

Editorial

Pulse of the Industry for Healthcare in India

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Industries play a complex and multifaceted role in shaping health systems, encompassing both positive contributions and negative impacts. They are essential for developing and delivering medical services and products, but they can also harm public health through their products, environmental pollution, and labour practices. Through innovation and technology, they provide medical devices, information and pharmaceutical and biotechnology products. Economic development provides jobs, healthcare delivery infrastructure and its management. Healthcare is the prevention, and treatment of illness or disability, encompassing a range of services aimed at maintaining health and addressing medical needs. It includes four levels of prevention: primary, secondary, tertiary, and quaternary prevention each targeting different aspects of health management. The following leading global threats to public health are identified:

- **Climate change and pollution:** just one estimate showed that 90% of people in the world inhale polluted air daily, causing 7 million premature deaths yearly.
- **Emergence of non-communicable diseases:** 70% of deaths worldwide can be traced to non-communicable diseases including diabetes, heart disease, and cancer. Around 15 million people are dying prematurely as a result and majority in lower income countries. One of the major risk factors is sedentary lifestyle, which is increasing at the very fast pace.
- Pandemics and large-scale outbreaks such as COVID-19, have claimed millions of lives, disturbed societies and destroyed economies.
- **Health Inequity:** large number of the population are victim of crises, conflict, drought/famine, or displacement. This population is more vulnerable to disease and violence. Expensive medical care is the reason for further health inequity.
- **Antimicrobial Resistance:** Bacteria which were destroyed by simple antibiotics are now resistant and causing life-threatening diseases and escalating health expenditure;
- **Emergence of new pathogens and re-emerging infections:** CoVID-19, Ebola, Zika, Nipah, MERS-CoV, and SARS can be severely worsened if outbreaks occur in active conflict and resource constraint areas;
- **Consumption of processed food, tobacco and alcohol:** consumption of these chemicals is linked to an increased risk of mortality from various causes, including cancer, cardiovascular disease, and

all-cause mortality. The food, tobacco, and alcohol industries have been noted for their significant influence on public health policy, making it challenging to implement effective prevention measures.

- **Mental health problems:** according to WHO in 2019, approximately a billion people – including 14% of the adolescents- were living with a mental disorder. They are the leading cause of disability. People with severe mental health conditions die on average 10 to 20 years earlier than the general population, mostly due to preventable physical diseases. 'Depression is a common disorder in the population due to various factors such as childhood' in the population due to various factors such as childhood sexual abuse and bullying victimisation. Globalisation, social disintegration, inequalities, race and caste discrimination, public health emergencies, war, and disasters, including the climate crisis are some of the threats to mental health.
- **Digital divide in health access:** While India is pushing digital health innovations (like eSanjeevani, ABHA IDs, and telemedicine), many rural and marginalised populations are still left out: Limited smartphone access, poor digital literacy, and lack of local-language interfaces. Many elderly or differently-abled individuals cannot navigate tech-based platforms. Inequitable access to healthcare is also a major concern which could be due to urban-rural divide and a shortage of health workers. Rural areas have inadequate healthcare infrastructure, with a shortage of sub-centres, PHCs, and CHCs. Urban areas, although better equipped, often have high costs associated with private healthcare. According to Rural Health Statistics (2015), the doctor-to-patient ratio is skewed, leading to overcrowding in public facilities.
- **Private Sector Dominance and weakened primary health system:** Publicly funded health insurance schemes like PMJAY benefit the private sector, reducing access to affordable public healthcare. The focus on curative care has weakened primary health institutions that were once trusted for preventive and community health services. The governments secondary and tertiary public healthcare is also weakened. Secondary-level care remains neglected despite the National Health Mission (NHM), resulting in poor access to specialised treatments. Tertiary healthcare is increasingly outsourced to the private sector under schemes like Pradhan Mantri Jan Arogya Yojna (PMJAY), making it difficult for people not covered by insurance to access affordable care.

A significant portion of healthcare spending in India is out-of-pocket, burdening households, especially for secondary and tertiary care. In 2024, 29% of the population spent on

catastrophic health expenditure (40% of their income). The focus on hospital-based insurance schemes ignores other healthcare expenses like outpatient care, diagnostics, and medicines.

Preventive care programmes, which are vital for public health, have taken a backseat in recent years. The transition of PHCs and CHCs into Health and Wellness Centres (HWCs) with a curative focus dilutes their original mandate of preventive care and health promotion.

Role of Industries in Healthcare

Industry's role in healthcare is phenomenal due to its engagement in developing and supplying health products, leveraging technology for efficiency and innovation, and providing essential services. Due to its labour-intensive nature, it provides jobs, and helps in overall economic development, which directly and indirectly improves health outcomes globally.

Pharmaceutical and Biotechnology Industries

These industries are dedicated to the research, development, and production of drugs, therapies, and vaccines.

- Preventive and treatment products of any disease are developed by industries, particularly medicines, blood products, and vaccines needed to combat and prevent illness, extending life expectancy and improving the quality of life of the people.
- Some of the advanced therapies, such as targeted treatments like gene therapy, which corrects genetic defects, and advanced cancer therapies using technologies like Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR) are gene-editing technologies.
- A continuous research and development process is adopted by the pharmaceutical sector, often collaborating with research institutions and startups to accelerate the discovery of new molecules and therapies.

Medical Device Industry

Industries are providing a wide range of products used to diagnose, monitor, and manage health problems. Sophisticated diagnostic equipment, such as MRI, PET and CT scanners, enables accurate and early disease detection. Robotic surgical systems and minimally invasive tools increase surgical precision, reduce recovery times, and improve patient outcomes. Wearable health technology, like smartwatches and sensors, allows for continuous, remote monitoring of patient health data, which is especially valuable for managing chronic conditions. Medical devices are now incorporating AI technology, which can analyse data and provide insights to healthcare professionals for

diagnosis and treatment algorithms.

Technology Industry

The technology sector, often called health Tech, provides the digital infrastructure and tools that optimise and modernise healthcare delivery. The use of Big Data and AI allows for the analysis of vast amounts of healthcare data, which can be used to predict health risks in populations, personalised treatment plans, and optimise administrative processes for policy development. Digital health services such as telemedicine and remote patient monitoring are used for people in remote or underserved areas. Digital tools, such as Electronic Health Records (EHRs) and Robotic Process Automation (RPA), streamline administrative workflows, reduce medical errors, and allow healthcare providers to focus more on patient care.

Insurance and Managed Care Industries

These industries play a critical role in the financing and administration of healthcare services such as health insurance, decreasing the cost based on the study of market dynamics, and managing the financial risks associated with medical care.

Transforming Public Health

The shift toward community- and outpatient-based care is fundamentally transforming public health—particularly in a country like India, where disparities in access, affordability, and health outcomes are pronounced. This transformation is enabling broader outreach, reducing health inequities, and fostering sustainable, equitable health systems in several key ways:

Community-based care—through Health and Wellness Centres (HWCs) or Ayushman Arogya Mandir

- As of 2025, over 1.75 lakh HWCs have been operationalised, significantly increasing access to primary healthcare in rural areas (one community health officer and one ANM for 8000 people).
- There are currently 31,882 Primary Health Centres (one PHC per 44,000 population)
- Additionally, 6,359 Community Health Centres (CHCs) serve larger catchment areas, covering 220,160 people each.
- These facilities bring essential services closer to the people, especially in remote and underserved areas.
- The mandate of HWCs, PHCs, and CHCs is to provide preventive, promotive, curative, and rehabilitative services addressing a broad range of needs from maternal and child health to the growing burden of non-communicable diseases. By doing so, these institutions aim to make healthcare delivery more accessible, equitable,

and holistic for all sections of the population.

Reducing Out of Pocket Expenditure

- Pradhan Mantri Jan Arogya Yojana (PM-JAY): PM-JAY is a health insurance/ assurance scheme fully financed by the government. It provides a cover of Rs. 5 lakhs per family per year for secondary and tertiary care hospitalisation across public and private empanelled hospitals in India. It covers up to 3 days of pre-hospitalization and 15 days of post-hospitalisation expenses such as diagnostics and medicines, thus reducing the out-of-pocket expenditure. More than 34.7 crore Ayushman cards has been issued, i.e., (34.7X5) 173.5 crore individuals are covered, which could be an overestimation.

Ensuring Equal Access to Health by Adapting Services to Local Beliefs and Practices

Community health workers (ASHA, ANM) play a vital role by understanding the cultural, linguistic, and social realities of the communities they serve, which makes community-based care more acceptable and trusted. This has significantly improved the uptake of health services, particularly among marginalised and vulnerable groups such as tribal populations, women, the elderly, children, and adolescents. Currently, there are around 10.4 lakh ASHAs across the country, with an average coverage of one ASHA per 1,346 population. In addition, 7,584 AYUSH Health and Wellness Centres (HWCs) have been established, and a dedicated Ministry of AYUSH has been created to strengthen traditional systems of medicine and integrate them into primary healthcare.

Emphasizing on Early Intervention and Lifestyle-Based Care Instead of Solely Treating Illnesses

Outpatient and community settings allow more time and space for health education, screening, behaviour change communication and regular follow ups, which are often missed in the hospital settings. Components of NPNC have been included in HWCs.

Promoting Decentralised, Community-Driven Decision-Making in Health Systems

Community-based care models promote community participation in health planning and accountability. Village Health Sanitation and Nutrition Committees (VHSNCs) and Rogi Kalyan Samitis enhance local ownership, which is crucial for the sustainability of health programmes.

The shift toward community- and outpatient-based care is a paradigm shift in public health thinking that traces its roots back to 1946 when Sir Joseph Bore presented the report. By bringing services closer to people, empowering local health workers and focusing on prevention, India is redefining healthcare delivery to be more inclusive, equi-

table and sustainable.

Five components Ayushman Bharat Digital Mission -The Digital Health ID, or Ayushman Bharat Health Account (ABHA), Health Facility Registry (HFR), Health Professional Registry (HPR), mobile application and India's Digital Personal Data Protection Act of 2023 improve telemedicine, teleManas, telesurgery, etc. However, data privacy and security remain a concern. Building citizen trust in how health data is collected, stored, and used will determine the long-term success of ABDM.

To fully realise this vision, continued investment in primary care infrastructure, health workforce training, digital health integration, and community engagement is essential.

Problems with the industries are their inherent characteristics of exploitation of natural resources, creating pollution, causing labour health and safety concerns, producing tobacco, ultra-processed foods, and sugary drinks, prioritising profit over public well-being, and industrialisation of healthcare. Industries have to focus on its limitations beside generating innovative safe products and addressing public health issues. Industries are engines of innovation and growth, yet they can perpetuate harm by exploiting natural resources, polluting the environment, marketing unhealthy products like tobacco, ultra-processed foods and sugary drinks, and commercialization of healthcare. For industries to be true partners in health, they must adopt responsible innovation, prioritize sustainability, align with Sustainable Development Goals (SDGs), and strengthen corporate social responsibility.

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