SCOTT FRIDKIN, SHAMIN NEMATI

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Required Skills:

(List skills needed) – Native iOS, Native Android

Preferred Team Communications:

GWebEx / GoToMeeting, flexible, I can adapt. my building happens to be one of te stops from the GT shuttle, but most meetings can be skype/webex.

Data Sources:

Microbiology dataset from 2017 with preliminary analysis producing predictive models of percent susceptible to guide antibiotic choice

Simulate patient-level dataset of age, weight, height, and renal function towards eventual access of patient-data from "pointclickcare" nursing home information system

Algorithms for treatment recommendation will need to be translated from written guidelines to model for digital processing

Other Items:

Project has time zone flexibility. Mentors and students will determine a good time for virtual meeting

Team Info:

Needs a Developer, DBA, Tester, Project Manager. Allows one team of 4-6 members.

Intellectual Property: None

ANTIBIOTICS AWARE APP FOR NURSING HOME RESIDENTS

Context. Improving the way healthcare professionals prescribe antibiotics, and the way we take antibiotics, helps keep us healthy now, helps fight antibiotic resistance, and ensures that these life-saving drugs will be available for

future generations. However, using antibiotics when not necessary puts patients at risk for side effects, especially antibiotic resistant infections and diarrhea (since that could be Clostridium difficile infection, also called C. diff), which can to death. Elderly people, especially nursing home residents, are at extremely high risk for these complications. Nursing home doctors are over-worked and often unable to evaluate residents at the bedside, resulting in unnecessary antibiotic prescriptions ordered "out of an abundance of caution". Starting in 2018, nursing home medical directors and administrators are required to implement programs to improve the way antibiotics are used. This project will develop a tool to help these programs work.

Description. Create an APP that would integrate local antibiotic resistance patterns (from a central laboratory source/download or use of a predictive model), limited patient/resident clinical data (age, height, weight, kidney function) (ideally accessed from nursing home system or simulated system), and manually entered assessments by nurse at bedside, to process an algorithm producing best practice recommendation based on the existing stewardship program (i.e., hydration alone, diagnostic test, antibiotic choice and duration). Providers at facilities on Emory campus can be part of focus groups and testing.

PROJECT OBJECTIVES

(1) Evaluate existing applications and perform gap or deficiencies among nursing home providers

(2) develop pilot application that integrates existing assessment forms, with auto populating key variables from simulated or real nursing home datasets, maximizing simplicity of use

SUCCESSFUL PROJECT

This project would likely allow access to nursing home doctors and/or nurses if we choose to allow bedside assessments. This is part of a larger project between Emory and the nursing homes.