**ASSIGNMENT : ROBOTICS IN PUBLIC HEALTH**

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**Introduction**

Robotics is revolutionizing public health by enhancing healthcare delivery, improving disease prevention, and optimizing medical procedures. From surgical robots to automated patient care systems, robotics plays a crucial role in advancing healthcare efficiency and accessibility. This paper explores the applications, benefits, and challenges of robotics in public health.

**Applications of Robotics in Public Health**

1. Robotic Surgery and Precision Medicine

Robotic-assisted surgeries improve precision and reduce recovery times. Systems like the da Vinci Surgical Robot enable minimally invasive procedures, reducing complications and hospital stays.

2. Automated Patient Care and Assistance

Robots assist in patient care by performing routine tasks such as medication dispensing, mobility support, and monitoring vital signs. Autonomous wheelchairs and robotic gurneys enhance hospital efficiency.

3. Disease Surveillance and Public Health Monitoring

AI-powered robots analyze health data to detect disease outbreaks and track epidemiological trends. These systems support early intervention and resource allocation during health crises.

4. Robotics in Disaster Response and Emergency Care

Robots play a vital role in disaster medicine by delivering medical supplies, assisting in search-and-rescue operations, and providing remote healthcare in crisis situations.

**Benefits of Robotics in Public Health**

Improved Accuracy: Robotics enhances precision in medical procedures, reducing human errors.

Efficiency: Automated systems streamline healthcare operations, reducing workload for medical professionals.

Accessibility: Robotics expands healthcare access, particularly in remote and underserved areas.

**Challenges and Ethical Considerations**

Despite its advantages, robotics in public health faces challenges such as high implementation costs, data privacy concerns, and ethical dilemmas . Ensuring equitable access and responsible AI integration is crucial for maximizing its benefits in ...](https://www.who.int/news/item/28-06-2021-who-issues-first-global-report-on-ai-in-health-and-six-guiding-principles-for-its-design-and-use).

**Conclusion**

Robotics is transforming public health by improving medical precision, enhancing patient care, and supporting disease surveillance. While challenges exist, responsible implementation can significantly improve global health outcomes.

References

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