ABSTRACT

Our goal with this project was to use IU Health’s patient data (structured and clinical notes) and SDOH to flag patients at risk of Obesity.

WHY OBESITY

• Over 40% of Americans have been diagnosed with Obesity
• Related to many of the leading causes of preventable death
• Increasing over time as shown in Figure 1

SDOH

Social Determinants of Health are factors in an individual’s environment and surroundings that can influence their health and risk for certain health conditions. Some examples of SDOHs and what they may influence are:

• Food access → Diet
• Crime Rate → Exercising outdoors
• Transportation Access → Healthcare Access

LITERATURE REVIEW


METHODOLOGY

NLP Library Research

• ClinicalBERT and Bio+DischargeSummaryBERT
• Pre-trained libraries dealing with clinical notes and information
• SpaCy
• Name Entity Recognizer

Data Cleaning

• Selected notes with obesity diagnosis codes and by Body Mass Index and diagnosis

Annotation

• Annotated the nodes manually for specific social determinants of health using Annotation Guidelines created collaboratively with the team using guidelines in existing literature.

POTENTIAL DETERMINANTS

Using the tags created through annotations, our model finds patterns in the SDOH that may influence obesity.

FUTURE WORK

• Integrating Public Data Sets
  • Allows for analysis of more social determinants
  • Allows for model to be applicable outside of Indiana
• Integrating annotation through unsupervised means
  • Allows for more data to be analyzed without spending as much time

WORKS CITED


Wftd. “You Can't Trust the Experts: The Food Pyramid.” Brave Ole World, 4 Aug. 2020..

