Artificial Intelligence and Social Determinants of Health

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Meet Our Speakers

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Conflict of Interest

Fatima Paruk, MD, MPH

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Have no real or apparent conflicts of interest to report.
Learning Objectives:

- Recall basic principles of artificial intelligence
- Relate artificial intelligence to other initiatives, including All of Us, Learning Health System, Social Determinants of Health
- Understand benefits and risks to our communities
Artificial Intelligence:

*IT systems that sense, comprehend, act, and learn.*

“Intelligence” demonstrated by software with the ability to depict or mimic human brain functions.
Machine Learning (ML)

Algorithms

Predict things we care about

Vision

Computer Vision
Face
Emotion
Content Moderator
Video

Language

Text Analytics
Spell Check
Web Language Model
Linguistic Analysis
Translator

Search

Web Search
Image Search
Video Search
News Search
Autosuggest

Speech

Speech Recognition
The 10 Essential Public Health Services

https://www.cdc.gov/publichealthgateway/publichealthservices/essentialhealthservices.html
Social Determinants of Health (SDoH) are the conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of daily life.

Source: World Health Organization
As Intelligent systems replicate human capabilities. Work done by people will be partially or wholly done by computers and machines.
A Silent Killer is Among Us
Correlation vs. Causation

Correlation: 99%
AI will be a force for good for all or for some.

...You decide
Chronic Obstructive Pulmonary Disease (COPD)

Goal: Use AI to reduce visits to ED & Hospital Admissions

Community Pilot Completed: 60% Reduction in ED visits & admissions

White males: 95% Reduction

Hispanic females: 25% Reduction
Microsoft AI Principles
Fair | Accountable | Transparent | Ethical
1. AI must maximize efficiencies without destroying the dignity of people
2. AI must guard against bias
3. AI needs accountability so humans can undo unintended harm
4. AI must be transparent
5. AI must be designed for intelligent privacy
6. AI must be designed to assist humanity
Strategic AI Leadership
Microsoft Resources to Support Your Intelligent Health Journey

Free eBook – Framework for Ethical AI

Microsoft AI for Good & AI for Health Programs

Microsoft Social Entrepreneurship Program