

Deliverable 4

Final Project Presentation –Team GT-MKSM

Team Members:

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Narrated Presentation Hosted at the Following URL:

<https://youtu.be/HfXpf0RJ97M>

Deliverable 4. Team Final Project Presentation

GT-MKSM

PM – Sebastian Jaramillo

Developers – Michael Gilreath, Chistopher Landry, Myles Lefkovitz

QA- Kevin Lee



The Issue



social determinants of health (SDH) are conditions in the environments in which people live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

SDH can pose a challenge for patients to comply with medical advice and direction

Public resources and programs are available to assist patients with overcoming SDH challenges in complying with medical advice and direction

<https://www.cdc.gov/socialdeterminants/faqs/index.htm>



The Solution

- FHIR based application
- Used by physicians
- Identify *Social Determinants of Health* that could impact a patient's ability to comply with advice and direction
- Improve health outcomes by identifying factors affecting health equity and bridging the gaps by directing patients to available resources



https://www.cdc.gov/stltpublichealth/publichealthservices/pdf/ten_essential_services_and_sdo.pdf



The Motivations \$



An ounce of prevention is worth a pound of cure

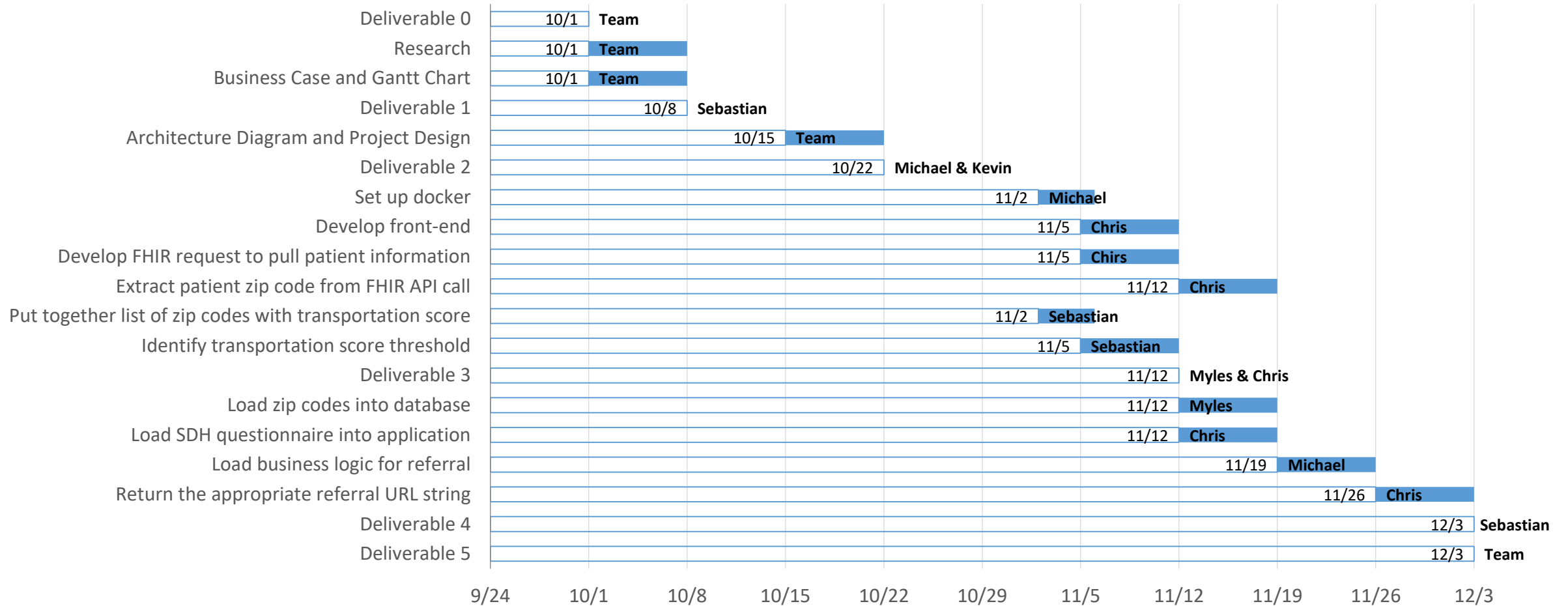


Proof of Concept Summary

- Focus on a single SDH – Transportation
- Focus on a specific geographic region – Georgia, Later Changed to Massachusetts
- Find a metric that can be developed from information freely available in EHRs with high correlation to a patient's risk of transportation SDH
- Find a manner to provide relevant information regarding public programs to assist with transportation challenges



Gantt Chart



Deliverable 1 - submitted 10/8/2017 – narrated by Sebastian Jaramillo

Deliverable 2 - submitted 10/22/2017 – narrated by Kevin Lee and Michael Gilreath

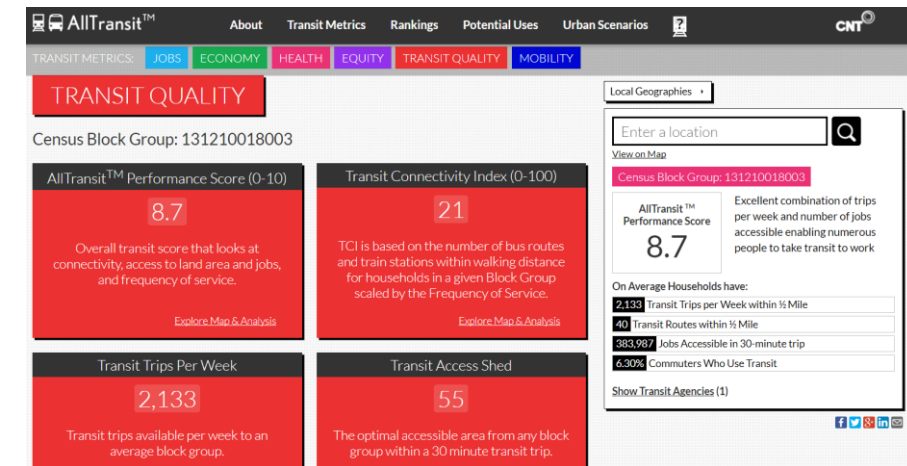
Deliverable 3 – submitted 11/12/2017 – narrated by Myles Lefkovitz and Chris Landry

Deliverable 4 – submitted 12/3/2017 – narrated by Sebastian Jaramillo



Research and 3rd Party Resources

- **All Transit Performance Score:** A tool developed by the Center for Neighborhood Technology. Intended as a research tool and used in our application to identify neighborhoods well served by public transportation
- **PRAPARE (Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences):** A standardized tool developed by the National Association of Community Health Centers to collect information related to a patient/communities SDH risk. Used to confirm a patient's status as at risk.
- **US Census Data:** Used to cross reference the most granular transit information in all transit performance score (state lower house congressional district) to the geographic information available in EHRs (zip codes)
- **Aunt Bertha:** an online tool to identify local public and charity resources to assist patient in overcoming SDH challenges

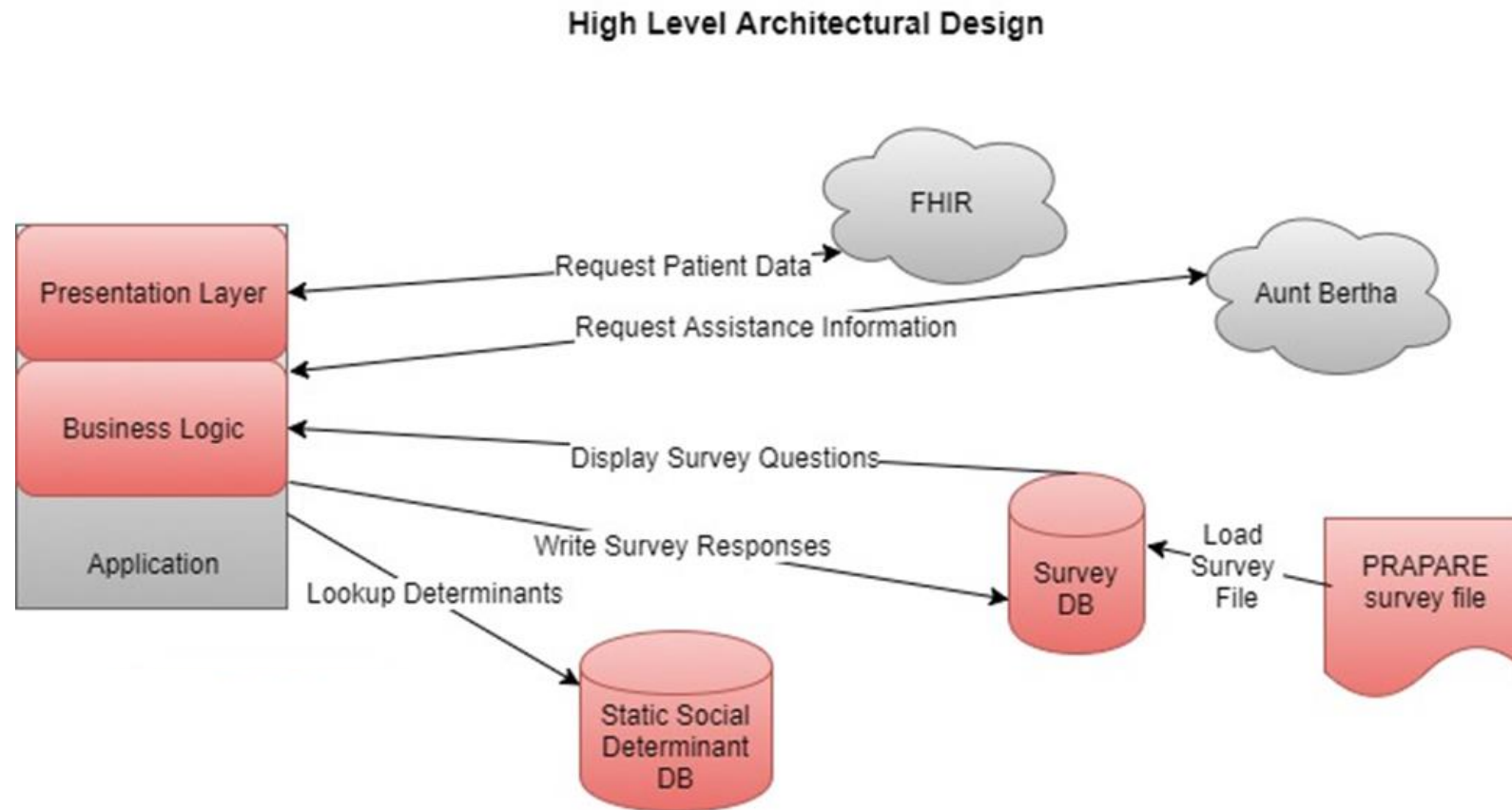


SDH Patient Questionnaire (Social Needs Questionnaire)

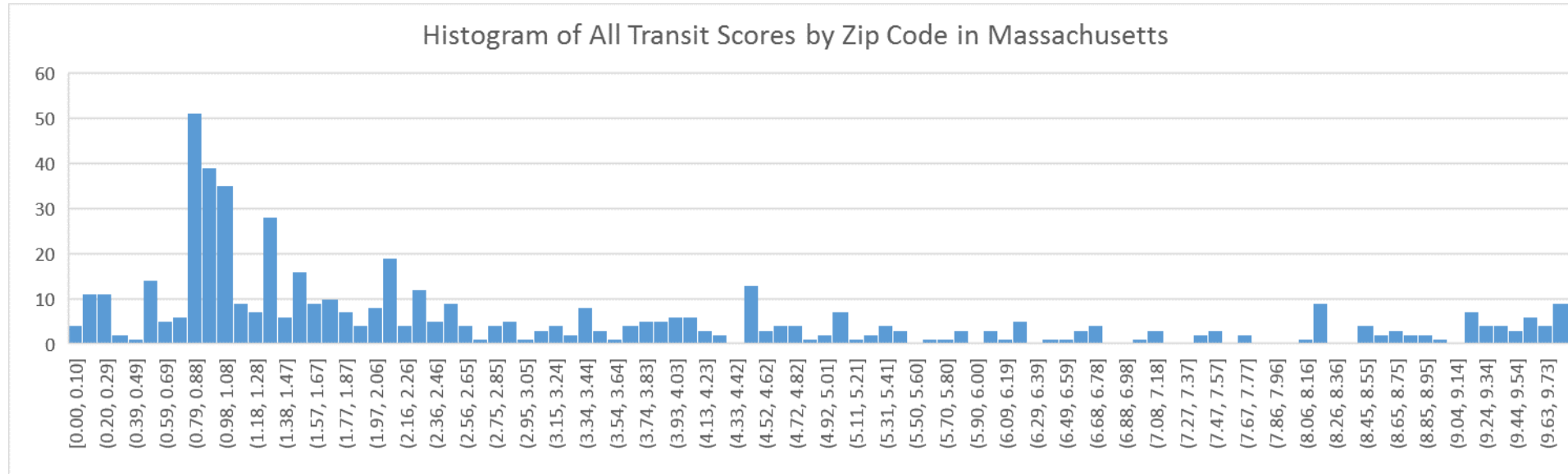
1. How do you learn best?
☐ Reading ☐ Listening ☐ Pictures
2. What is the highest level of school that you have finished?
☐ Less than a high school diploma ☐ High school diploma / GED ☐ More than high school
3. How hard is it for you to pay for the very basics like food, housing, heating, medical care, and medications?
☐ Not hard at all ☐ Somewhat hard ☐ Very hard



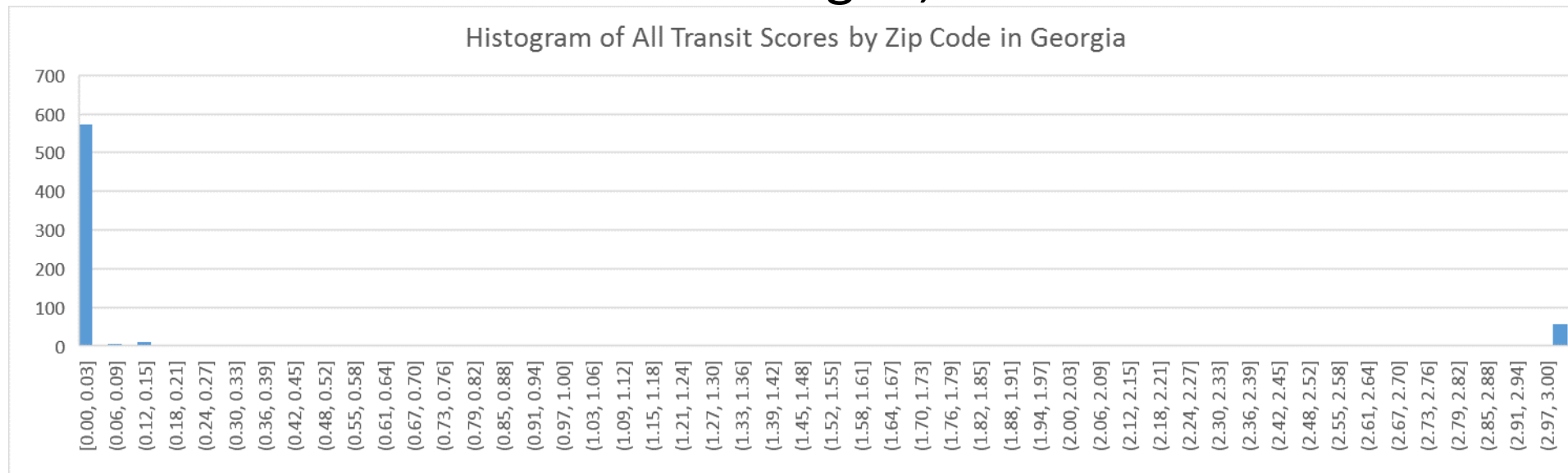
High Level Architecture



Data Analysis



Sometimes the data is meaningful, and sometimes not



Demo

MKSM

Social Determinants for Health Data

This could be a nice introductory paragraph explaining what you want to do

For instance, enter a patient ID in the box below...

Demo (cont.)

MKSM

Social Determinants for Health Data

This could be a nice introductory paragraph explaining what you want to do

For instance, enter a patient ID in the box below...

aae6d4ab-c671-486a-8

Submit

Transportation

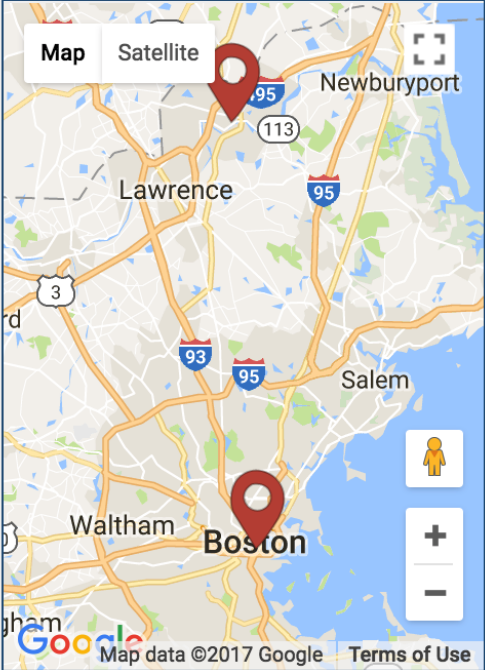
Based on this patient's primary address, they have been flagged as being potentially at risk of having inadequate transportation. It is recommended to ask the questions below and provide them with the help suggested if they answer positively.

Do you need help with transportation?

[Aunt Bertha transportation help](#)



Demo (cont.)



Map Satellite

Newburyport

Lawrence

Salem

Waltham

Boston

Map data ©2017 Google Terms of Use

Serves your local area

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📍 12.38 miles away **10 Reed Street, Haverhill, MA, 01832** ([Get Directions](#)) Closed Today

What:
emergency payments, help pay for housing, help pay for utilities, housing advice, help pay for transit, financial assistance, help pay for childcare, financial education, navigating the system, one-on-one support

Who:
adults, young adults, teens, seniors, veterans, families, low-income

Next Steps **Description** **Hours & Location** **Reviews** [Edit or Claim](#)

📞 Call 978-372-3626 to get more info.

😊 **Connect:** Tell them you're interested or refer someone else. [Connect](#)

👍



Potential Future Improvements and Challenges

- Expand functionality from just Georgia and Massachusetts to all 50 states
- Expand functionality from just the transportation SDH to other 11 SDH identified by the CDC
- Incorporate Clinical Decision Support Hooks to make the application seamless for physicians and medical practitioners
- Rarely does a patient face a single SDH. Find a way to rank or coordinate the order in which multiple SDHs are addressed.
- Future deployment could involve having the application launch on a server at a physician's practice, while replacing the current FHIR server with one connected to the physician's practice's EHRs

