Ambumetrix

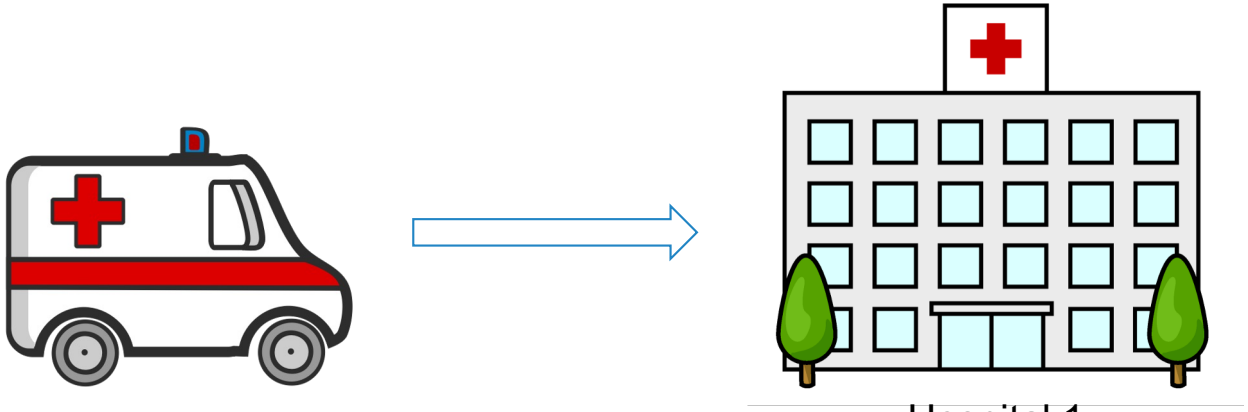
Optimal hospital selection for EMS transport of COVID-19 patients

Team 176

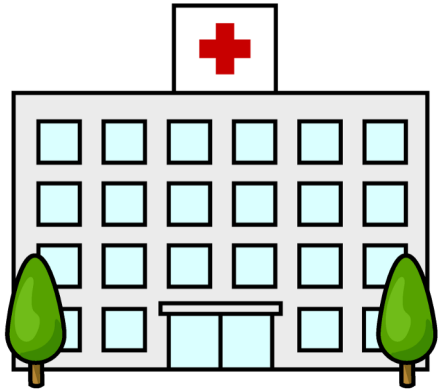
Prateek Gowda, Ruchita Kothari, Alex Lu,

Nicole Pagane, Kate Schole, Utkarsh Sharma

EMS routing decisions impair COVID-19 care delivery



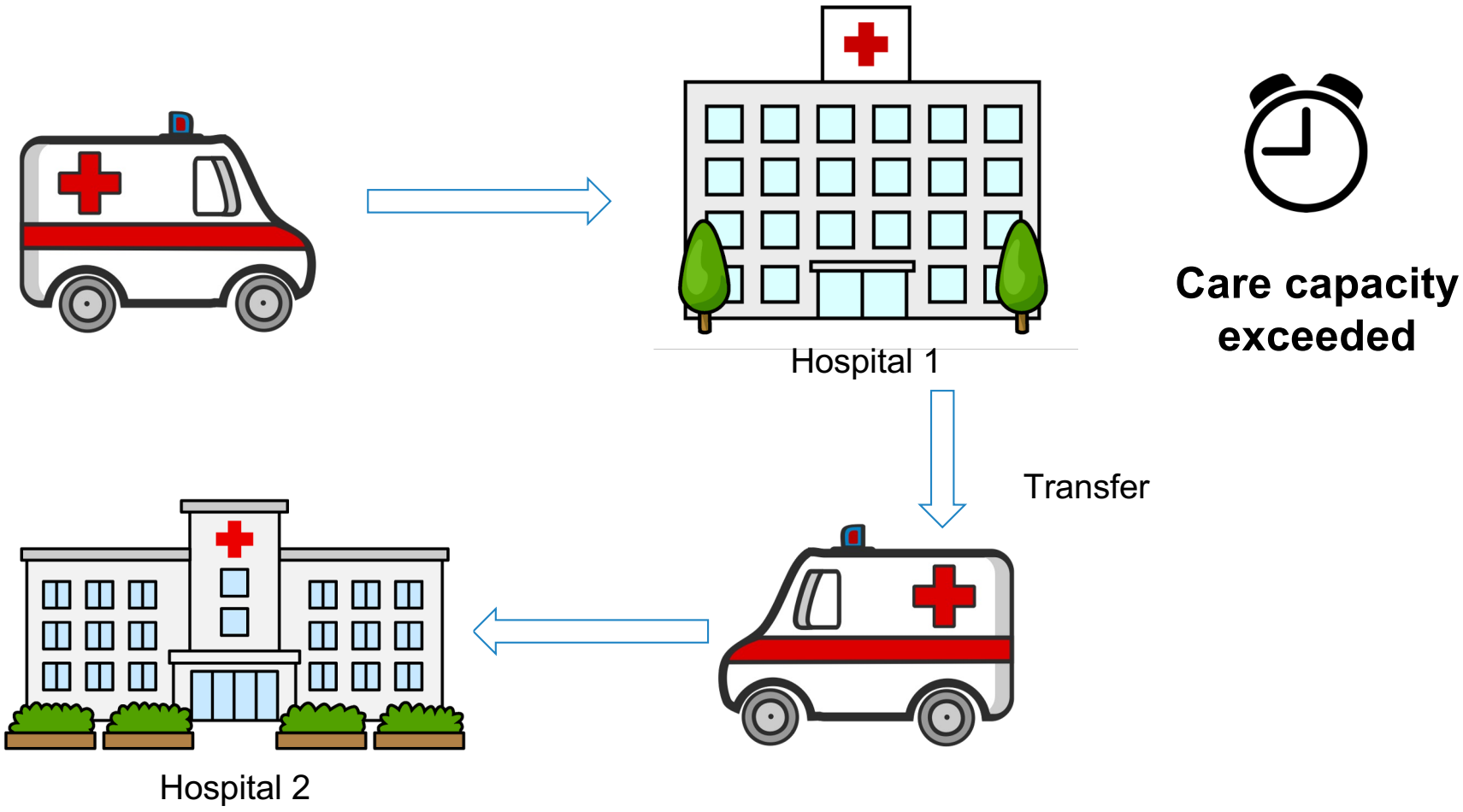
EMS routing decisions impair COVID-19 care delivery



Hospital 1

Care capacity exceeded

EMS routing decisions impair COVID-19 care delivery



Current efforts to track hospital status do not support COVID-19 specific burden

County/Hospital Alert Tracking System (CHAT) in Maryland

Only accepting Priority I patient (emergently unstable)
No ECG monitored beds
Not accepting any patients

In urban environments with **multiple hospitals**, there is a need for EMS first responders to quickly select the **most appropriate hospital** for each suspected COVID-19 patient, based on the hospital's **COVID-19 care capacity**.

Design Requirements

Develop method for optimal hospital selection

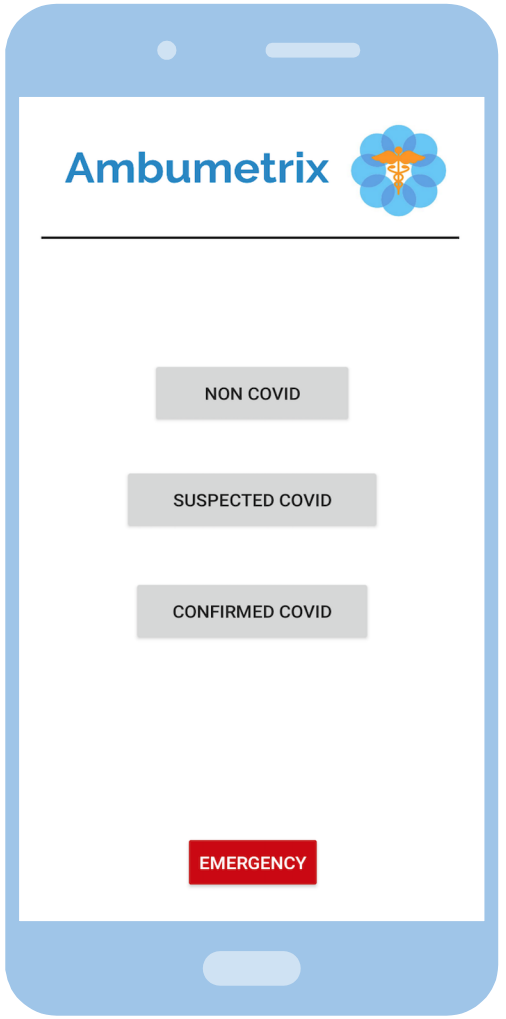
Reduce time for patient to receive appropriate care

Preserve ED workflow

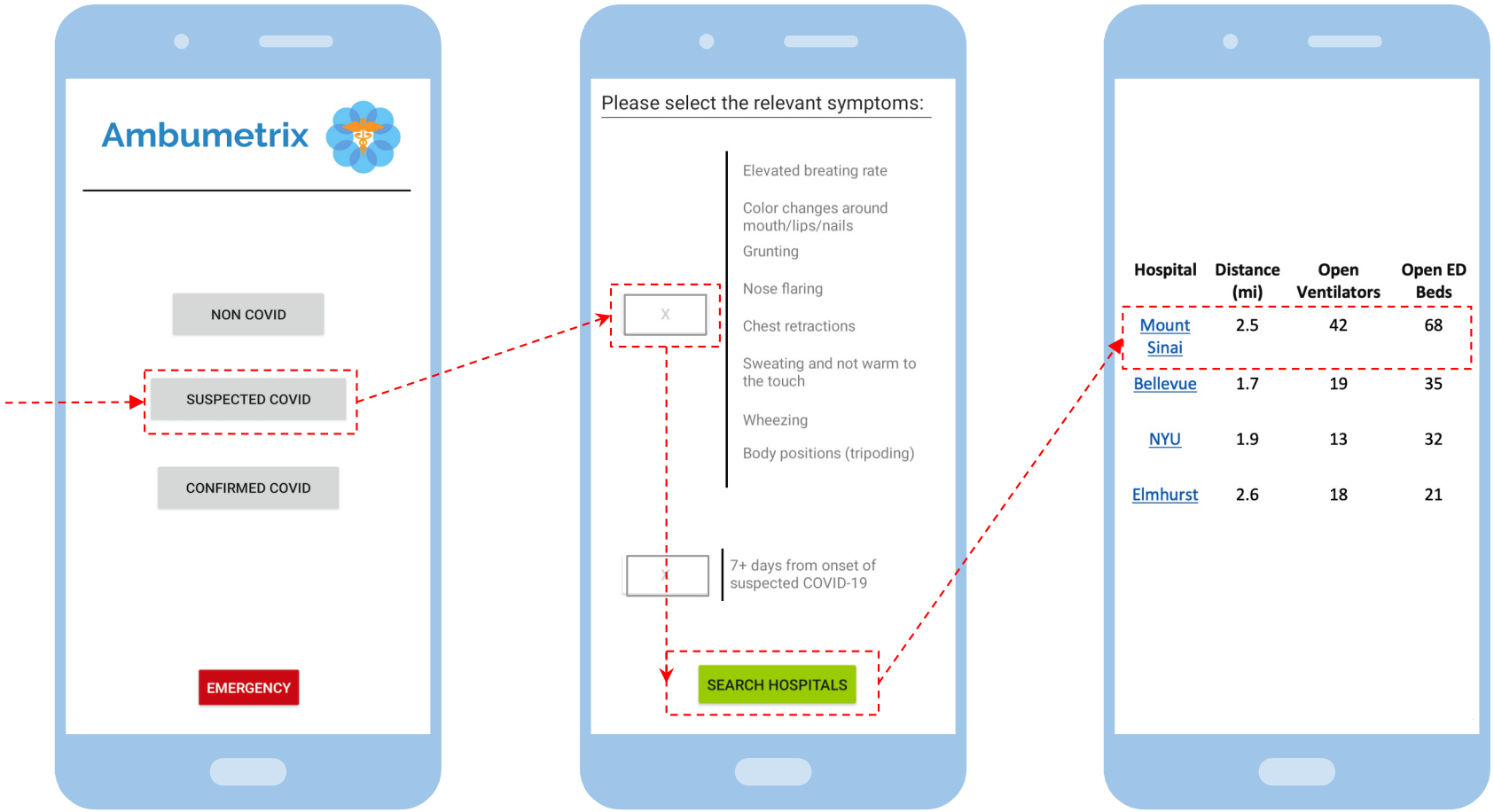
Our Solution: Ambumetrix

Mobile application for EMS users

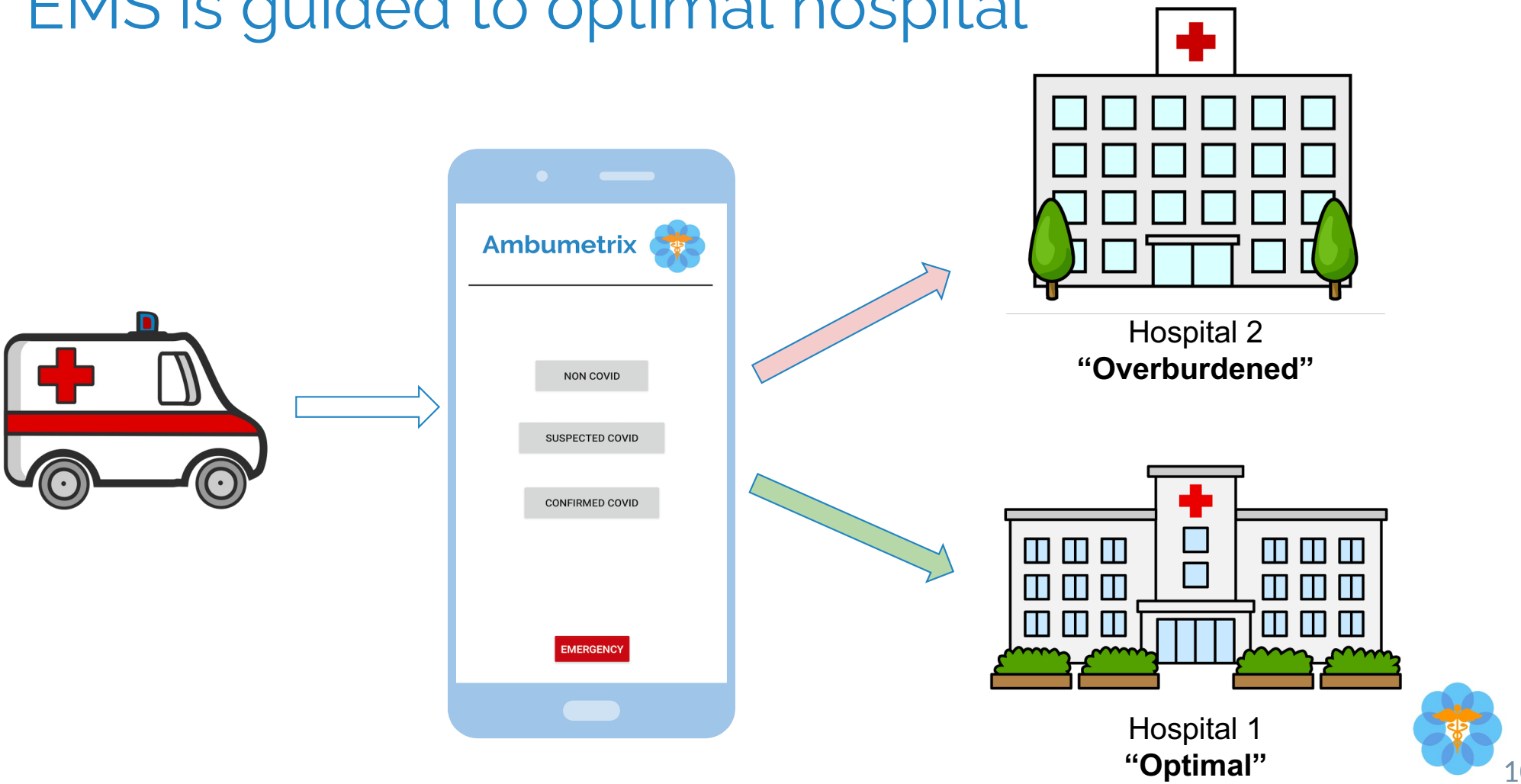
- Provides ranked hospital list according to highest capacity of care for a particular patient
- Allows for direct phone call to hospital of choice through app



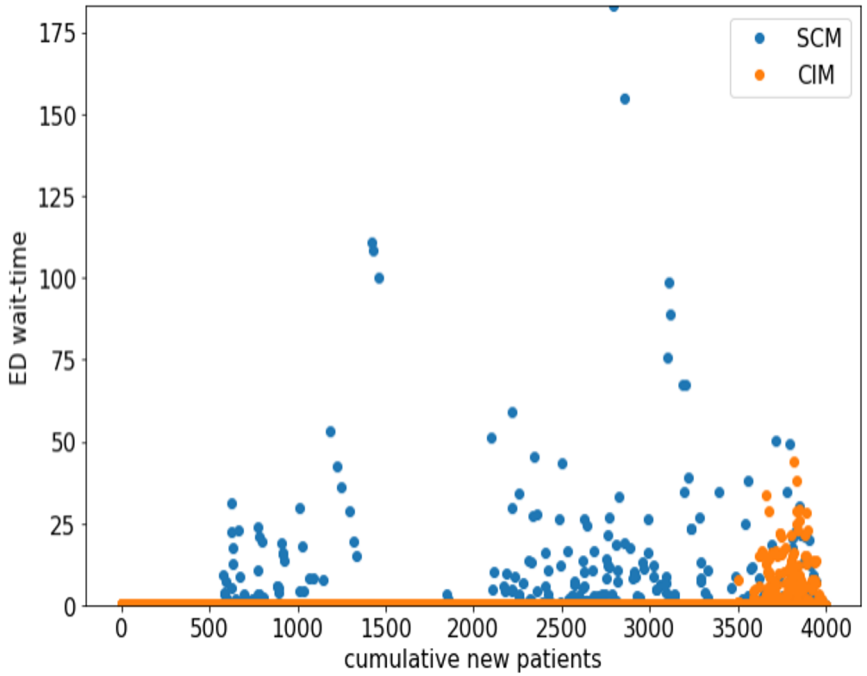
Ambumetrix Workflow

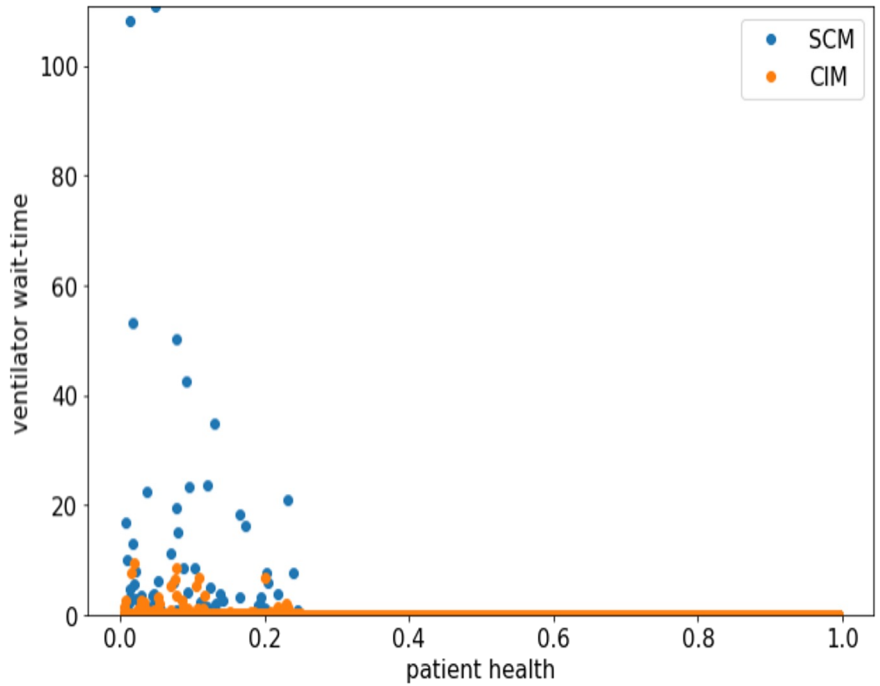


EMS is guided to optimal hospital



App decreases ED and ventilator wait time





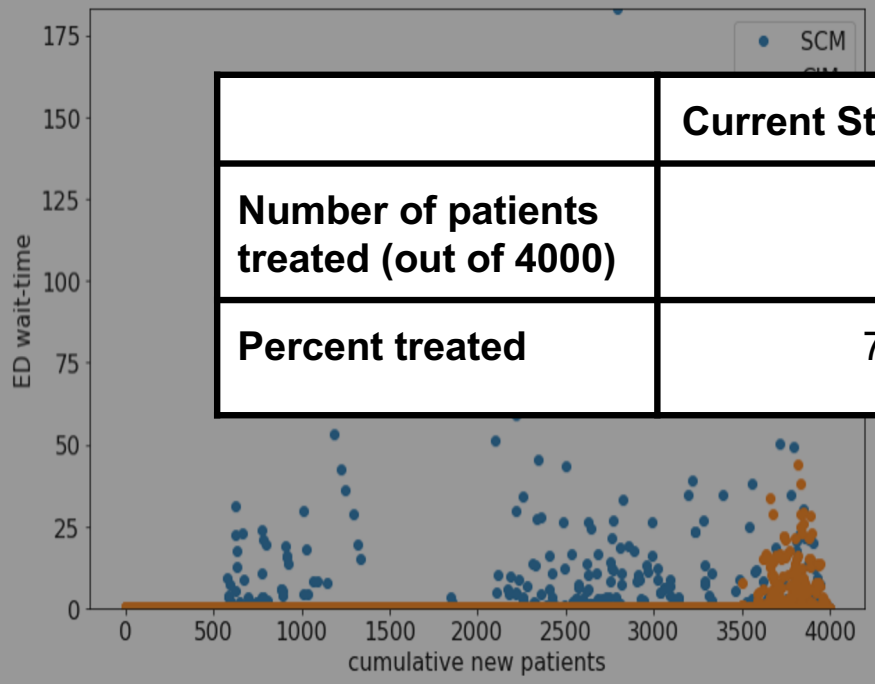
Assumptions:

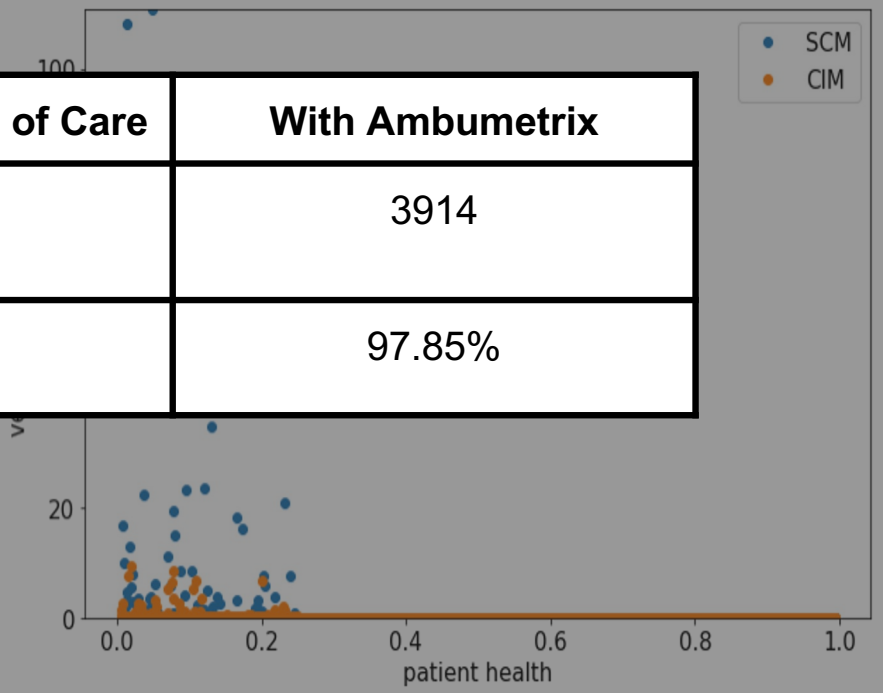
- ED beds: 20-60 per hospital
- ICU beds/ventilators: ⅓ of ED beds per hospital
- Probabilistic discharges

SCM = Standard of Care Model
CIM = Capacity Informed Model

App decreases ED and ventilator wait time

	Current Standard of Care	With Ambumetrix
Number of patients treated (out of 4000)	2964	3914
Percent treated	74.1%	97.85%





Assumptions:

- ED beds: 20-60 per hospital
- ICU beds/ventilators: ⅓ of ED beds per hospital
- Probabilistic discharges

SCM = Standard of Care Model
CIM = Capacity Informed Model

Large scale implementation in NY health systems

Develop implementation with EPIC database

Coordinate connections across different hospital and EMS systems

Multi-center study for 1 week

All major NYC hospital systems are currently incentivized to improve ambulance coordination through the recently implemented **ET3 model.**

Summary

In urban environments with **multiple hospitals**, there is a need for EMT first responders to quickly select the **most appropriate hospital** for each suspected COVID-19 patient, based on the hospital's **COVID-19 care capacity**.