Geographic Evaluation of Social Determinants of Health of Patients at a Student-Run Free Clinic

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BACKGROUND

- University of California, San Diego Student-Run Free Clinic Project (SRFCP) provides medical, mental health, pharmacy, dental, and social services to underserved patients throughout San Diego County
- Social determinants are strongly associated with worse health outcomes
- Several neighborhood-level metrics use publicly available geographic data to quantify markers of community health

AIMS

1. To measure the social determinants of health of SRFCP patients using geographic data
2. To better understand the social conditions that drive health of SRFCP patients to improve quality of care and outcomes

METHODS

Study Design

Cross-sectional study of 366 patients with permanent addresses seen at SRFCP in the past year

Geographic Indices of Community Health

Area Deprivation Index
Composite measure of 17 markers of community health into a national and state percentile ranking for census block groups. [1]

CA Healthy Places Index
Index of 25 indicators in 8 domains of community health at the census tract level throughout California. [2]

RESULTS

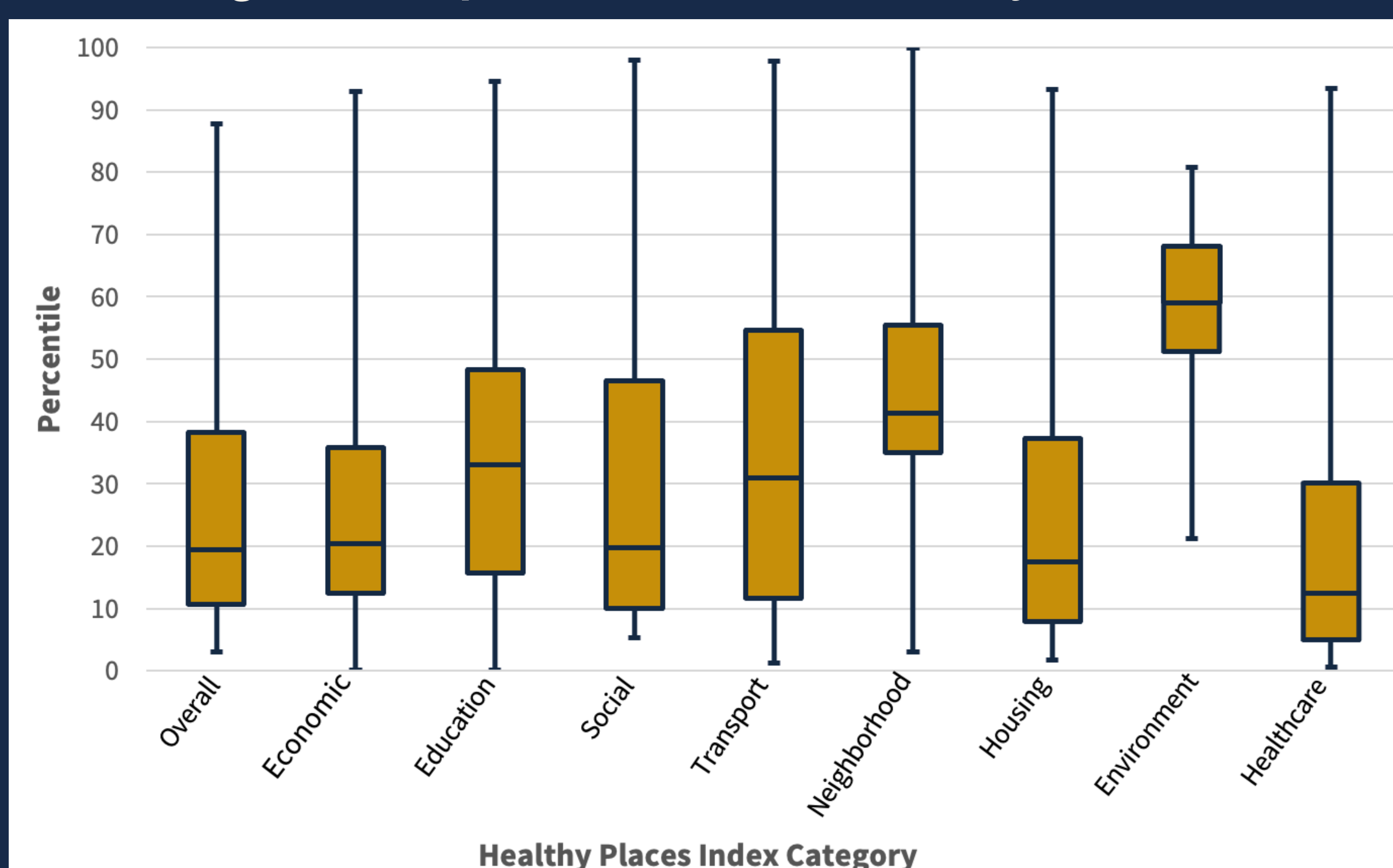| Table 1. Healthy Places Index Percentiles of SRFCP Patients Compared to CA Population	
Indicator	Percentile (SD)
Overall	25.8 (20.0)
Economic	25.8 (19.3)
Education	35.0 (22.9)
Social	29.6 (22.4)
Transportation	36.6 (26.2)
Neighborhood	44.1 (18.1)
Housing	24.9 (20.7)
Clean Environment	58.8 (10.4)
Healthcare Access	19.7 (19.3)

Table 2. Area Deprivation Index Deciles of SRFCP Patients Compared to US Population	
Population	Decile (SD)
California Population	
State Decile	4.4 (2.3)
National Decile	12.3 (10.3)
SRFCP Patients	
State Decile	7.0 (1.7)
National Decile	23.5 (13.1)

Healthcare access of SRFCP patients was lower than an average of 80% of California census tracts.

Figure 1. Boxplot of Indicators of Healthy Places Index

(x-axis: Overall, Economic, Education, Social, Transport, Neighborhood, Housing, Environment, Healthcare — Healthy Places Index Category; y-axis: Percentile)

SUMMARY

- **Area Deprivation Index of SRFCP patients:**
  - *Higher decile = more disadvantage*
  - **State decile:** 7.0 (p<0.0001 significantly higher than CA population)
  - **National decile:** 23.5 (p<0.0004 significantly higher than CA population)
- **Healthy Places Index of SRFCP patients:**
  - *Lower percentile = more disadvantage*
  - **Overall:** 25.8 (community conditions lower than 74.2% CA tracts)
  - **Economic**: 25.8 (economic conditions lower than 74.2% CA tracts)
  - **Education:** 35.0 (education conditions lower than 65% of CA tracts)
  - **Social:** 29.6 (social conditions lower than 70.4% of CA tracts)
  - **Transportation:** 36.6 (transportation conditions lower than 63.4% of CA tracts)
  - **Housing:** 24.9 (housing conditions lower than 75.1% of CA tracts)
  - **Healthcare access:** 19.7 (healthcare access lower than 80.3% of CA tracts)

CONCLUSIONS

- Patients of SRFC face significant social determinants compared to the CA general population based on geographic data.
- Significant areas of disadvantage include economic, education, social, transportation, housing, and healthcare access.
- We hope this data will guide further strategies to reduce barriers, including collaboration with social workers and community partners.

REFERENCES

[1] Kind AJH, Buckingham W. Making Neighborhood Disadvantage Metrics Accessible: The Neighborhood Atlas. *New England Journal of Medicine*, 2018. 378: 2456-2458.
[2] Public Health Alliance of Southern California. California Healthy Places Index. http://healthyplacesindex.org. Published 2019.