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Topic of Research: The Right to Public Health with Reference to the Epidemic Laws in India

FINDINGS

This research explores the integration of Artificial Intelligence (AI) technologies into disease surveillance mechanisms to enhance the protection of public health rights in India, particularly in the context of emerging and re-emerging infectious diseases. The study aims to address the inadequacies in traditional surveillance systems by examining how AI can improve data collection, analysis, and response capabilities. The objectives include tracing the development of public health and epidemics, analysing international and Indian legal provisions related to public health, examining the judiciary's role in protecting public health during epidemics, assessing the current state of disease surveillance in India, and analysing the impact of AI technologies on disease surveillance and management. Through a mixed-method approach combining systematic review, meta-analysis, and case study methodologies, the research seeks to contribute to the improvement of India's legal and technological readiness in addressing public health challenges.

Main Findings:

1. Multifaceted Approach:

A comprehensive strategy involving governmental and non-governmental sectors is essential for addressing emerging infections in India. This approach should integrate various aspects of public health, healthcare delivery, and policy-making to create a robust system for infectious disease management.

2. Public Health Surveillance:

India's Vision 2035 for Public Health Surveillance emphasises integrated governance and innovative data-sharing mechanisms. This vision aims to create a more responsive and efficient surveillance system that can detect and respond to emerging health threats quickly.

3. Legal Framework:

Current legal mechanisms for epidemic response in India are fragmented and outdated, necessitating comprehensive public health legislation. Updating these laws would provide a more coherent and effective legal basis for managing health emergencies and protecting public health.

4. Judicial Role:

The judiciary plays a crucial role in safeguarding public health and individual rights during health emergencies. Courts can help balance the need for public health measures with the protection of civil liberties and ensure that government actions are proportionate and justified.

5. Technological Integration:

Integration of machine learning and artificial intelligence in healthcare shows promise for improving patient care and resource allocation. These technologies can enhance disease prediction, diagnosis, and treatment planning, leading to more efficient healthcare delivery.

6. Public Health Infrastructure:

Strengthening public health infrastructure, particularly in rural and underserved areas, is essential. This includes improving primary healthcare centers, district hospitals, and community health facilities to ensure better access to healthcare services across the country.

7. Workforce Development:

Developing a robust public health workforce through training and professional development is crucial. This involves enhancing the skills of healthcare workers, epidemiologists, and public health specialists to better respond to emerging health challenges.

8. Telemedicine and Digital Health:

Expanding telemedicine and digital health tools can enhance healthcare accessibility in remote regions. These technologies can bridge the gap between urban and rural healthcare services, providing expert consultations and health information to underserved populations.

9. Laboratory Infrastructure:

Strengthening laboratory infrastructure and diagnostic capabilities is necessary for rapid pathogen identification. This includes upgrading existing facilities and establishing new laboratories equipped with advanced diagnostic tools to quickly detect and characterise emerging pathogens.

10. One Health Approach:

Implementing a One Health approach is essential for addressing zoonotic diseases and emerging infections. This approach recognises the interconnectedness of human, animal, and environmental health, promoting collaboration across these sectors to prevent and control diseases.

11. Pharmaceutical and Vaccine Capabilities:

Enhancing pharmaceutical and vaccine manufacturing capabilities can contribute to global health security. Strengthening India's capacity to produce essential medicines and vaccines can ensure a more resilient supply chain during health emergencies.

12. Social Determinants of Health:

Addressing social determinants of health is crucial for reducing the burden of infectious diseases. This includes improving access to clean water, sanitation, nutrition, and education, which play significant roles in disease prevention and overall health outcomes.

13. Research and Development:

Investing in research and development, including vaccine development and diagnostic tools, is important for future preparedness. This can help India stay ahead of emerging health threats and contribute to global scientific knowledge in the management of infectious diseases.

14. Public Awareness:

Implementing public awareness and education campaigns is essential for promoting preventive health behaviours and increasing community engagement in disease control efforts. These campaigns can help disseminate accurate health information and combat misinformation.