
LORENZO DI FRANCESCO

[HTTP://MEDICINE.EMORY.EDU/GENERAL-MEDICINE-GERIATRICS/FACULTY-DIRECTORY/DIFRANCESCO-LORENZO.HTML](http://medicine.emory.edu/general-medicine-geriatrics/faculty-directory/difrancesco-lorenzo.html)

Required Skills:

Web Application Development, Java Development or Python Development, Project Management, Communications

At least one member with healthcare experience

Preferred Team

Communications:

Skype, Google Drive, etc

Data Sources:

Will provide representative data and team will create those patients on the GT FHIR server.

Other Items:

Flexible in person or conference call availability.

COMMUNITY ACQUIRED PNEUMONIA CLINICAL STABILITY INDICATOR

Patient treated for community acquired pneumonia (CAP) admitted to the hospital typically show clinical improvement by normalizing their symptoms and any abnormal vital signs (blood pressure, heart rate, respiratory rate, temperature, oxygenation) during their hospital stay. Importantly studies of patient with CAP have shown that once a patient is showing improved symptoms that if they have reached “clinical stability” defined by: normal mentation, normal vitals signs and the ability to maintain oral intake for the proceeding 24 hours that the chances of the patient experiencing any clinical deterioration serious enough to warrant subsequent critical care admission is less than 1%. Multiple studies in CAP populations have shown the usefulness of “clinical stability” criteria to assist in the clinical care and often early discharge of low risk CAP patients.

PROJECT OBJECTIVES

Develop an FHIR App to enable integration of clinically actionable information from EMR to be synthesized to a clinician facing interface that might suggest a patient with community acquired pneumonia has reached “clinical stability,” and promote safe early switch therapy (intravenous antibiotics to oral antibiotics) and possible early hospital discharge.

SUCCESSFUL PROJECT

Develop a clinical decision support app that uses FHIR to obtain specific clinical information from the EHR: systolic blood pressure (SBP), heart rate (HR), respiratory rate (RR), temperature (T), room air pulse oximetry (RA pulse ox), ability to eat, normal mental status, whereby if a patient has had the following: SBP >90 mm of Hg, HR < 100, RR < 24, Temp > 37.8 degree Celsius , ability to maintain oral intake and normal mental status for the proceeding 24 hour period to alert the practicing physician that if their patient is “clinically improving “ that they have reached “clinical stability” and to consider switch therapy and/or early hospital discharge. Additionally if the patient is not “clinically stable” the app will alert the practicing physician once daily (set time in am) about their “clinical instability.”

Intellectual Property: TBD

