



AI IN PUBLIC HEALTH



Ethics to Consider When Using AI



1. **Privacy and Confidentiality**

- AI systems may process sensitive health data. It's crucial to ensure that individuals' privacy and confidentiality are protected throughout data collection, storage, and analysis.

2. **Informed Consent and Autonomy**

- Individuals should have the opportunity to provide informed consent before their data is used in AI-driven public health initiatives. They should also have the autonomy to opt-out or withdraw consent at any time. Protecting autonomy in the use of AI ensures that individuals retain control over their health information and decisions, promotes ethical healthcare practices, and fosters trust in AI technologies as valuable tools for improving health outcomes.

3. **Bias and Fairness**

- AI algorithms can perpetuate biases present in the data they're trained on, leading to unfair or discriminatory outcomes. It's essential to address and mitigate biases to ensure fair and equitable access to healthcare services and interventions.

4. **Equity and Access**

- AI technologies should be designed and implemented in a way that promotes health equity and ensures access to healthcare resources for all individuals, including marginalized and underserved populations. Given that public health activities are focused at the population level instead of the individual, AI use in public health may influence health inequities as opposed to its use in other areas. Make a concerted effort to ensure the use is not exacerbating existing health inequities. Take into consideration geographic, socioeconomic, and demographic factors.

5. **Transparency and Accountability**

- AI systems should be transparent about their functionality, decision-making processes, and limitations. It's important to hold AI developers and users accountable for the decisions and actions influenced by AI algorithms.

6. **Accountability and Oversight**

- Clear mechanisms for oversight, governance, and accountability should be established to regulate the use of AI in public health. This includes defining roles and responsibilities of stakeholders, establishing ethical guidelines, and monitoring compliance with ethical standards.
 - Some of the roles and responsibilities can be:
 - Data scientists/engineers developing AI models, algorithms, and systems. Their responsibilities lie in ensuring data quality,





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transparency in model development, and implementing necessary measures to mitigate bias and address data privacy concerns.

- Healthcare professional's role is to provide domain expertise and input AI model development and have a responsibility to collaborate with data scientists to ensure AI models align with clinical knowledge and are relevant to healthcare needs.
- Policy maker's role is to set overarching policies and regulations governing the use of AI in public health. With a responsibility to develop and update regulations that address ethical concerns, data privacy and transparency.
- The Public Health Department's role is to oversee the implementation of AI in public health initiatives. With a responsibility to coordinate with various stakeholders, ensure compliance with ethical guidelines, and communicate transparently with the public.

7. Data Security and Integrity

- AI systems must adhere to rigorous data security standards to prevent unauthorized access, tampering, or misuse of health data. Measures should be in place to ensure data integrity and protect against data breaches or cyberattacks.

8. Beneficence and Non-Maleficence

- AI applications in public health should prioritize the well-being of individuals and communities. Efforts should be made to maximize the benefits of AI while minimizing potential harms or unintended consequences.

9. Continuous Evaluation and Improvement

- Public health AI systems should undergo ongoing evaluation and monitoring to assess their effectiveness, impact, and adherence to ethical principles. Feedback mechanisms should be in place to facilitate continuous improvement and adaptation.

10. Community Engagement and Participation

- Meaningful engagement with affected communities and stakeholders about the use of AI in public health is essential to ensure that AI-driven public health initiatives are responsive to their needs, values, and preferences.

By addressing these ethical considerations, public health professionals can harness the potential of AI to improve health outcomes while upholding ethical principles and safeguarding individual rights and well-being.

