Predicting Child Maltreatment in South Carolina using County-level Indicators

Jordan H. McAllister
Center for Innovation in Population Health, College of Public Health, University of Kentucky
Research Mentors: John S. Lyons, Olga A. Vsevolozhskaya, Xiaoran Tong

Center for Innovation in Population Health

Introduction

- Original child maltreatment research and prevention strategies focused on parents[1-2]
- Recent research has found that child maltreatment is a result of factors at the individual, family, and community levels[1]
- Distressed communities put parents at risk for abusing their children due to multiple stressors, lack of resources, and weak social norms[2]
- Need for research on county-level risk factors because of their relative importance[3] and because CPS systems are organized by county[4]
- Need for longitudinal studies on risk factors to avoid confounding found in cross-sectional studies[5] and to identify factors preceding abuse[6]

Key Findings

- Teen birth rate, income ratio, single-parent households, violent crime rate, severe housing problems, percent rural, and poor mental health all predict more child maltreatment cases
- Key findings are either significant across multiple outcomes (intakes, referrals, and substantiated investigations) or remain significant in a robustness check in which another year of data (2018-19) and a slightly different model specification (without depression or homeownership) was used

Methods

- Calculated proportion of total intakes, referrals, and substantiated child maltreatment investigations from each South Carolina county using Child Protective Services and American Community Survey data from 2020-22
- Fit Poisson regressions to see how these outcomes are associated with lagged county-level risk factors taken from the 2019-21 County Health Rankings and CDC PLACES datasets
- Also included sociodemographic controls, year and county fixed effects, and a population offset
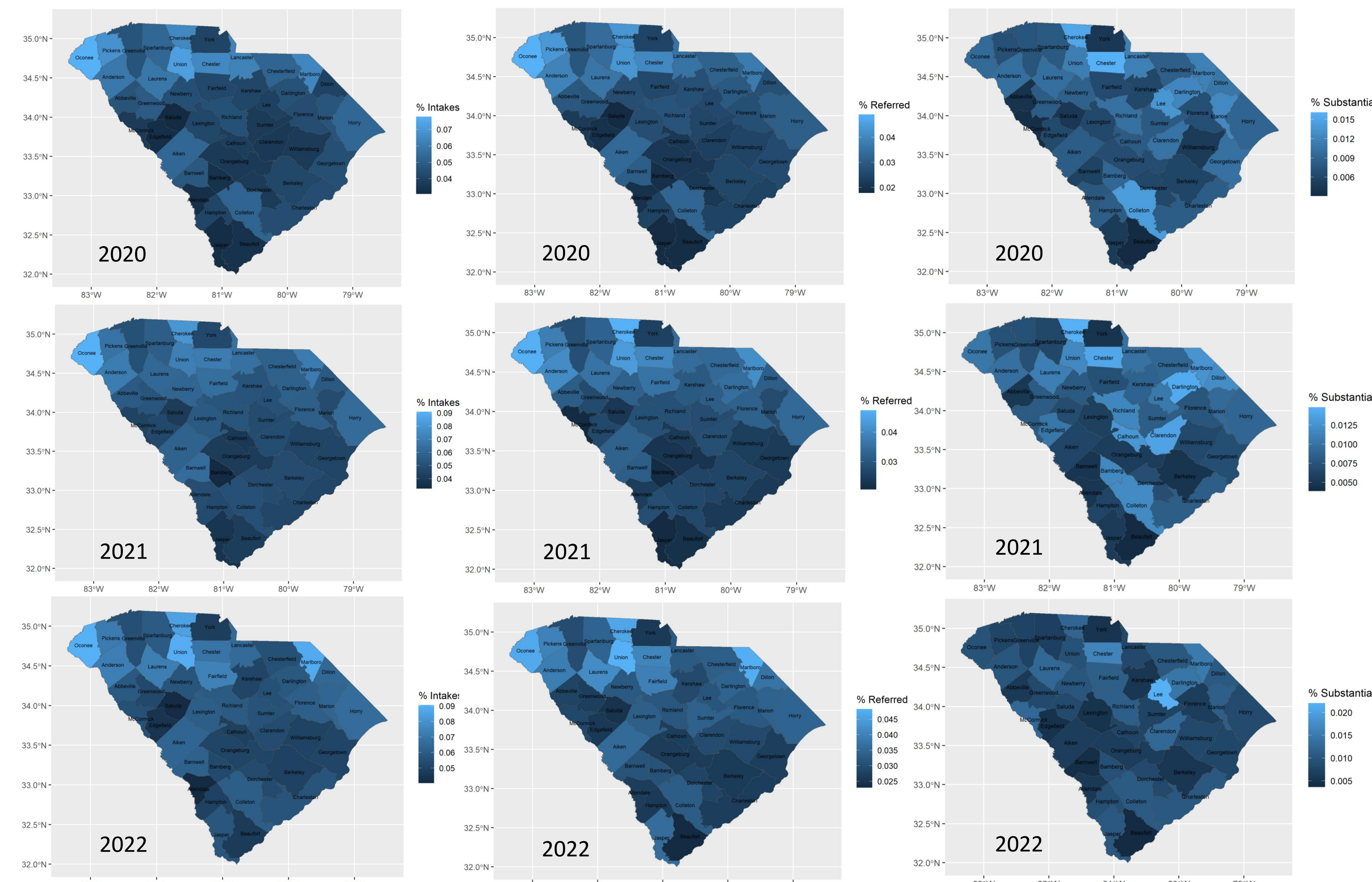
Results

- Intakes associated with income ratio, single-parents, crime, housing problems, rural, poor mental health, and physically inactive
- Referred associated with single-parents, crime, rural, and poor mental health
- Substantiated associated with teen births, crime, housing problems, and rural

Conclusions

- Expected associations found between indicators of lower socioeconomic status in counties—such as violent crime and severe housing problems—and a higher proportion of child maltreatment cases
- Finding that percent rural consistently predicts child maltreatment is concerning because rural areas generally offer limited maltreatment services[7]
- Outside of socioeconomic indicators, also found that poor mental health among adults predicts worse outcomes for children, highlighting the need to address the mental health crisis affecting all ages and social strata

Next Steps

Any one measure of child maltreatment (such as CPS) vastly underestimates the true extent of abuse that occurs.[8] Therefore, I plan to conduct additional analyses using person-centered data from the Family Advocacy and Support Tool (FAST) assessment. Specifically, I will look into how county-level risk factors are associated with multiple measures of trauma and other family outcomes captured by FAST.

These maps capture how the three outcomes vary across South Carolina's 46 counties and over the three years in the data

	Intakes	Referred	Substantiated
Teen Birth Rate	0.010[+]	0.007	0.046[***]
	(0.005)	(0.007)	(0.013)
High School Graduation Rate	-0.002	-0.004	-0.005
	(0.002)	(0.003)	(0.006)
% Unemployed	-0.069[*]	-0.029	-0.056
	(0.028)	(0.036)	(0.068)
% Children in Poverty	-0.002	0.001	-0.008
	(0.002)	(0.003)	(0.005)
Income Ratio	0.091[**]	0.032	0.085
	(0.031)	(0.041)	(0.076)
% Children in Single-Parent Households	0.013[***]	0.009[**]	0.011[+]
	(0.002)	(0.003)	(0.006)
Social Association Rate	0.002	-0.013	0.037
	(0.010)	(0.013)	(0.024)
Violent Crime Rate	0.008[*]	0.013[**]	0.029[**]
	(0.004)	(0.005)	(0.009)
% Severe Housing Problems	0.021[**]	0.014	0.061[**]
	(0.008)	(0.010)	(0.019)
Median Household Income (10k)	-0.0003	-0.003[+]	-0.001
	(0.001)	(0.002)	(0.003)
Segregation Index (non-White/White)	0.002	0.002	-0.014[*]
	(0.002)	(0.003)	(0.006)
% Homeowners	-0.009[+]	-0.005	-0.007
	(0.005)	(0.007)	(0.012)
% Rural	0.024[**]	0.030[**]	0.051[**]
	(0.007)	(0.010)	(0.019)
% Depression	-0.001	0.004	0.011
	(0.004)	(0.005)	(0.010)
% Mental Health not Good	0.027[*]	0.029[*]	0.009
	(0.011)	(0.014)	(0.027)
% Physically Inactive	0.007[*]	0.007	0.012
	(0.003)	(0.005)	(0.008)
% Excessive Drinking	-0.006	-0.008	-0.003
	(0.004)	(0.005)	(0.010)

Poisson regressions results (not shown: sociodemographic controls, fixed effects, offset)

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