Narrated slide show hosted at URL:

https://www.youtube.com/watch?v=KmMyrH6LEhY

An application to track and score a patient's Social Determinant Health Risk

Presented by Team GT-MKSM
Gilreath, Michael L. ; Jaramillo, Sebastian ; Landry, Christopher ; Lee, Kevin B .; Lefkovitz, Myles S. ;

What are Social Determinants of Health?

Conditions in the places where people live, learn, work, and play affect a wide range of health risks and outcomes. These conditions are known as social determinants of health (SDOH).

- poverty limits access to healthy foods and safe neighborhoods
- more education is a predictor of better health.

Differences in health are striking in communities with poor SDOH such as unstable housing, low income, unsafe neighborhoods, or substandard education.

https://www.cdc.gov/socialdeterminants/index.htm

Examples of SDOH include:

- Availability of resources to meet daily needs (e.g., safe housing and local food markets)
- Access to educational, economic, and job opportunities
- Access to health care services
- Quality of education and job training
- Availability of community-based resources in support of community living and opportunities for recreational and leisure-time activities
- Transportation options
- Public safety
- Social support
- Social norms and attitudes (e.g., discrimination, racism, and distrust of government)
- Exposure to crime, violence, and social disorder
- Socioeconomic conditions (e.g., concentrated poverty and the stressful conditions that accompany it)
- Residential segregation
- Language/Literacy
- Access to mass media and emerging technologies (e.g., cell phones, the Internet, and social media)
- Culture

Why Are Social Determinants of Health Important?

Poor health outcomes are often the result of the interaction between individuals and their social and physical environment.

Controlling SDOH is an equitable measure to minimize disparities in health status and disease outcomes.

Policies that result in changes to the social and physical environment can affect entire populations over extended periods of time, while simultaneously helping people to change individual-level behavior.

Improving the conditions in which people are born, live, work, and age will ensure a healthier population, thereby improving national productivity, security, and prosperity through a healthier workforce.

This is in the population at large's interest by "bending the health care cost curve"

https://www.cdc.gov/socialdeterminants/index.htm

Publicly and privately funded resources exist to aid in improving the health of at risk individuals

- Planned Parenthood programs
- 12 step support programs to deal with addiction and trauma
- Job placement programs
- Smoking abatement program
- Subsidized Housing and Housing assistance programs
- Supplemental Nutrition Assistance
- Use of Health Impact Assessments to review needed, proposed, and existing social policies for their likely impact on health

The shortcomings of current approaches to matching individuals to resources:

Longitudinal Adherence tracking is expensive

The population in question is somewhat unstable and transient by nature

Lack of education may make information gathered from self assessments unreliable

"If you can't measure it, you can't improve it" – Peter Drucker
The nature of the soft and fuzzy language describing SDOH makes developing meaningful changes a problem.
Standardized metrics to measure risk must be widely adopted and constantly tracked.

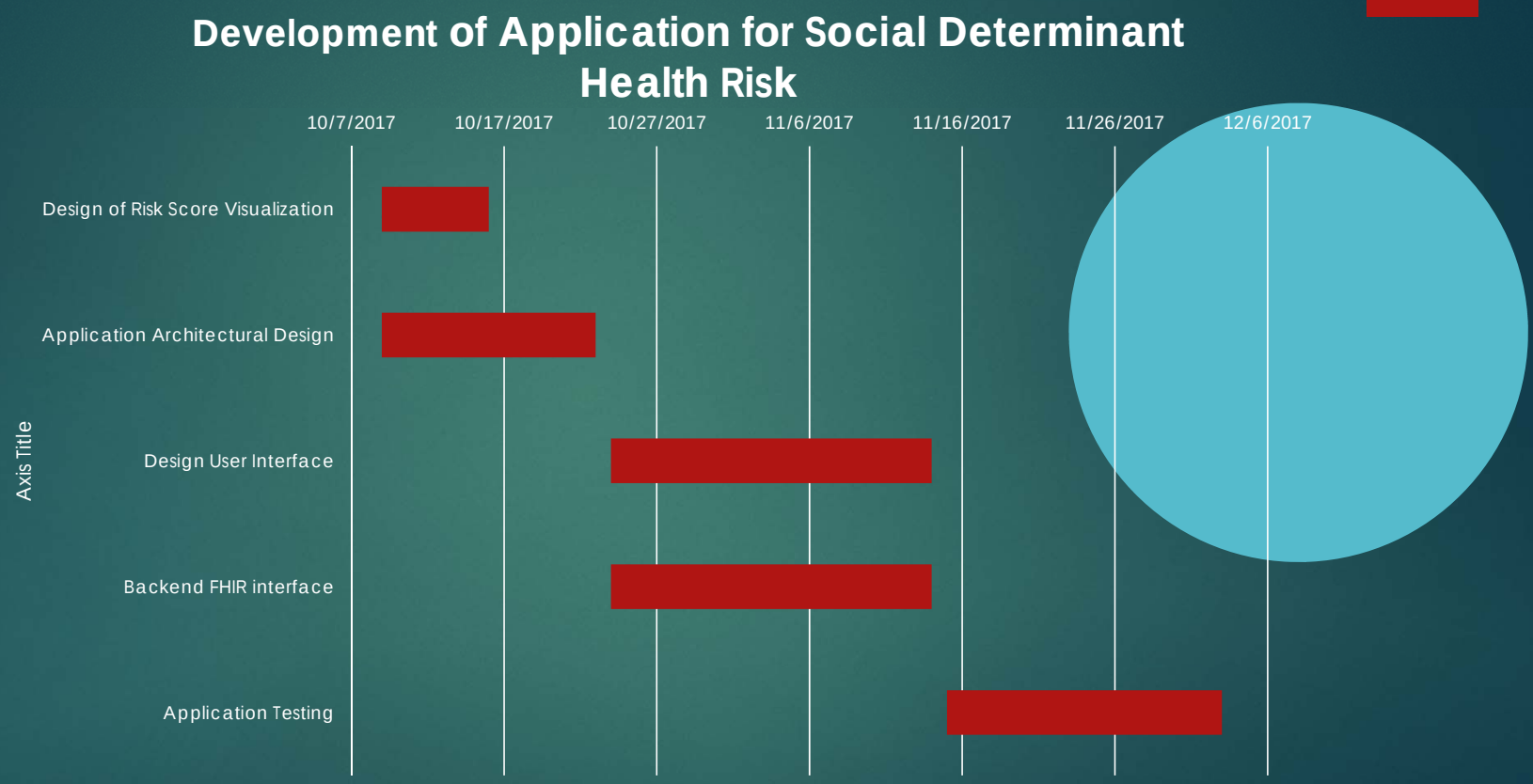
How can technology help match individuals to resources?

A health care provider facing application that can present a visually meaningful representation of a patient's risk assessment score.

A patient's risk assessment can be updated at each interaction with a health care provider quickly through the use of fHIR

High risk patients (and borderline risk patients) can be referred to resources both in and outside of the traditional medical field

Gantt Chart for the development of FHIR application



The Business Case

Individuals with the Highest Risk metric are homeless. Often times homelessness Is coupled with addiction and psychological disorders.

The homeless are at risk for chronic illness. The cost of caring for the homeless is often absorbed by local emergency rooms.

Many homeless can not easily be transitioned into more stable situations.
Many can.

The application can be used to identify the individuals that are living in high risk environments, whose conditions can likely be permanently improved with intervention. Focus resources on those individuals to improve their environment.

The second aspect of the application is to track their conditions through subsequent monitoring.