Link to Video: https://youtu.be/Nlz-MPmwsL4

LEVERAGE POPULATION HEALTH DATA TO IMPROVE PATIENT ADHERENCE IN COMMUNITY REFERRAL

Deliverable 1, Team Topic Presentation

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INTRODUCTION

- Population Health refers to the health of a group of individuals as measured by health status indicators and is influenced by various socio-economic factors
- With the introduction of the Affordable Care Act, the healthcare industry is moving towards value based payments rather than fixed payment per service
- Value based payment is a strategy used to promote the quality and effectiveness of healthcare services (e.g., readmission rate)
- CQM - Clinical Quality Measures are used to help measure and track the quality of health care services provided
- Lifestyle change programs and other interventions can be measured by CQM
- However, currently, it is often difficult to predict the effectiveness of a program for a given individual

"Hi There..."

RESEARCH

- According to CDC, $2.3 trillion is spent annually in the U.S. on healthcare for people with chronic and mental illness
- According to a study, direct healthcare expenditures associated with lifestyle-related risk factors (such as smoking, decreased physical activity) were estimated at $4.161 billion.
- A recent paper shows that lifestyle change programs (for diabetes) were significantly more effective than medication
- Research shows that patients are more likely to engage in preventive health behaviors when their health care professional recommends them
- Arun Srinivasan (one of our mentors) feels that if we show people the health benefits of patients making changes in their lifestyles, people are more likely to join and follow through with lifestyle change programs.

BUSINESS CASE: PROBLEM
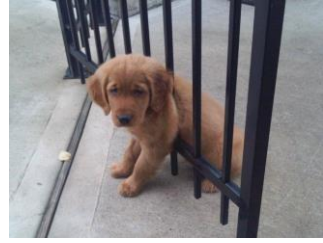
- After a diagnosis, a provider may refer a patient to various programs (lifestyle change-based or other interventions) to help manage the patient's condition
- However, a provider may not always know the best program to recommend for any particular patient
- The effectiveness of a program might vary based on factors like demographics
- Referrals often contain very little information
- Patients may not always follow up on the programs
  - Even if they do, the referred program may also not be the best fit
  - This can decrease the health outcome for the patient
- Can also be a costly and inefficient use of health care resources
- Can also affect the payment amount to providers under a value based payment system

BUSINESS CASE: USERS

- Providers
    - Would like to refer patients to and educate them about various programs
    - Would like to recommend the programs with the best outcomes for their patients
    - Need more contextual information on referral programs, including acceptance, completion, and outcome rates, particularly based on past patient experiences for a particular population
    - Need an easy way to visualize this data
- Patients
    - Would like to review the anticipated outcome of various programs
    - Would like to see information such as improvement rates vs. percentage of program completed
    - May be more motivated join lifestyle change or other intervention programs if there is a likely chance of success
- (For the first version of the app, we will focus on the needs of the providers)

BUSINESS CASE: SOLUTION

- An app that leverages both individual patient and general population health data to provide data and predictions of the outcomes of lifestyle change programs or other interventions
- The information provided by the app would be based on empirical outcome data from other people similar to the target patient (in terms of demographics, socio-economic status, etc.)
- This would be mapped to other data such as program completion percentage
- The app would use machine learning or statistical methods on the data to determine recommendations for programs that could potentially provide the best outcome for the target patient
- Users of this app would also be able to adjust variables (such as attendance rate) to see how health outcome could be affected
- This would also allow the provider to provide better, more tailored education to the patient

BUSINESS CASE: BENEFITS

- Better knowledge when making referrals
- Higher lifestyle change program follow-through and completion rates
- Increased success in patient care
- Increased payouts to providers

PROJECT PLAN: GANTT CHART

https://drive.google.com/file/d/0B1G7I_jLl8LCM2U2VnVCRU5CMTA/view

THANKS!