UNH Analytics & Data Science 500 Cities Project

Based on the socioeconomic factors of a city, can we say whether that city is healthy?

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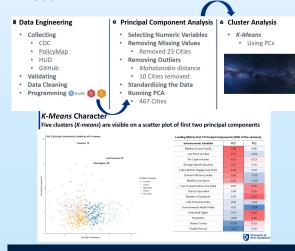
Introduction

Our team examined relationships between physical health and socioeconomic factors for the 500 largest cities in America.



Methods

Principal Components Analysis ("PCA"), a powerful statistical methodology, mathematically "clustered" our 500 cities based on socioeconomic factors.



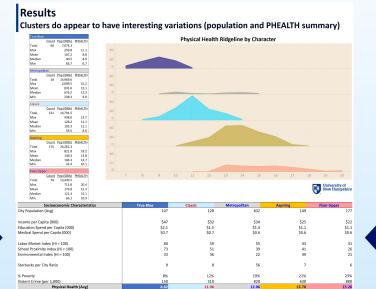
Contacts

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Results

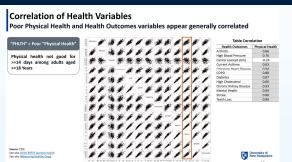
Using a group of socioeconomic variables not tied to our health data set, Machine Learning methods appeared to recognize patterns in those variables consistent with health measurements across cities.



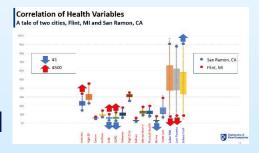
Physical health outcomes were remarkably "sticky" across socioeconomic characterizations.



Discussion



Self-reported physical health appears to be a strong indicator of overall physical health...



... a striking example was the contrast between consistently top-ranked San Ramon, CA, and just as consistently bottom-ranked Flint, MI, based on several individual health measurements.



References

Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. 500 Cities Project Data, 2018. URL: https://www.cdc.gov/500cities. US Department of Housing and Urban Development, Affirmatively Furthering Fair Housing Data and Mapping Tool (AFFH-T).