

Biotechnology & Health

Indian Biotechnology & Health News

- **ICMR Releases Second Edition of National Essential Diagnostics List (NEDL):** The Indian Council of Medical Research (ICMR) has unveiled the updated NEDL 2025. This framework standardizes and defines essential diagnostic tests available across all levels of India's public healthcare system. It outlines a graduated structure, from basic tests at village health facilities to comprehensive diagnostics at higher-tier centers, aiming to reduce delays, misdiagnoses, and out-of-pocket expenses. Key changes include more diagnostic tests, renaming sub-centers to "Ayushman Arogya Mandirs," a strong focus on point-of-care testing, and improved infrastructure for on-site testing at Primary Health Centres.
- **Deep-Tech Innovation Centre at Anna University:** A Tamil Nadu Technology Transfer Facilitation Centre (TNTTFC) for deep-tech innovations has been inaugurated at the iTamil Nadu Technology (iTNT) Hub in Anna University. Funded by the state government, this center aims to bridge the gap between academic institutions, research organizations, start-ups, and industries, facilitating the transfer of deep-tech innovations, including those in biotechnology, for economic and societal benefits.
- **Gujarat Launches Tribal Genome Sequencing Project:** In a pioneering move, Gujarat has become the first state to launch a Tribal Genome Sequencing Project. This initiative aims to improve healthcare for tribal communities by understanding their genetic makeup, which can lead to more targeted medical interventions and disease prevention strategies.
- **Indigenous Carbon Fibre Foot Prosthesis:** DRDO (Defence Research and Development Organisation) and AIIMS Bibinagar have jointly

unveiled India's first indigenously designed and developed cost-effective advanced carbon fiber foot prosthesis. This development is significant for providing affordable and effective mobility solutions.

- **Telemedicine Growth:** India's eSanjeevani, the national telemedicine service, continues to expand, emerging as one of the world's largest telemedicine platforms. It has served over 36 crore (360 million) patients through teleconsultations since its launch, significantly improving healthcare accessibility, especially in remote areas.
- **Focus on Post-Hospitalization Care:** There's a growing recognition and emphasis on rethinking post-hospitalization care in India, with digital health and remote monitoring showing promising results in improving patient outcomes, especially for chronic conditions like cardiac issues. Studies indicate that remote cardiac rehabilitation leads to significant reductions in readmissions and improved quality of life.
- **Government Initiatives for Healthcare Access:** Ongoing initiatives like Ayushman Bharat Digital Mission (ABDM) are creating a digital backbone for healthcare, with over 78 crore Ayushman Bharat Health Accounts (ABHAs) created. The Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) also continues to strengthen public health infrastructure across all levels. Various programs under the National Health Mission (NHM) are focusing on maternal and child health, nutritional deficiencies, and TB prevention.

International Biotechnology & Health News

- **World Brain Day 2025:** The World Federation of Neurology (WFN) will celebrate its 12th annual World Brain Day on July 22nd, with the theme "Brain Health for All Ages." A global webinar will bring together experts from organizations like the WHO to raise awareness and catalyze progress in brain health, particularly given that one in three people

people are affected by a brain disorder, with a disproportionate burden in low- and middle-income countries.

- **Advancements in Advanced Therapy Medicinal Products (ATMPs):** The biotech sector globally continues to see major innovation in ATMPs, particularly Cell and Gene Therapies (CGTs). CRISPR-Cas9 gene editing technology is expanding beyond monogenic diseases into oncology, viral infections, and autoimmune disorders. There's a significant shift towards allogeneic (off-the-shelf) cell therapies to improve accessibility and scalability, driven by manufacturing innovations.
- **mRNA Therapeutics Expansion:** Building on the success of mRNA-based COVID-19 vaccines, mRNA therapeutics are rapidly expanding into new frontiers, including treatments for metabolic genetic diseases, cardiovascular conditions, and various forms of cancer.
- **AI in Drug Discovery and Genomics:** Artificial intelligence (AI) is transforming drug discovery by predicting the effectiveness and safety of compounds, accelerating the development process. AI-powered platforms are also enhancing genomic analysis, helping identify genetic variations linked to diseases, leading to more targeted therapies and personalized medicine.
- **Global Measles Outbreaks:** The CDC reports that as of July 15, 2025, there have been 1,309 confirmed measles cases across 40 US jurisdictions, with 29 outbreaks reported in 2025. This indicates a significant increase in measles activity, partly due to declining MMR vaccination coverage.
- **COVID-19 Outbreaks in Australian Aged Care:** COVID-19 outbreaks continue to be reported in Australian residential aged care homes, with a weekly report on July 18, 2025, providing data on impacted services, staff, and resident cases.
- **Digital Health Convening:** The 2nd Global Convening of the Global Initiative on Digital Health (GIDH) is taking place virtually from July 14-18, 2025, organized by the WHO. This event focuses on

strengthening digital systems for healthcare delivery, particularly in low- and middle-income countries, and discussing the extension and renewal of the Global Strategy on Digital Health.

MCQs

1. Which organization released the updated National Essential Diagnostics List (NEDL) 2025, a framework for essential diagnostic tests in India's public healthcare system?

- A) Ministry of Health and Family Welfare
- B) All India Institute of Medical Sciences (AIIMS)
- C) Indian Council of Medical Research (ICMR)
- D) National Health Authority (NHA)

Correct Answer: C

Explanation: The news states, "The Indian Council of Medical Research (ICMR) has unveiled the updated NEDL 2025."

2. What new name has been given to the sub-centers in India's public healthcare system, as per the NEDL 2025?

- A) Jan Swasthya Kendras
- B) Ayushman Arogya Mandirs
- C) Gramin Chikitsalaya
- D) Health & Wellness Clinics

Correct Answer: B

Explanation: A key change in NEDL 2025 includes "renaming sub-centers to 'Ayushman Arogya Mandirs'."

3. Which Indian state has launched a pioneering Tribal Genome Sequencing Project to improve healthcare for its tribal communities?

- A) Maharashtra
- B) Rajasthan



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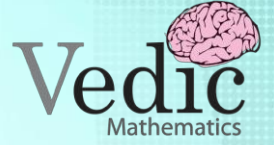
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- C) Madhya Pradesh
D) Gujarat

Correct Answer: D

Explanation: The news highlights, "In a pioneering move, Gujarat has become the first state to launch a Tribal Genome Sequencing Project."

4. India's first indigenously designed and developed cost-effective advanced carbon fiber foot prosthesis was jointly unveiled by DRDO and which AIIMS institution?

- A) AIIMS Delhi
B) AIIMS Bhopal
C) AIIMS Bibinagar
D) AIIMS Bhubaneswar

Correct Answer: C

Explanation: The news states, "DRDO (Defence Research and Development Organisation) and AIIMS Bibinagar have jointly unveiled India's first indigenously designed and developed cost-effective advanced carbon fiber foot prosthesis."

5. India's national telemedicine service, eSanjeevani, has served over how many patients through teleconsultations since its launch?

- A) 10 crore (100 million)
B) 25 crore (250 million)
C) 36 crore (360 million)
D) 50 crore (500 million)

Correct Answer: C

Explanation: The news states, "It has served over 36 crore (360 million) patients through teleconsultations since its launch..."

6. The World Federation of Neurology (WFN) will celebrate its 12th annual World Brain Day on July 22nd, 2025, with what theme?

- A) "Neuroscience for a Better Future"
B) "Brain Health for All Ages"
C) "Conquering Neurological Disorders"
D) "Innovation in Brain Research"

Correct Answer: B

Explanation: The news states that World Brain Day 2025 will be celebrated "with the theme 'Brain Health for All Ages'."

7. In the global biotech sector, what gene editing technology is expanding beyond monogenic diseases into oncology, viral infections, and autoimmune disorders?

- A) TALENs
B) Zinc Finger Nucleases
C) RNA interference
D) CRISPR-Cas9

Correct Answer: D

Explanation: The news mentions, "CRISPR-Cas9 gene editing technology is expanding beyond monogenic diseases into oncology, viral infections, and autoimmune disorders."

8. What is a significant shift occurring in Advanced Therapy Medicinal Products (ATMPs) to improve accessibility and scalability, driven by manufacturing innovations?

- A) A shift towards autologous (patient-specific) cell therapies.
B) A shift towards allogeneic (off-the-shelf) cell therapies.
C) A shift towards traditional pharmaceutical manufacturing.
D) A shift towards in-vivo gene therapy only.





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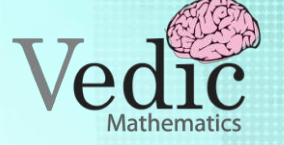
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Correct Answer: B

Explanation: The news highlights, "There's a significant shift towards allogeneic (off-the-shelf) cell therapies to improve accessibility and scalability, driven by manufacturing innovations."

9. What key technology is transforming drug discovery by predicting the effectiveness and safety of compounds and enhancing genomic analysis for targeted therapies?

- A) Virtual Reality (VR)
- B) Blockchain
- C) Artificial Intelligence (AI)
- D) Quantum Computing

Correct Answer: C

Explanation: The news states, "Artificial intelligence (AI) is transforming drug discovery by predicting the effectiveness and safety of compounds, accelerating the development process. AI-powered platforms are also enhancing genomic analysis..."

10. What is the primary reason cited for the significant increase in measles activity in the US, with 1,309 confirmed cases as of July 15, 2025?

- A) Increased international travel
- B) Declining MMR vaccination coverage
- C) New, more virulent strains of measles
- D) Insufficient public health surveillance

Correct Answer: B

Explanation: The news states, "This indicates a significant increase in measles activity, partly due to declining MMR vaccination coverage."

