse indigenous quality certification system, such as the Indian Certification of Medical Devices, and stop relying on international certifications.

(c) As technology serves as a significant force multiplier, we must explore the incorporation of Artificial Intelligence into medical devices in order to enhance their quality, particularly in applications like contactless remote monitoring systems.

(d) Presently, the majority of medical devices are imported into India. Therefore, similar to the pharmaceutical companies who have already embraced the "Make in India" initiative, there is substantial potential for the medical devices industry to manufacture these devices within India and ultimately decrease the dependency on imports.

STREAMLINE REGULATORY COMPLEXITIES, PROMOTE INNOVATION AND ENHANCE RESEARCH FUNDING IN PHARMACEUTICALS

The pharmaceutical industry plays a crucial role in the healthcare sector, contributing significantly to the development, manufacturing, and distribution of medications. Indian pharmaceutical industry is a significant player in the global pharmaceutical market and it is known as the **"Pharmacy of the World"** because of affordability and accessibility of drugs to larger population. India is known as the powerhouse in production of generic drugs. The industry has played a crucial role in providing affordable medications globally, especially in developing countries. Pharmaceutical industry plays a key stakeholder in the healthcare ecosystem, contributing to medical advancements, disease prevention, and improved patient outcomes through the development and distribution of pharmaceutical. India's role as pharmacy of the world. Key challenges involving pharmaceuticals include;

- Stringent and evolving regulatory requirements both domestically and internationally
- Research and Development Costs with uncertainty in results
- Drug pricing and reimbursements
- Complex protocols required for clinical trials
- Adherence to Good Manufacturing Practice (GMP) guidelines by manufacturers

Strategies to Strengthen and Improve Pharmaceuticals:

(a) Public Private Partnership: Fostering collaboration between pharmaceutical companies, academic institutions, and government agencies. Public-private partnerships can leverage the strengths of each sector to drive innovation, share resources, and accelerate the development of new

(b) Incentive Programs for R&D Investment: Tax incentives, grants, and other financial support mechanisms can encourage pharmaceutical companies to invest more in R&D. This can include providing credits for research expenditures and development.

(c) Regulatory Reforms: Regulatory agencies to streamline and expedite the approval processes for new drugs. Implementing clearer and more efficient regulatory pathways can reduce the time and cost of bringing innovative medications to market

(d) Promotion of Digital Health technologies: Digital health technologies, such as telemedicine and health data analytics, can enhance efficiency in healthcare delivery and research. This can contribute to more patient-centric approaches and facilitate data-driven

(e) Strict adherence to GMP guidelines: It is critical for pharmaceutical and other regulated industries to ensure the production of safe, effective, and high-quality products and its enforcement by Regulatory agencies (U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA)) through inspections and audits of manufacturing facilities.

Observations and Recommendations

(a) The Indian pharmaceutical industry plays a critical role globally in terms of affordability, accessibility, and production of generic drugs and has made significant contribution in medical advancements, disease prevention and improved patient outcomes.

(b) Fostering collaborations between pharmaceutical companies, academic institutions, and government agencies is the key to drive innovation and share resources through PPP.

(c) Incentivize R&D investments by implementing tax incentives and grants to encourage R&D by pharmaceuticals companies, including credits for research expenditures

(d) Government to work towards regulatory reforms to streamline and expedite drug approval processes which will essentially reduce costs and save time to bring innovative drugs to the market.

(e) Adopt digital health technologies such as telemedicine and health data analytics to improve efficiency and facilitate patient-centric approaches

(f) Ensure strict adherence and enforcement of GMP guidelines to ensure production of safe quality of drugs.

By implementing these strategies, governments, regulatory bodies, and industry stakeholders can collectively create an environment that fosters innovation, streamlines regulatory processes, and encourages increased investment in research and development within the pharmaceutical industry.

Recently, Health Ministry has released draft National Pharmacy Commission Bill 2023 which is a welcome step by the Government. It aims to replace the Pharmacy Act 1948 and the existing Pharmacy Council of India (PCI) with the National Pharmacy Commission. The draft bill calls for enforcement of a periodic and transparent assessment of pharmacy institutions, facilitating maintenance of a pharmacy register for India, and enforcing high ethical standards in all aspects of pharmacy services which will be implemented through three functional boards of the commission: namely the Pharmacy Education Board, the Pharmacy Assessment and Rating Board and the Pharmacy Ethics and Registration Board, which will function under the commission.

INTEGRATIVE MODELS OF HEALTHCARE AIMED AT WELLNESS

Considering that we have more than 5.5 lakh AYUSH doctors, there is a need to promote AYUSH as AYUSH and not try to convert AYUSH doctors to practice allopathy. The government may choose a certain number of PHCs to be exclusive of AYUSH PHCs. We may also promote the setting up of AYUSH vertical in allopathy hospitals where on a need basis patients could be advised to take AYUSH therapies like YOGA etc. To achieve this, we may introduce one subject on AYUSH in the MBBS curriculum so that our doctors can judiciously decide whom to refer for AYUSH treatment. We may call this an Integrative Medicine.

Observations & Recommendations

(a) Research and Development: Encourage AYUSH doctors to engage in research and development activities. This can include studies on the efficacy of traditional treatments, developing standardized protocols, and conducting clinical trials. Such research can help validate the effectiveness of AYUSH practices and integrate evidence-based approaches into the healthcare system.

(b) Public Health Programs: Utilize AYUSH doctors in public health programs, especially for initiatives related to maternal and child health, nutrition, and immunization. They can provide essential support in educating communities, promoting good hygiene practices, and ensuring the successful implementation of these programs.

(c) Integrative Healthcare Services: Promote integrative healthcare models that combine allopathic (modern medicine) with AYUSH practices. This can provide patients with a broader spectrum of treatment options and holistic care. Collaborative clinics or hospitals where AYUSH and allopathic doctors work together can offer comprehensive services.

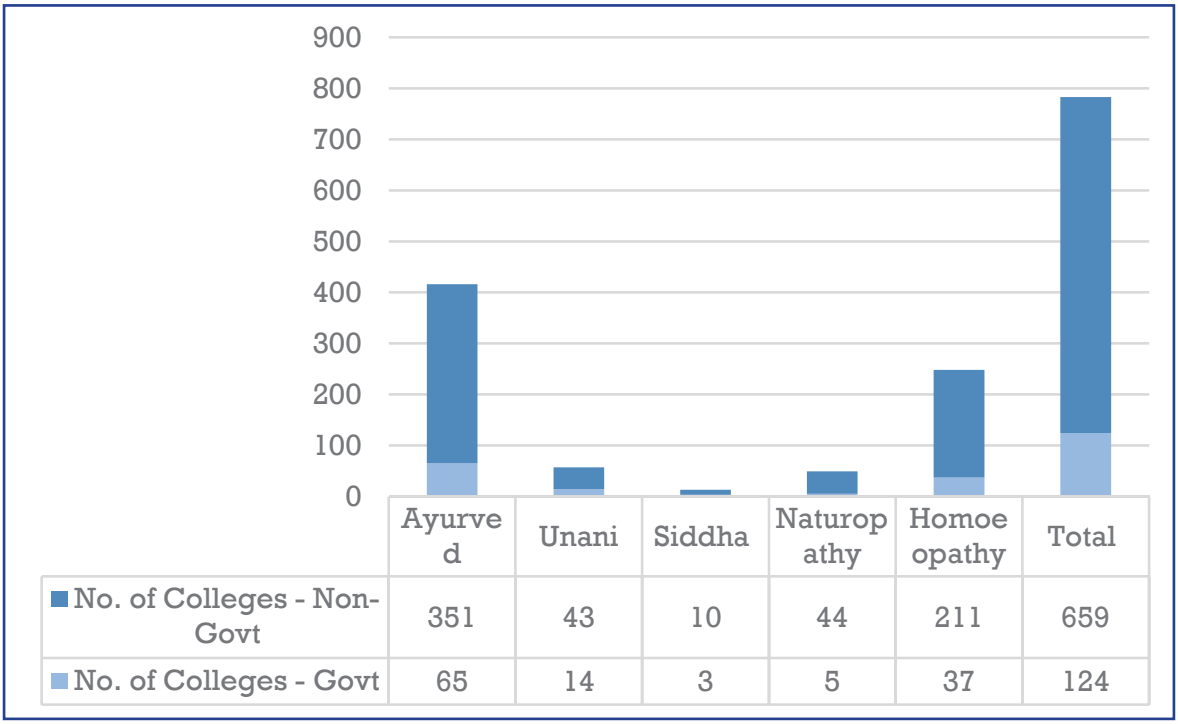
(d) Primary Healthcare and Preventive Medicine: AYUSH doctors can play a crucial role in providing primary healthcare and preventive medicine services. Their expertise in traditional and natural remedies can be used for health education, lifestyle counselling, and wellness promotion. They can work in rural and underserved areas, focusing on preventive care and early intervention.

(e) Telemedicine and Remote Consultations: AYUSH doctors can contribute to telemedicine initiatives, offering remote consultations and health advice. In rural and remote areas, where access to healthcare is limited, telemedicine can be a game-changer. AYUSH practitioners can provide guidance on lifestyle management, dietary recommendations, and alternative treatments.

(f) Chronic Disease Management: Leverage AYUSH doctors for the management of chronic diseases, especially those where lifestyle changes and complementary therapies can be beneficial. This includes conditions like diabetes, hypertension, and arthritis. AYUSH doctors can assist in developing personalized treatment plans that complement allopathic care.

(g) Education and Awareness: Raise awareness among the general public and healthcare professionals about the benefits and limitations of AYUSH practices. Educate allopathic doctors, nurses, and other healthcare providers about when to refer patients to AYUSH practitioners for holistic care.

(h) International Collaboration: Explore opportunities for collaboration with other countries, especially those where AYUSH practices are well-recognized. Sharing knowledge, research, and best practices can help India harness the global potential of AYUSH



	Ayurved	Unani	Siddha	Naturopathy	Homoeopathy	Total
No. of Colleges - Non-Govt	351	43	10	44	211	659
No. of Colleges - Govt	65	14	3	5	37	124

Graph shows Number of Colleges and Seats System-wise 2021. Source- data. given- A Digital India Initiative- Open Government Data Portal

SKILLING OF HEALTHCARE PROFESSIONALS

There has been growing concern about skilling of our healthcare professionals including doctors and nursing staff. In year 2014 there were 50,000 MBBS seats and less than 20,000 PG seats. This resulted in intense competition among MBBS pass outs to join coaching centres and in the process hardly any focus on internship resulting in loss of practical skills among doctors. Although medical colleges are now required to have skill labs, there is need to have simulation labs for surgeons to hone their skills. The skilling of nurses has been very serious concern. Hospitals are required to spend 6-12 months in training of nurses before putting them in active service. The role of Indian Nursing Council needs to be strengthened which take urgent measures to have job ready nurses. Status of allied health workforce is no better. National Commission for Allied & Healthcare Professionals has come into being and it is expected that it will set uniform standard for various job roles.

It may be relevant to mention that of late there is huge demand for nurses and allied healthcare professional across the globe. Indian nurses in particular are in demand in developed and developing nations. It is opportunity for India to step up supply of these professionals within our country and at the same tome across the globe. However as mentioned above, we need to focus on skilling during education and re-skilling those in service. There is need to set up simulation lab for up scaling health care professional and nurses in India, which may include hands on training on simulated models followed by in-hospital training on patients. This will improve the skill development of health care professionals and nurses. AHPI is partnering with National Skill Development Corporation to address these issues.

Observations & Recommendations

(a) Technology Integration: Promote the adoption of Electronic Health Records (EHRs), telemedicine platforms, and medical devices in the curriculum for better data management and care coordination.

(b) Telemedicine Integration: Promote the integration of telemedicine technologies to expand healthcare professionals' skills in remote patient care and digital health tools. Offer training on telehealth platforms and digital healthcare management.

(c) Soft Skills and Patient-Centred Care: Provide training in communication, empathy, and patient-cantered care to improve the quality of patient interactions. Focus on enhancing healthcare professionals' bedside manner and emotional intelligence.

(d) Continuous Education and Training: Implement ongoing training programs to keep healthcare professionals updated on the latest medical advancements and best practices. Facilitate access to online courses and resources for self-paced learning.

(e) Research and Evidence-Based Practice: Encourage healthcare professionals to engage in research and evidence-based practice, staying current with the latest medical research. Support participation in conferences, publication of findings, and application of evidence in clinical settings.

(f) Emphasize Quality over Quantity: Shift the focus from volume-based payments to quality-based payments. Hospitals that meet predefined quality and patient satisfaction standards should be rewarded with higher reimbursement rates. Regularly assess and audit hospitals to ensure they adhere to quality standards.

(g) Performance-Based Incentives: Introduce performance-based incentives for hospitals that excel in specific areas, such as patient outcomes, patient satisfaction, and preventive care. Hospitals could be incentivized for maintaining lower infection rates, readmission rates, and complications.



CONCLUSION

UHC provides that population have access to the full range of quality health services they need (availability), when and where they need them (accessibility) and without financial hardship (affordable, not free). Availability and Accessibility of quality healthcare are the basic requirements, cost comes much later. Cost in a way is also linked with supply-demand and once we provide enough supply, cost will come down. In spite of the best of intent, the government is not able to raise budgetary allocation. It will therefore be in the fitness of things that the government incentivize the private sector to invest in setting up healthcare infrastructure for secondary and tertiary care in general and in deficient regions in particular and utilize them to provide services to beneficiaries of government schemes.

In conclusion, the following measures are recommended:

1. Apply innovative measures to increase supply of specialists by way of increased PG/ DNB/ Fellowships/ Diploma seats. This should be taken on highest priority.

2. Establish referral system in the chain of public sector establishments. For example, AIIMS should cater to only tertiary and quaternary care. Where appropriate involve private sector to operate some of PHCs/ CHCs.

3. Provide cheaper capital to the private sector in setting up of 100 bedded Ayushman Bharat tertiary care hospitals in Tier-III towns.

4. Provide electricity at industry rates as against commercial rates presently being levied.

5. Provide single window clearance for numerous statutory compliances or outsource to designated conformity assessment agencies. This is one of hindrance for bringing new investment.

6. Allow CSR funding for setting up of private hospitals in deficient regions, which agree to operate at AYUSHMAN BHARAT rates.

7. Government to restructure insurance schemes like CGHS/ PMJAY with rational rates for reimbursement. This will help more hospitals to get empanelled and meet the objective of government to provide tertiary care to population at large.

8. Government may consider introducing co-payment for tertiary/quaternary care procedures, which are available only at select hospitals. Population will be more than willing to pay bit of extra component over and above what is reimbursed through schemes.

9. Government to adopt measures for fast-track implementation of Digital Health Mission

10. Promote and facilitate indigenisation of medical devices/equipment

11. Bring regulatory reforms, incentivise R&D investment programmes, strict enforcement of GMP guidelines, and adopt innovative digital technologies to streamline pharma sector

12. Adopt strategies for skilling/ reskilling of doctors, nursing staff and Allied Healthcare Professionals. Introduce technology in the curriculum for all streams. Increased focus on internship.

13. Focus on promotive and preventive healthcare by involving local bodies and NGOs

14. Bring central ACT to have stringent measures to prevent violence against healthcare professionals.

15. Create independent regulatory body for hospitals to usher much desired reforms in the sector.

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