

Leverage Population Health Data to Improve Patient Adherence in Community Referral

Deliverable 4, Team Final Project Presentation

Team Name: Devs on FHIR

Team Members:

Dhruv Saksena, dsaksena3, dsaksena3@gatech.edu (Dev, Narrator)

Elizabeth Coviello, ecoviello3, ecoviello3@gatech.edu (Dev)

Venu Shankar, vshankar33, vshankar33@gatech.edu (QA)

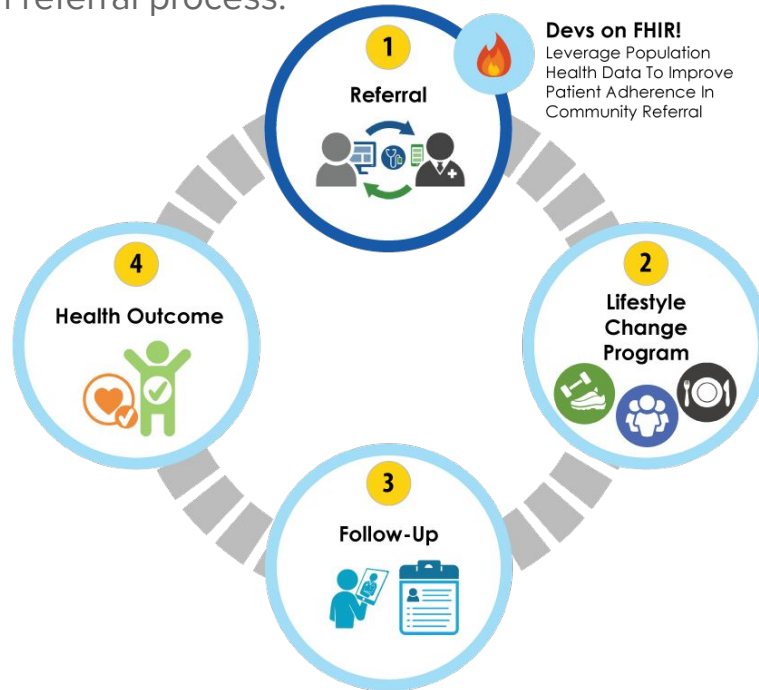
Xia Lee, xlee6, xlee6@gatech.edu (PM)



REFURRAL

Project Goals & Objectives

Our project is a proof-of-concept that will demonstrate the usage of population health data to improve the lifestyle change program referral process.



Team Member Contributions

External Mentor: Arunkumar Srinivasan

TA: Jon Bidwell

Developers: Dhruv Saksena (dsaksena3), Elizabeth Coviello (ecoviello3)

Project Manager: Xia Lee (xlee6)

QA: Venu Shankar (vshankar33)



- Everyone contributed towards deliverables, documentation and development:
 - Project Management: Xia Lee
 - CDS Hooks: Venu Shankar, Xia Lee
 - FHIR: Xia Lee
 - Back-End: Dhruv Saksena
 - Front-End: Elizabeth Coviello
 - Docker: Xia Lee
 - Data Mockup: Dhruv Saksena, Elizabeth Coviello, Xia Lee
- **D1** narrated by Xia Lee, **D2** by Venu Shankar,
D3 by Elizabeth Coviello and **D4** by Dhruv Saksena

Project Successes



- The project and all of its milestones were completed within the estimated time.
- Everything is functioning as designed.
- Our mentor was pleased with the flow of the application.
- Our mentor was pleased with the visualization of the information.
- Our project touches three services. All of them come up with a single docker-compose.



Unique Elements

“By putting population health data to use in clinical setting, we drive care delivery and coordination into the realm of precision care and reduce the ever rising healthcare cost.”

- Arunkumar Srinivasan, PhD (CDC, Project External Mentor)

- Uses patient and population health data
- Mock population health data for various demographics and health programs
- Custom CDS hooks service

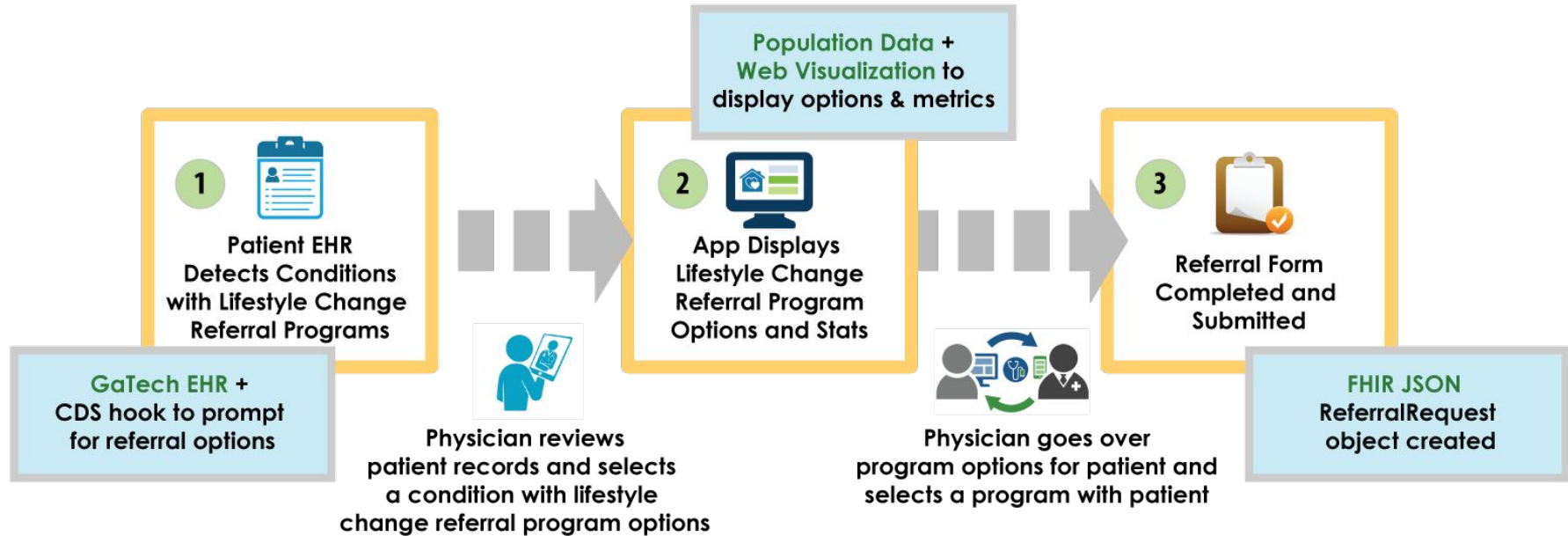


Future Opportunities

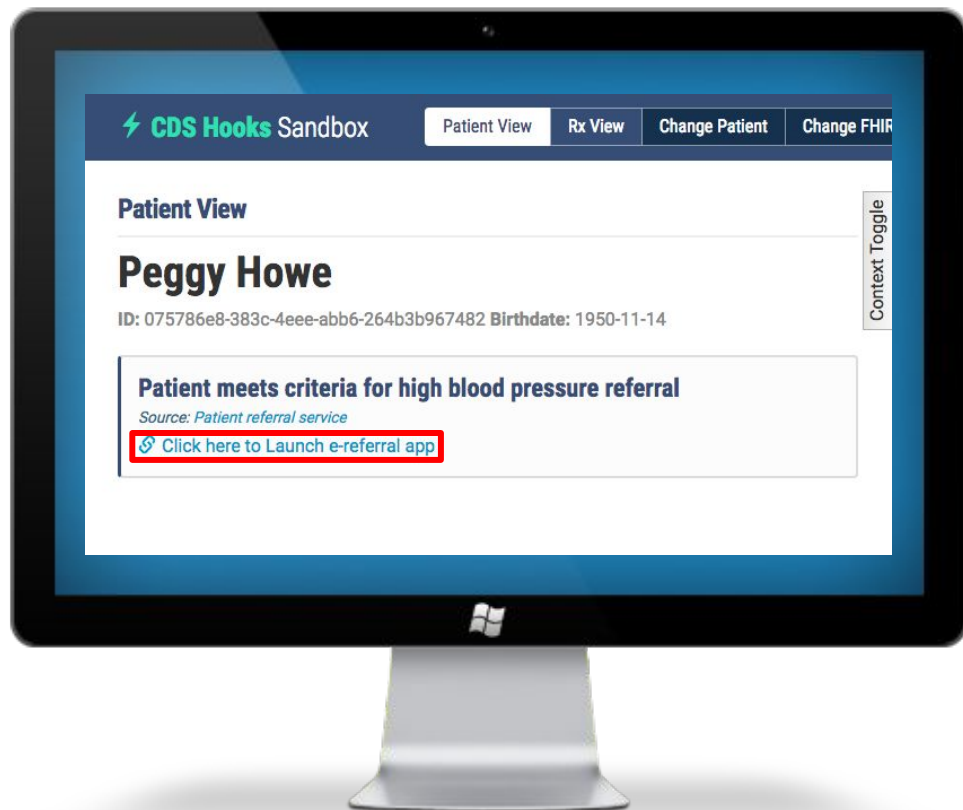


- Combining our app with a lifestyle-change-recommending app
- Population data ingestor and updater
- Persist ReferralRequest JSON in FHIR
- Patient-facing app

Project Workflow



Application Screenshots

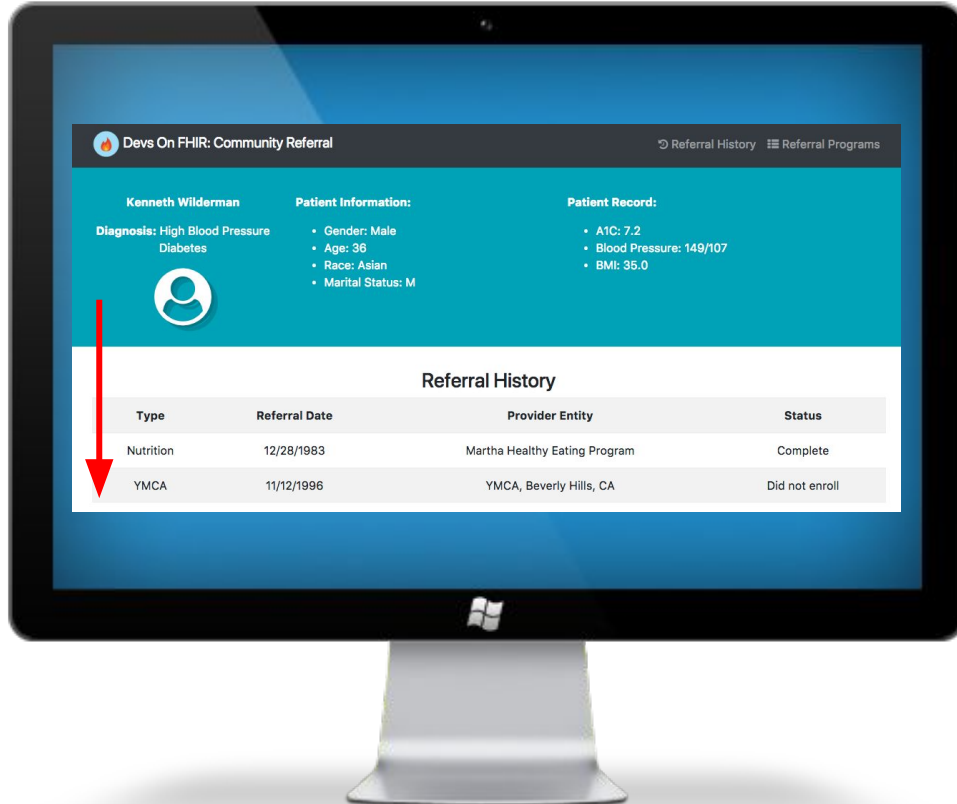


Sample EHR with CDS Hooks

(based on the CDS Hooks Sandbox project at <https://github.com/cds-hooks/sandbox>)



Application Screenshots



Community Referral Application (1)

- Patient information
- Patient referral history



Application Screenshots



Community Referral Application (2)

- Referral program information
- Population health data results



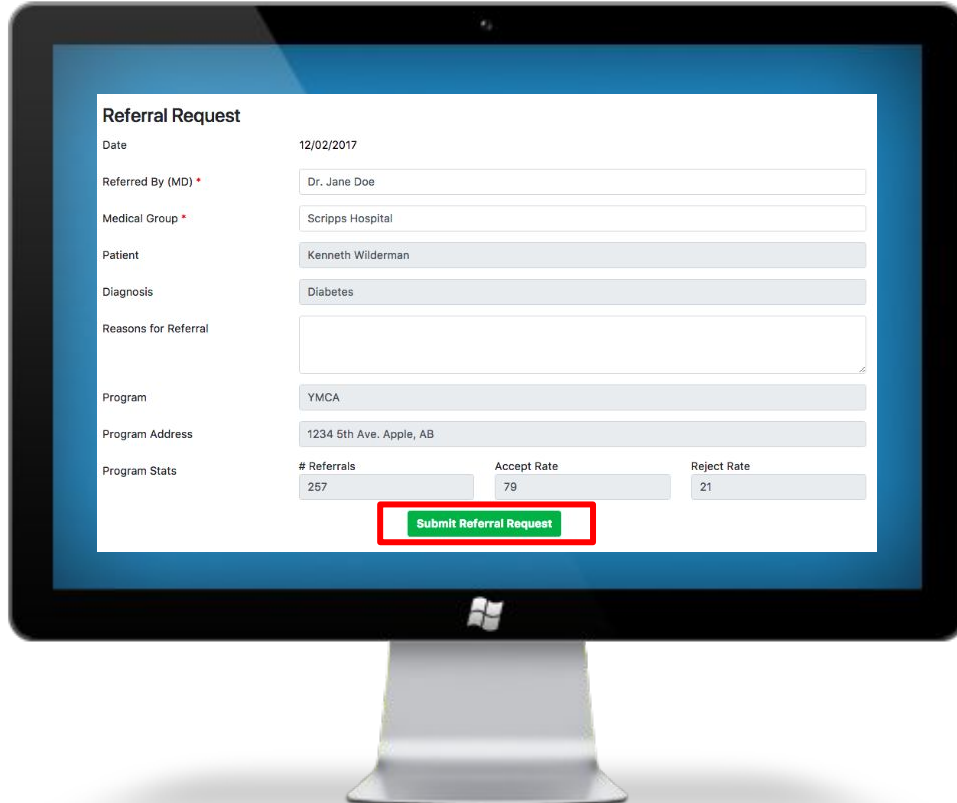
Application Screenshots



Community Referral Application (3)



Application Screenshots



Referral Request

Date: 12/02/2017

Referred By (MD) *: Dr. Jane Doe

Medical Group *: Scripps Hospital

Patient: Kenneth Wilderman

Diagnosis: Diabetes

Reasons for Referral:

Program: YMCA

Program Address: 1234 5th Ave. Apple, AB

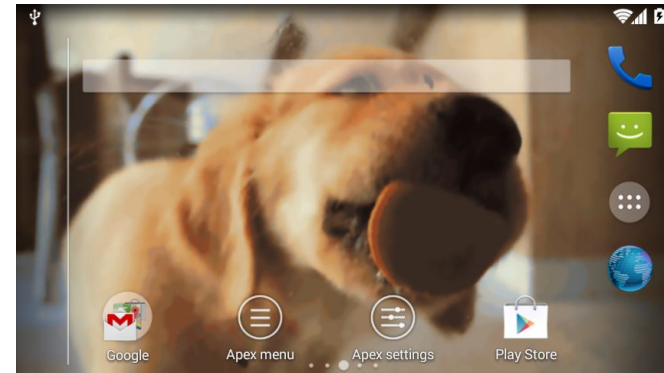
Program Stats:

# Referrals	Accept Rate	Reject Rate
257	79	21

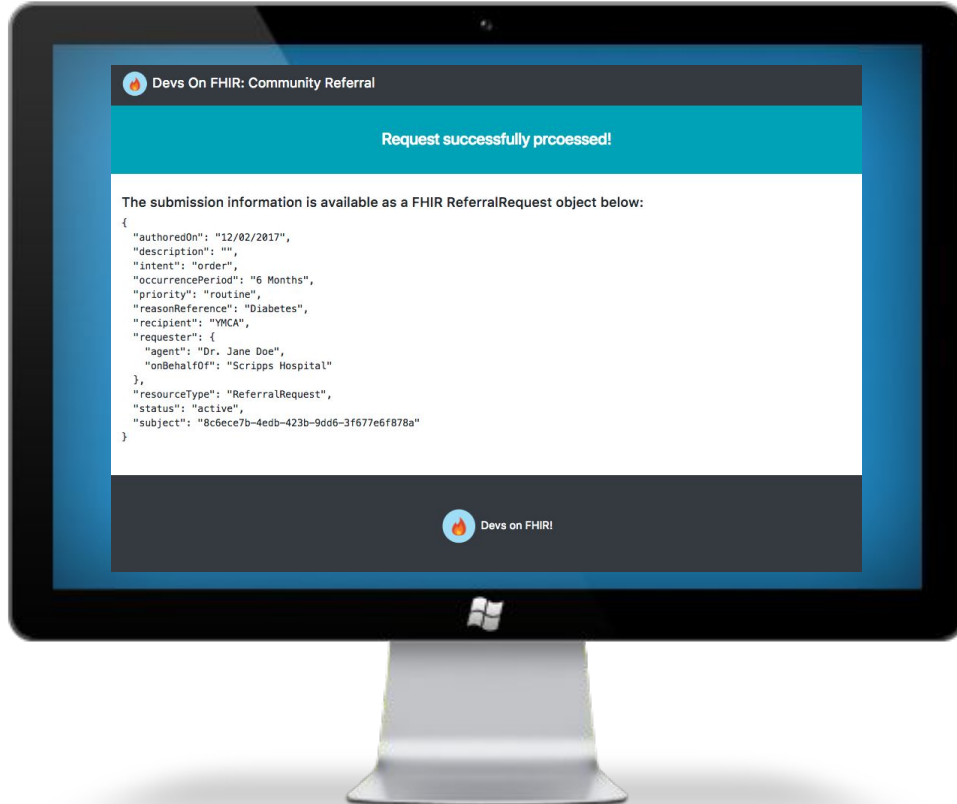
Submit Referral Request

Community Referral Application (5)

- Referral request form

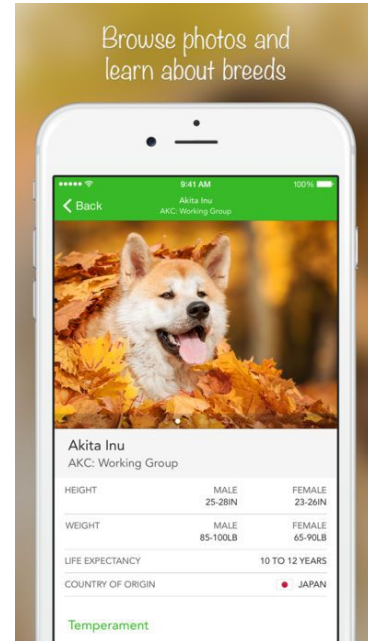


Application Screenshots



Community Referral Application (6)

- FHIR ReferralRequest JSON Object



Demo

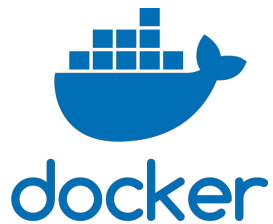
End of Demo

Deployment Plan

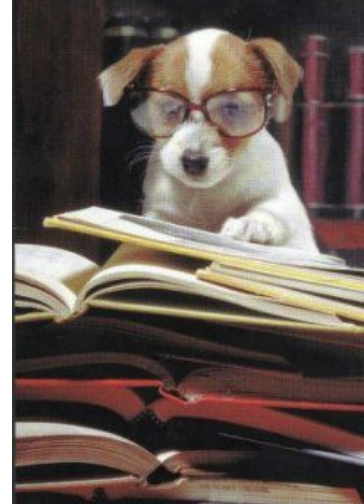
- Two GitHub repos need to be cloned: Our app's repo, and our modified version of the CDS Hooks Sandbox repo
- The user will need to set some environment variables
- A single docker-compose command deploys all the services



Further Research Done



NGINX



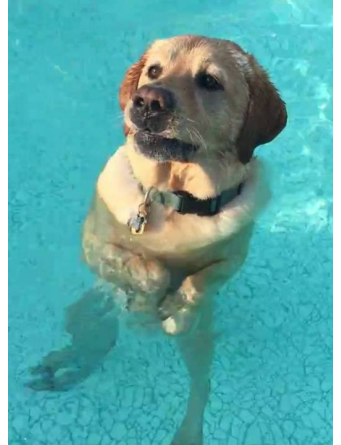
A close-up photograph of a dog's face, likely a Jack Russell Terrier, with brown and white fur. The dog is looking directly at the camera with large, dark eyes. A yellow pencil with a red eraser and a sharpened lead tip is balanced horizontally across its mouth. The dog is wearing a black collar with white stitching. The background is plain white.

<https://drive.google.com/file/d/1HyY324PfAWxrWPN3zhC2tT3Q-ZhsTWr3/view?usp=sharing>

300.00

Outstanding Elements

- Check-in the code to CDC GitHub Repo, ETA: 12/7/2017



Thanks!

