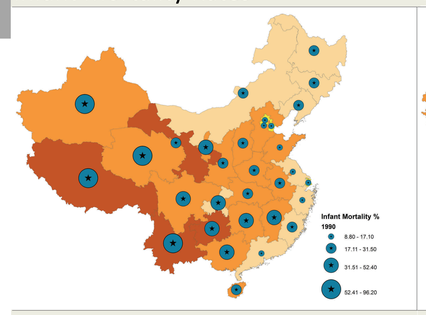
Healthcare Access and Health Outcomes for Urban and Rural Populations in China

Introduction

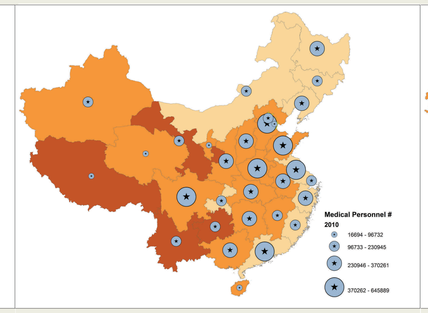
Because of the rising inequality in China (mainly between the coastal urban regions and rural central and western Chinese provinces) this poster focuses on the relationship between healthcare access and outcomes for provinces with high proportions of rural populations in China. How do healthcare inputs affect health outcomes of these people? Are rural populations really more vulnerable than urban populations? Are they more likely to suffer from catastrophic spending on healthcare? This project is intended to help inform policy and target areas of necessary reform.

Given the size of China, both geographically and in terms of population, policymaking can be a serious challenge. The goal of this mapping exercise is not to identify specific areas for targeted interventions but rather to provide policymakers with a broad overview of population needs and trends.

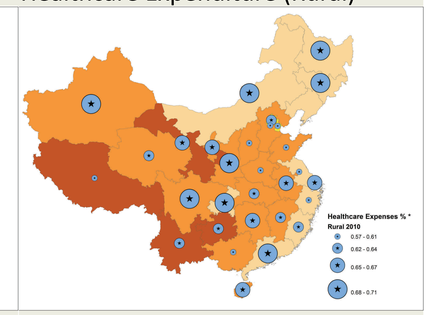
Infant Mortality Rates



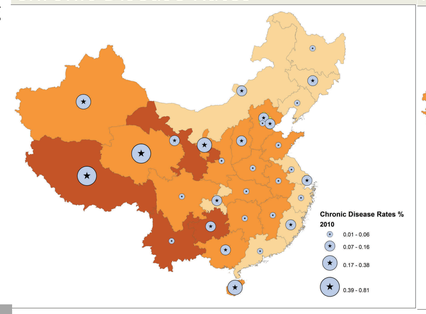
Number of Medical Personnel



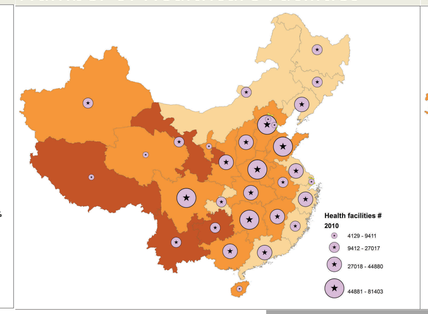
Healthcare Expenditure (Rural)



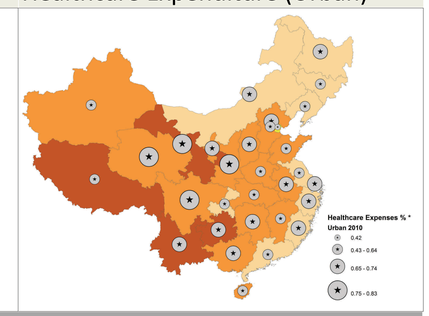
Chronic Disease Rates



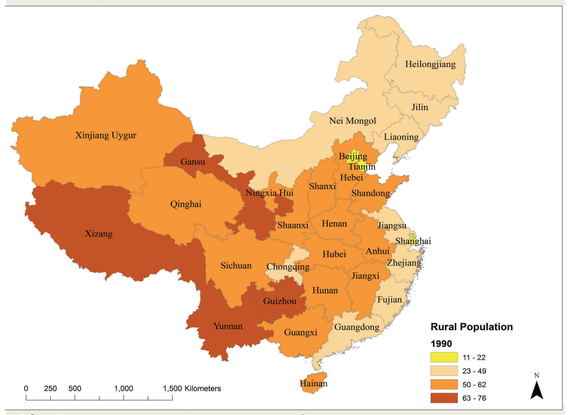
Number of Healthcare Facilities



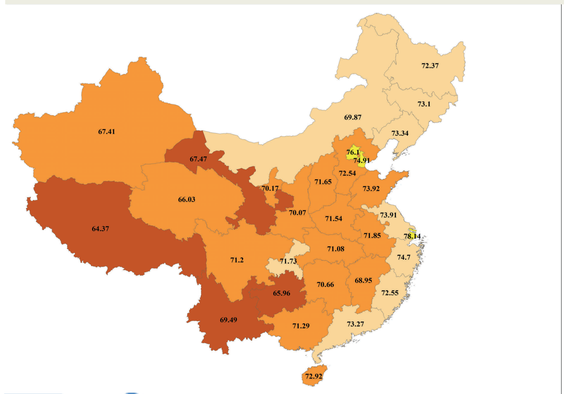
Healthcare Expenditure (Urban)



Rural Population



Life Expectancy Aggregated



Methods

Because of the time and data limitations, the methods employed in this project were simple. Tabular data was translated and prepped for use in excel. The dependent variable – percent of rural population – was held constant in every map for comparison. Each map was then overlaid with a specific variable intended to serve as a proxy for healthcare access or health outcomes.

Analysis

According to the literature, there should be great inequalities in income between coastal provinces with large urban populations and the central and western provinces with high rural populations. The maps produced for health outcomes show that higher infant mortality rates, higher chronic diseases rates, and lower life expectancy rates are associated with provinces with greater percentage of rural people.

The maps displaying the number of medical personnel and healthcare facilities are intended to be a proxy for healthcare inputs. Greater investment in medical infrastructure and care should pay off with healthier populations as indicated by the health outcomes above. The maps support the argument that areas with more hospitals and medical personnel (generally associated with urban populations and coastal areas) are healthier than their rural area counterparts.

Finally, the healthcare expenditure maps are intended to compare rural and urban populations directly in terms of their out-of-pocket expenditures on healthcare. This indicator is a ratio calculated by dividing the out of pocket expenses of rural/urban population by disposable income. Because of limited health insurance coverage in China and the known high catastrophic expense rate, I expected to find much larger expenditures in the rural regions, but the results of the data do not reflect this hypothesis. In fact, it is difficult to discern correlation from the map.

Conclusion

In sum, the approach used in this poster is simple and direct and the variables were preselected for their consistency at the provincial level of analysis. As a starter tool to inform policy analysis, the maps created for this exercise are helpful. The next step would be a more sophisticated and detailed analysis of individual provinces that are underperforming. Alternative resources such as the China Health and Nutrition Survey and the Chinese Health and Family Survey, can provide valuable mined data for deeper trend analysis. It can also help determine additional sources of correlation and causation. The use of additional software platforms such as STATA for econometric analysis and SAS for statistical analysis could greatly improve the methodology and modeling of this project.

Cartography: Jing Liu
Date of Project: May 2012
Data: China Yearbook 2011 (complied by the National Bureau of Statistics of China)
China Health Yearbook 2011 (compiled by the National Ministry of Health of China)
Global Administrative Areas (accessible at http://www.gadm.org/.)

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