Introduction
Non-equitable access to healthcare has implications for community health and city planning.[4] Understanding if, and where, and those of low SES, have poor access to healthcare will be important for the city of Portland, as these populations may continue to grow. We have chosen to evaluate access to healthcare based on the proximity of emergency rooms and the number of staffed hospital beds in the area, measuring accessibility by means of travel time to these facilities.[2][9] This study will help identify at-risk groups who may have poor access to these facilities.

Methods & Materials
We have chosen population weighted centroids for census blocks as our method for aggregating the population.[3] We used datasets from RLIS and US Census. The network analyst tool was used in conjunction with the ESRI street network data from 2010 to measure the time required to travel from the centroid of a census block to the nearest healthcare facility.[6]

Most service areas with the optimal population to bed ratio are located centrally in Portland Metro, including areas surrounding OHSU, Providence St. Vincent, Legacy Good Samaritan, and Legacy Emanuel. However, the service area surrounding Providence Milwaukie, imbedded in the Metro region, has a high population to low bed ratio. It is likely that the population in Milwaukee does not depend on the nearest local facility for service, given their close proximity to surrounding facilities with higher number of staffed beds. As we go further from the center of the Portland metro area, there appears to be higher population to lower staffed bed ratio. The service area of Legacy Mount Hood stands out as having a high population to bed ratio, and does not have nearby high staffed bed facilities to compensate.

Results

The results of our research did not indicate that the identified at-risk groups have poor access to the healthcare facilities in the Portland area based on travel time. In line with similar research done in other cities, it is observed that populations further from the city center have less access to facilities and its resources than those in core urban regions.[4][6][9] Another observation we noted was that good accessibility to healthcare facilities is likely to be associated with population groups that already have high degree of accessibility to other resources such as public transportation. As this topic is beyond the scope of our research, it may be an excellent topic for further research and discussion.

Conclusions
2) Other factors, including health insurance type, are more likely to explain differences in hospital access among population groups, rather than using travel time and proximity.

References

Accessibility to Emergency Rooms with Staffed Hospital Beds in the Portland Metro Area
Albert Chen, Leigh Grover

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Results

The results of the Pearson correlation indicate that there was a significant, positive correlation between minutes to hospital and average per capita income, (r = 0.944, p = .000). A linear regression evaluated the prediction of minutes to hospital from average per capita income (F(1, 942) = 10.11, p = .002, R² = .011). The regression equation is Y = 2.055 - 0.54/CapitaIncome. This very low R² value indicates that there are likely other variables that can better predict travel time.

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