

Biotechnology & Health:

Ethical and Regulatory Challenges in Biotech: A major theme in current discussions is the need for guardrails and a framework to manage the risks associated with the rapid advancement of biotechnology. An excerpt from The Ecologist highlights that while breakthroughs are happening in synthetic biology, AI, and genetic engineering, these technologies also pose risks, such as the potential for misuse in creating dangerous pathogens. A RAND report from August 2025 echoes this, proposing a new framework for assessing biosecurity threats as technologies like CRISPR and AI become more mature and widely accessible.

New Drug Applications and Approvals: Alphamab Oncology, a company based in China, announced that its New Drug Application (NDA) for anbenitamab injection (KN026) has been accepted by the National Medical Products Administration. This is a significant development, as the drug is a HER2 bispecific antibody being developed for the treatment of HER2-positive gastric or gastroesophageal junction cancer. Clinical study results showed it significantly improved progression-free and overall survival in patients.

AI's Role in Healthcare: AI continues to be a driving force in the biotech and health sectors.

Drug Discovery: AI is being used to accelerate the identification of new drug candidates and targets.

Clinical Trials: IQVIA has unveiled an AI suite to manage clinical trial finances.

Diagnostics: Exact Sciences has rolled out a new multi-cancer blood test called Cancerguard, and a new AI-powered diagnostic solution is being developed by a health-tech company in India.

Ethical Considerations: The World Economic Forum emphasizes the importance of building a "culture of responsibility" to ensure that the benefits of AI in the bioeconomy are not concentrated in a few regions, and that the technology is not misused.

Investment and Business: Zota Health Care, an Indian company in the Pharmaceuticals & Biotechnology sector, has reached an all-time high in stock value, reflecting strong sector performance and growth potential. The company's stock has seen a significant increase over the past year.

Global Health and Biosecurity: A call for proposals has been announced by the Indian Department of Biotechnology for projects in Quantum Biotechnology. Additionally, India has joined the Health AI Global Regulatory Network to enhance the oversight of AI in healthcare.

Ongoing Research and Innovation:

A study has identified a "secret code" in "junk DNA" from ancient viral DNA that actively controls how other genes are expressed.

Researchers have engineered "Trojan horse" bacteria to deliver cancer-killing viruses directly into tumors.

New methods of gene editing are being developed, including a custom gene editor that can fix a mutation causing a deadly disease in mice.



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1.What is a primary concern highlighted by The Ecologist and a RAND report regarding the rapid advancement of biotechnology?

- A) The high cost of new drug development.
- B) The potential for misuse of technologies like synthetic biology and AI to create dangerous pathogens.
- C) The difficulty in recruiting patients for clinical trials.
- D) The lack of investment in biotech companies.

Answer: B

The text explicitly states that a major theme in current discussions is the risk associated with new technologies, such as their "potential for misuse in creating dangerous pathogens." The RAND report also focuses on assessing biosecurity threats from these technologies.

2.Which company announced that its New Drug Application (NDA) for an anbenitamab injection (KN026) has been accepted?

- A) IQVIA
- B) Exact Sciences
- C) Alphamab Oncology
- D) Zota Health Care

Answer: C

The "New Drug Applications and Approvals" section specifically names Alphamab Oncology as the company that had its NDA for the drug KN026 accepted by the National Medical Products Administration.

3. According to the provided text, what is one of the ways AI is being utilized in the healthcare sector?

- A) To replace doctors in surgical procedures.
- B) To accelerate the identification of new drug candidates.





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C) To manage hospital administration tasks exclusively.

D) To automate patient intake forms.

Answer: B

The section on "AI's Role in Healthcare" notes that AI is being used in "Drug Discovery" to "accelerate the identification of new drug candidates and targets."

4.What is the purpose of the "Trojan horse" bacteria engineered by researchers?

A) To deliver antibiotics directly to infection sites.

B) To act as a vaccine against new viruses.

C) To carry and deliver cancer-killing viruses directly into tumors.

D) To repair damaged DNA strands.

Answer: C

The "Ongoing Research and Innovation" section mentions that "Researchers have engineered 'Trojan horse' bacteria to deliver cancer-killing viruses directly into tumors."

5. What new initiative has India joined to enhance the oversight of AI in healthcare?

A) The Quantum Biotechnology Network.

B) The Global Drug Regulation Authority.

C) The Health AI Global Regulatory Network.

D) The World Economic Forum's AI Initiative.

Answer: C

The text states, "India has joined the Health AI Global Regulatory Network to enhance the oversight of AI in healthcare."

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