

# DOCTOR WHO?

## ED WAIT TIME PREDICTOR

**Alyssa Harker, Amir Kazi and Tianchu Shu**



# Introduction

People hate waiting

Project Goal: predict  
wait time for five  
closest hospitals and  
current driving time  
to those hospitals



# Final Product

Website:

- User enters zip code
- Lists 5 closest hospitals by fastest total time
- Total time = Predicted wait time + Travel time

Enter your Zip Code:

## Fastest Hospital

Total Time: 45 min  
Predicted wait time\*: 30 min  
Travel time: 15 min  
Rating: 4/5

---

\*Based off average wait time: 15 min

## 2<sup>nd</sup> Fastest Hospital

Total Time: 55 min  
Predicted wait time\*: 40 min  
Travel time: 15 min  
Rating: 3/5

---

\*Based off average wait time: 20 min

## 3<sup>rd</sup> Fastest Hospital

Total Time: 57 min  
Predicted wait time\*: 32 min  
Travel time: 25 min  
Rating: 4/5

---

\*Based off average wait time: 17 min

## 4<sup>th</sup> Fastest Hospital

Total Time: 68 min  
Predicted wait time\*: 40 min  
Travel time: 28 min  
Rating: 5/5

---

\*Based off average wait time: 20 min

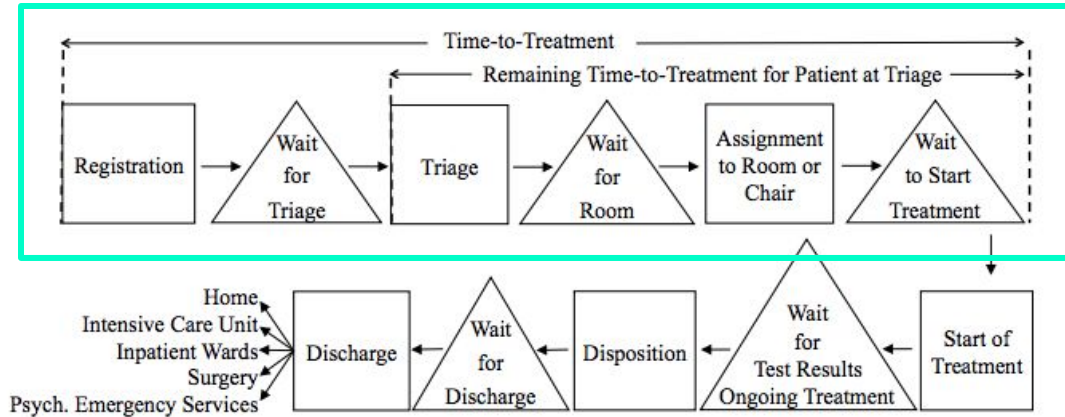
## 5<sup>th</sup> Fastest Hospital

Total Time: 70 min  
Predicted wait time\*: 50 min  
Travel time: 20 min  
Rating: 2/5

---

\*Based off average wait time: 32 min

# Databases: Wait Time Averages

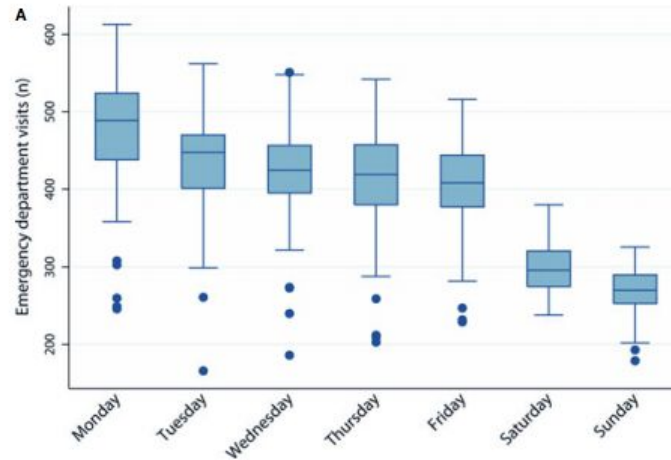
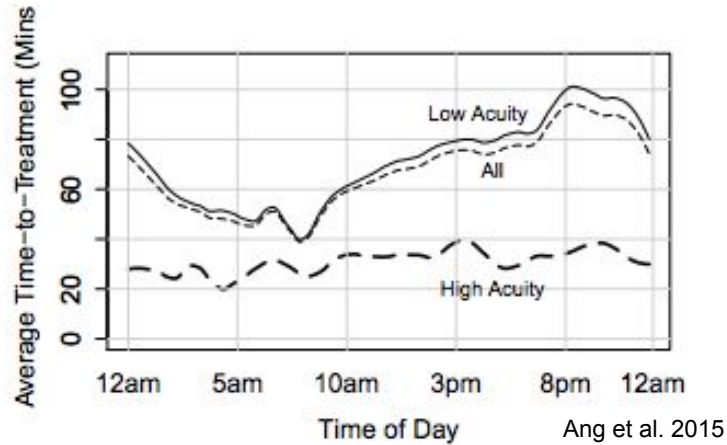


Ang et al. 2015

Medicare.gov: Hospital Compare

- Timely and Effective Care - Hospital
  - average wait time for being seen by a medical professional in the emergency department
- Hospital General Information
  - location, contact information, as well as ratings of hospitals.

# Databases: Predicting Wait Time



National Hospital Ambulatory Medical Care Survey Data (NHAMCS)

- ED visit data including wait time, time of day, and day of the week
- Use this data to calculate how time and day of the week affect wait time

# APIs

- Weather Underground API
  - current weather
  - historical temperatures



- Google Maps API
  - Calculate current driving time to the 5 closest hospitals



# Summary

- Goal: Give potential patients more information about choosing an Emergency Department
- Databases: Medicare.gov's Hospital Compare and National Hospital Ambulatory Medical Care Survey Data
- APIs: Weather Underground and Google Maps
- Final product: website displaying information for the five closest hospitals sorted by fastest total time



THANK YOU!  
ANY QUESTIONS?

