

Hospital Effective Zones (location based optimization)

- Alternatively could be other healthcare related topic

Members - Kai Tsuyoshi, Andrea Figueroa Ascuy

Description:

Building a hospital is a very critical decision to make, in that location and demand of the surrounding population determines how effective the facility will be in providing its services. We will be optimizing for the best location of a hospital based on coordinate data, and demand, among other variables. The data is taken from kaggle, and is bundled into a package of coordinates, staffing, demand for service, etc.

We will be using a Linear Program, as we will be utilizing coordinates primarily as the constraints, and will be applying an additional two to three constraints (demand and capacity of each facility) per facility. We will most likely be a variable of people being moved to hospitals and a binary variable for an open facility vs one that is not, but may have to add more based on what constraints become necessary.