

NEXT IAS

**DAILY EDITORIAL
ANALYSIS**

TOPIC

**ROLE OF AI IN HEALTHCARE
GOVERNANCE**

www.nextias.com

ROLE OF AI IN HEALTHCARE GOVERNANCE

In News

- The Digital Ethics Centre at Delft University of Technology, Netherlands, has been designated as a WHO Collaborating Centre on AI for health governance.

Do you know ?

- Artificial intelligence (AI) is a term applied to a machine or software and refers to its capability of simulating intelligent human behavior, instantaneous calculations, problem-solving, and evaluation of new data based on previously assessed data.
- AI influences multiple industries, including agriculture, manufacturing, autonomous vehicles, fashion, sports, healthcare, and medicine.

Artificial Intelligence in healthcare

- AI has transformed healthcare through advancements in imaging, electronic medical records (EMR), diagnostics, treatment, drug discovery, and precision medicine.
- AI has transitioned from a promise to a reality, emerging as a transformative force reshaping global healthcare delivery.

Benefits

- **Resource Allocation:** AI can predict patient admissions, optimize resource use (hospital beds, staff, equipment), and reduce waste, improving care quality.
- **Cost Reduction and Efficiency:** AI reduces healthcare costs and streamlines administrative tasks (scheduling, billing, records), allowing healthcare professionals to focus more on patient care.
- **Improved Diagnostics:** AI enhances diagnostic accuracy, enables earlier detection, and supports less invasive and cost-effective treatments.
 - ◆ AI enables predictive analytics for early disease intervention, outbreak forecasting, and targeted public health responses to mitigate disease spread and reduce economic impact.
- **Personalized Treatment:** AI-driven personalized care plans improve patient outcomes and reduce the financial burden on healthcare systems.
- **AI in Pharmaceuticals:** AI accelerates drug discovery, optimizes formulations, improves dosing predictions, and enhances clinical trials, manufacturing, and safety monitoring, reducing time and costs.

Challenges of integrating AI in healthcare

- Integrating AI into healthcare faces several challenges, including **building trust and acceptance**, ensuring access to high-quality health data, and fostering innovation.
- **Data fragmentation** and inaccuracies can lead to incorrect decisions, such as wrong prescriptions or diagnoses.
- AI struggles to predict **complex human behaviours** and diseases with multiple causes, such as diabetes and cancers.
 - ◆ Most diseases are multifactorial, making them difficult to predict or treat
- **Ethical and legal challenges** still persist, including privacy concerns, informed consent and social inequalities
- **AI is not accessible to all societies**, especially in low-income and developing countries where the latest technologies are often unavailable.

Developments in India

- The history of Artificial Intelligence in India is a story of gradual growth, culminating in rapid acceleration in recent years.
- **Early Days (1960s-1980s):** Indian institutes like IIT Kanpur and IISc Bangalore began computer science research, laying the groundwork for future AI development.
 - ♦ In 1986, the Knowledge Based Computer Systems (KBCS) project was initiated, marking India's first major AI research program.
- **Foundations (1990s):** The establishment of C-DAC (Centre for Development of Advanced Computing) in 1988 boosted supercomputing capabilities, indirectly supporting AI research.
 - ♦ Indian software companies began exploring AI applications, primarily in business process automation.
- **Growth Phase (2000s):** Indian IT giants like TCS, Infosys, and Wipro started investing in AI research and development.
 - ♦ Academic institutions expanded their AI and machine learning programs.
- **Acceleration (2010s):** 2014-15: The "Digital India" initiative was launched, emphasizing the importance of emerging technologies including AI.
 - ♦ 2018: NITI Aayog released the National Strategy for Artificial Intelligence, outlining India's approach to leveraging AI for economic growth and social inclusion.
- **Current Era :** AI has become a key focus area for both government and private sector initiatives.
 - ♦ India is positioning itself as a global AI hub, with applications ranging from **healthcare to agriculture to smart cities**.
 - ♦ Government initiatives like "AI for All" are integrating AI into sectors such as education and governance.
- The National Health Authority (NHA) and IIT Kanpur signed a Memorandum of Understanding (MoU) to develop an **AI-powered platform under the Ayushman Bharat Digital Mission (ABDM)**.
 - ♦ This collaboration aims to improve health outcomes by using data for AI model benchmarking and disease diagnosis, addressing challenges related to data availability and efficacy in healthcare.

Conclusion and Way Forward

- AI technologies have the potential to improve diagnosis, treatment, health research, drug development, and public health functions like surveillance and outbreak response.
- To fully harness AI's benefits, collaboration among stakeholders is essential for robust governance, ethical safeguards, and evidence-based policies.
- India must invest in both public and private organizations to support AI research in healthcare.

Mains Practice Question

[Q] Analyze the transformative role of Artificial Intelligence in the healthcare sector with suitable examples.

Source BL