Household Conditions by Geographic School District

Jon Geiger, Noel Goodwin, Abigail Joppa

Data & Context

- Household Conditions by Geographic School District
  - Share of households within a geographical school district with conditions that may affect remote learning for K-12 learning environments
  - Unit of Observation: School districts in every state of the US
  - 2014-2018

Conditions

- % HH with vulnerable jobs (est.)
- % Crowded Conditions (est.)
- % No Computer or Internet (est.)
- % Children with Disability
- % Linguistically Isolated Children
- % with Single Parent (est.)
- % Poverty (est.)
- Children 5-17 (est.)

There is a margin of error variable for each condition estimate

pct_SP	SP_MOE
0.04897494	0%–10%
0.10188679	3%–17%
0.35292614	26%–44%
0.29519674	24%–35%
0.20831554	17%–25%
0.17839834	12%–23%

No missing data, but...

- Over 100 school districts document only having between 0-10 children
- Some entries of 0

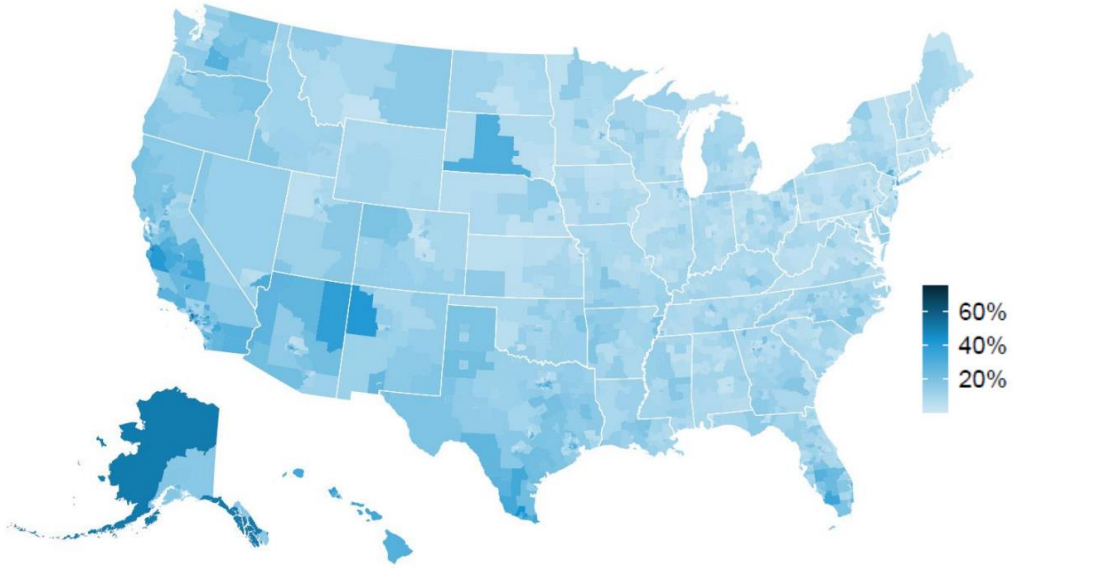
% No Computer or Internet Estimate	No Computer or Internet Margin of Error	% Children with Disability	Children with Disability Margin of Error	% Linguistically Isolated Children
0.00000000	0%–100%	0.00000000	0%–100%	0.000000(
0.00000000	0%–100%	0.00000000	0%–100%	0.000000(
0.00000000	0%–100%	0.00000000	0%–100%	0.000000(
0.00000000	0%–100%	0.00000000	0%–100%	0.000000(
0.00000000	0%–100%	0.00000000	0%–100%	0.000000(
0.00000000	0%–100%	0.00000000	0%–100%	0.000000(
0.00000000	0%–100%	0.00000000	0%–100%	0.000000(

Existing Report: Mapping Student Needs during COVID-19

FIGURE 6

Share of Students Living in Crowded Conditions

Households where school-age children live in homes with more than one person per room



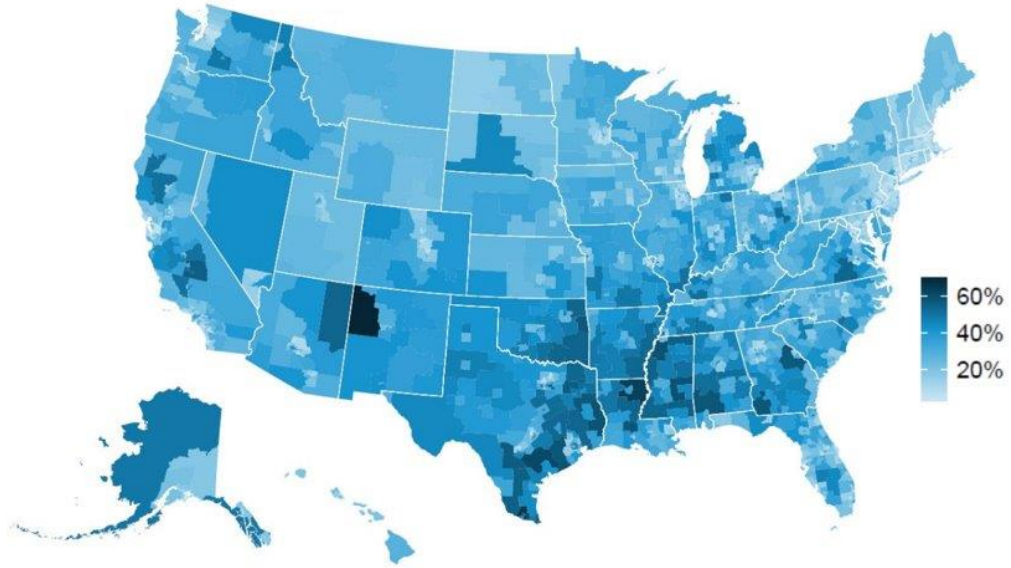
URBAN INSTITUTE

Source: Urban Institute analysis of 2014–18 American Community Survey data.

FIGURE 7

Share of Students without Access to a Computer or Broadband Internet

Households where school-age children are unlikely to access internet-based education

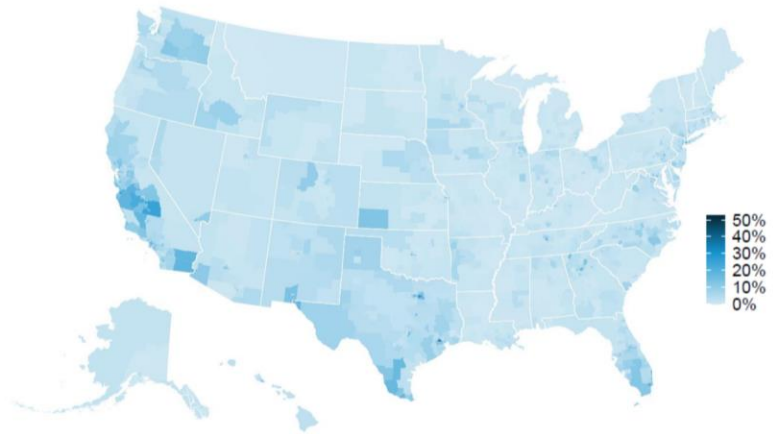


URBAN INSTITUTE

Source: Urban Institute analysis of 2014–18 American Community Survey data.

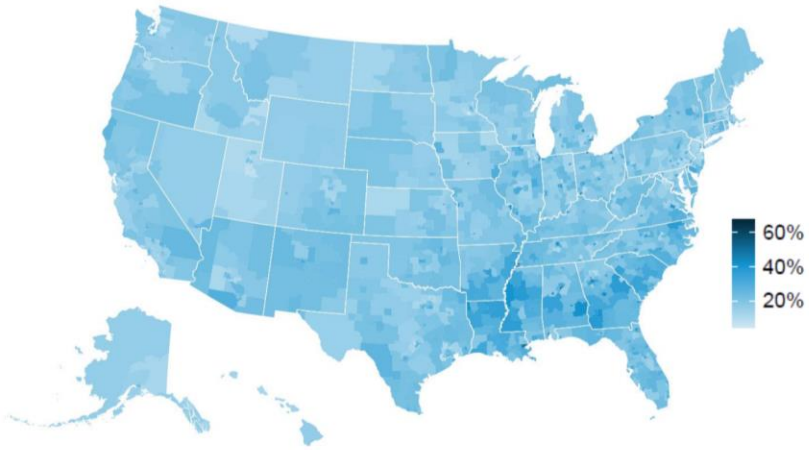
Share of Linguistically Isolated Students

Households where no one older than 14 speaks English only or speaks it "very well"



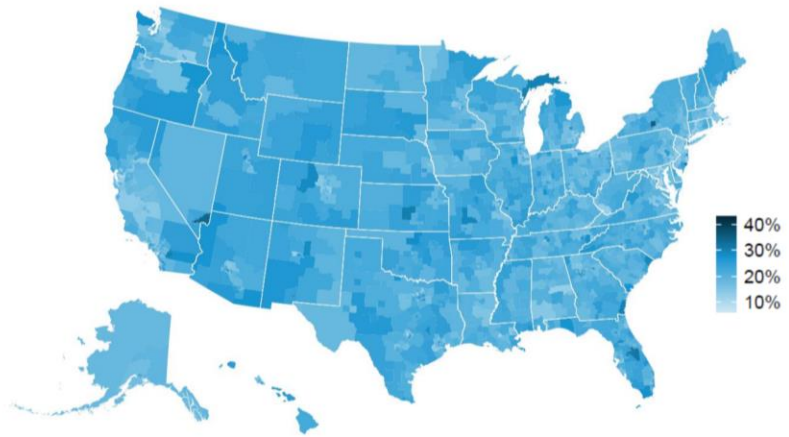
Share of Students with Single Parents

Households where school-age children have single parents



Share of Students with Parents Working in Vulnerable Sectors

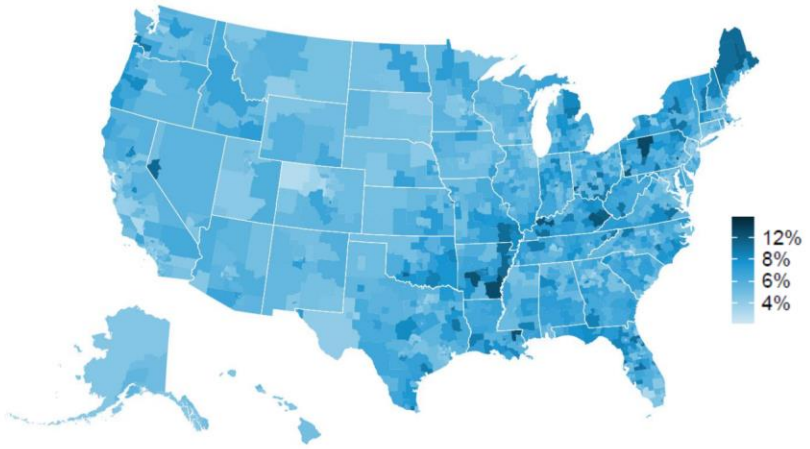
Households where parents work in an economically vulnerable sector



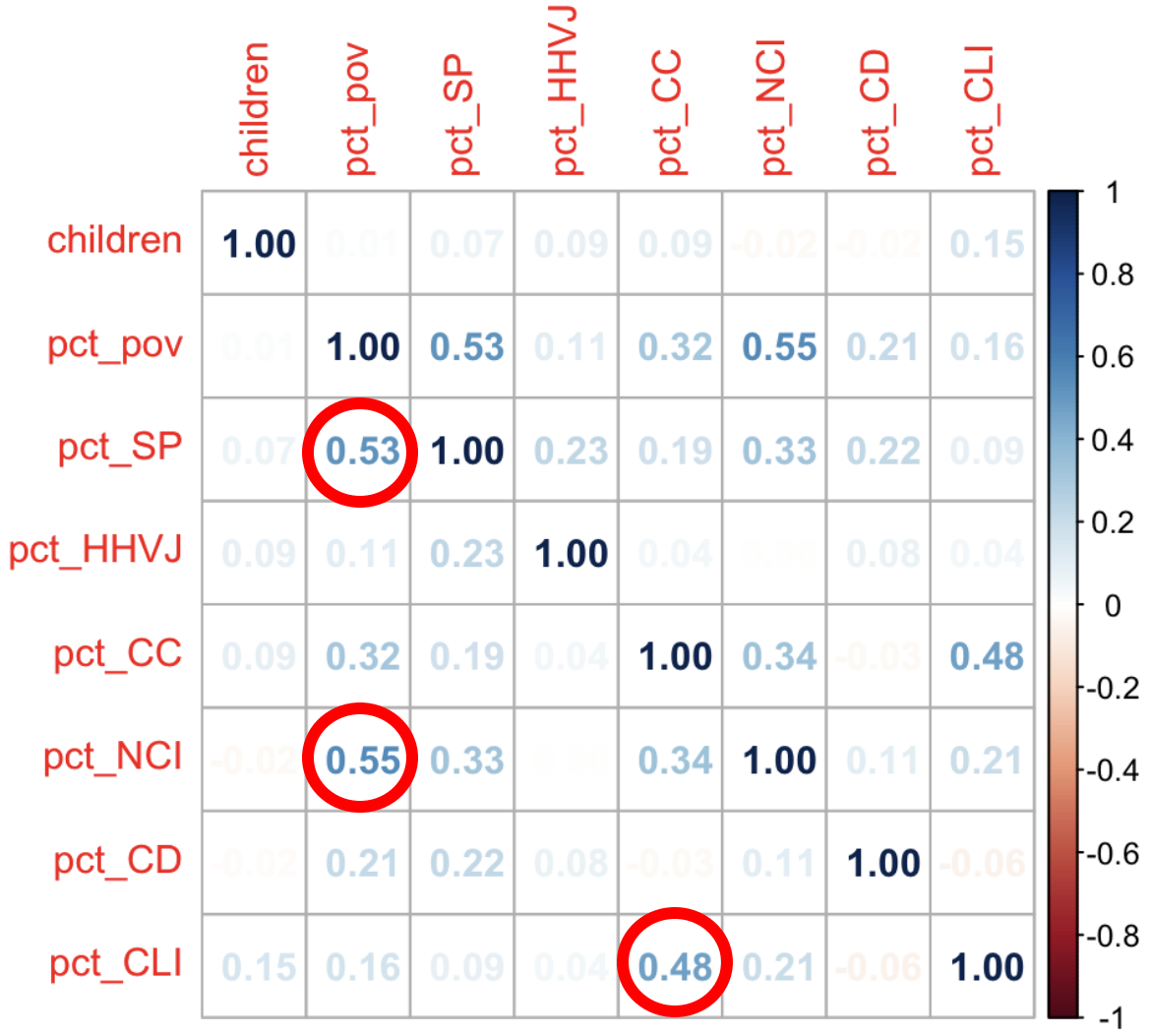
URBAN INSTITUTE

Share of Students with Disabilities

Households where children ages 5 to 17 have a disability



Correlation Matrix

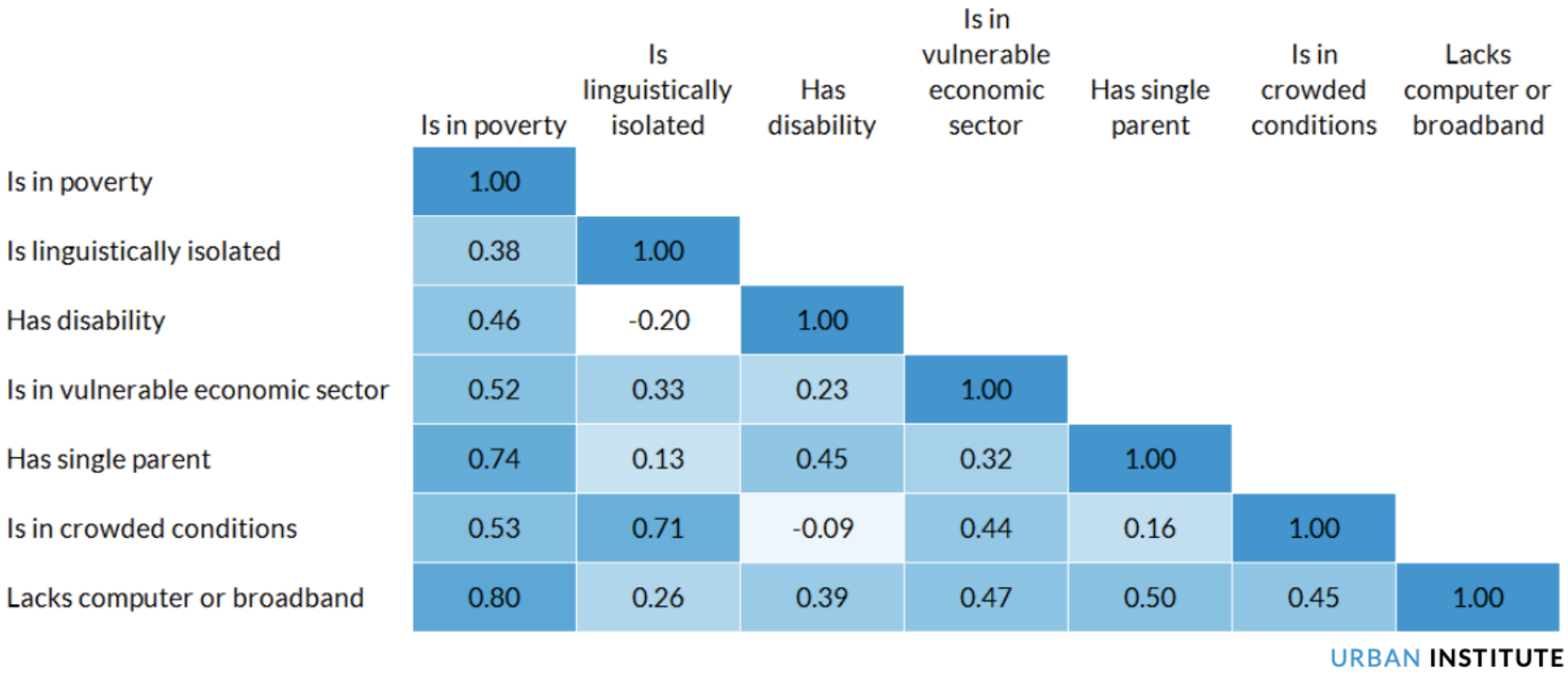


Interesting Patterns:

- High correlation between those in poverty and having a single parent (SP), and lacking broadband or computer (NCI)
- High correlation between being linguistically isolated children (CLI) and crowded living conditions (CC)

Correlations between Measures of Vulnerability across PUMAs

Lack of internet or computer access is most correlated with poverty at the PUMA level



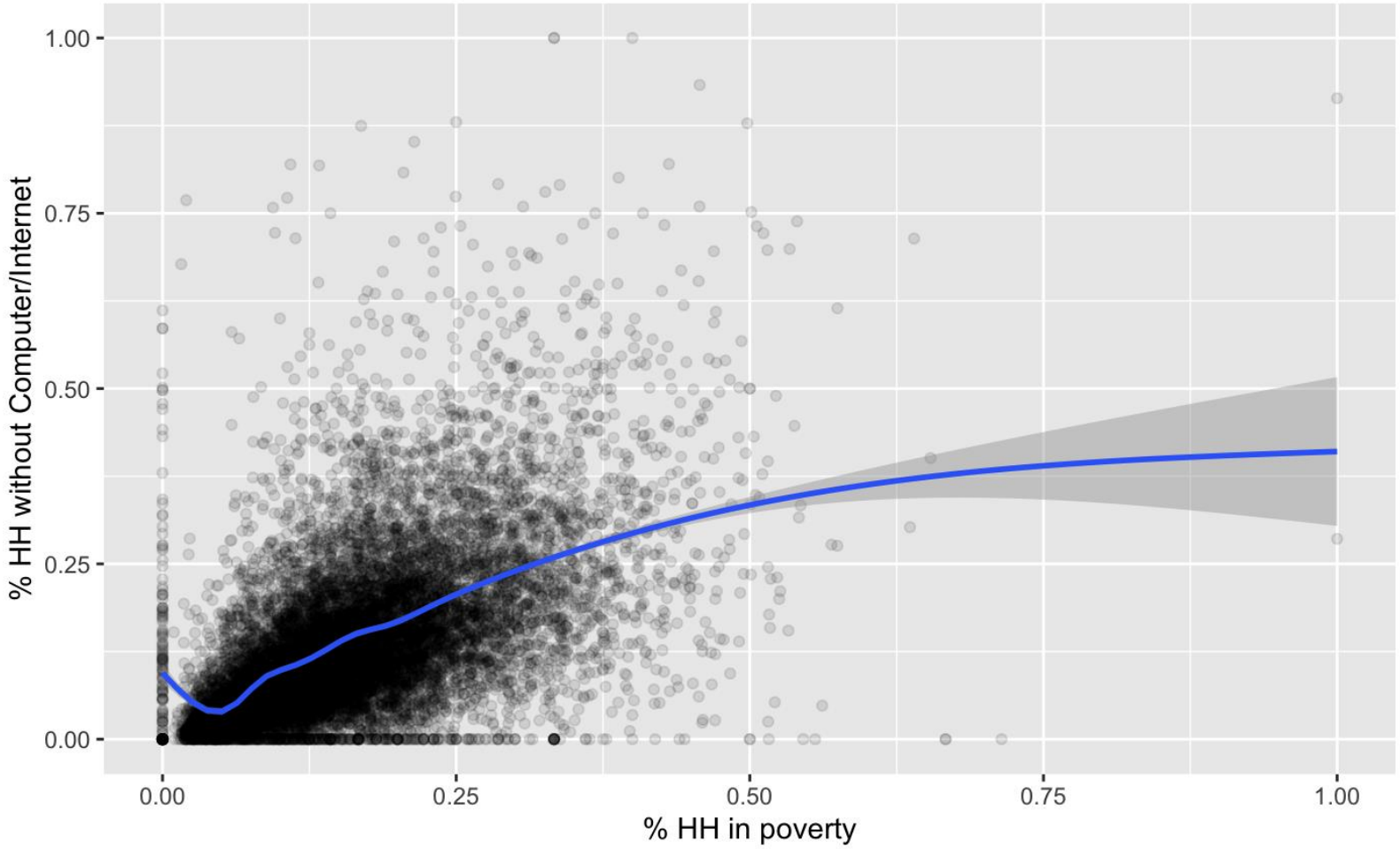
Source: Urban Institute analysis of 2014–18 American Community Survey data.

Note: PUMA = public-used microdata area.

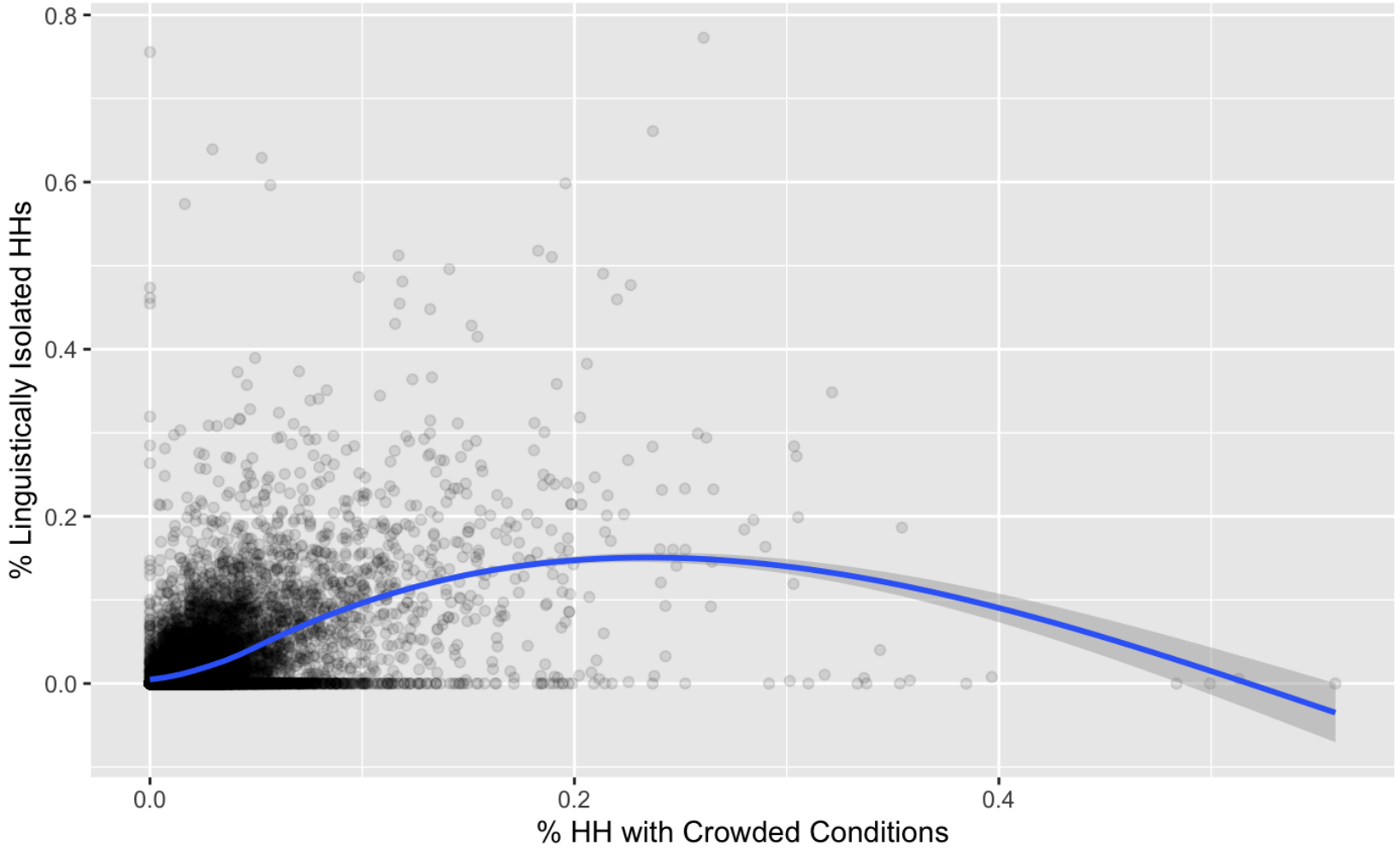
**Public Use Microdata Areas (PUMAs) are non-overlapping, statistical geographic areas that partition each state or equivalent entity into geographic areas containing no fewer than 100,000 people each

Basic trends

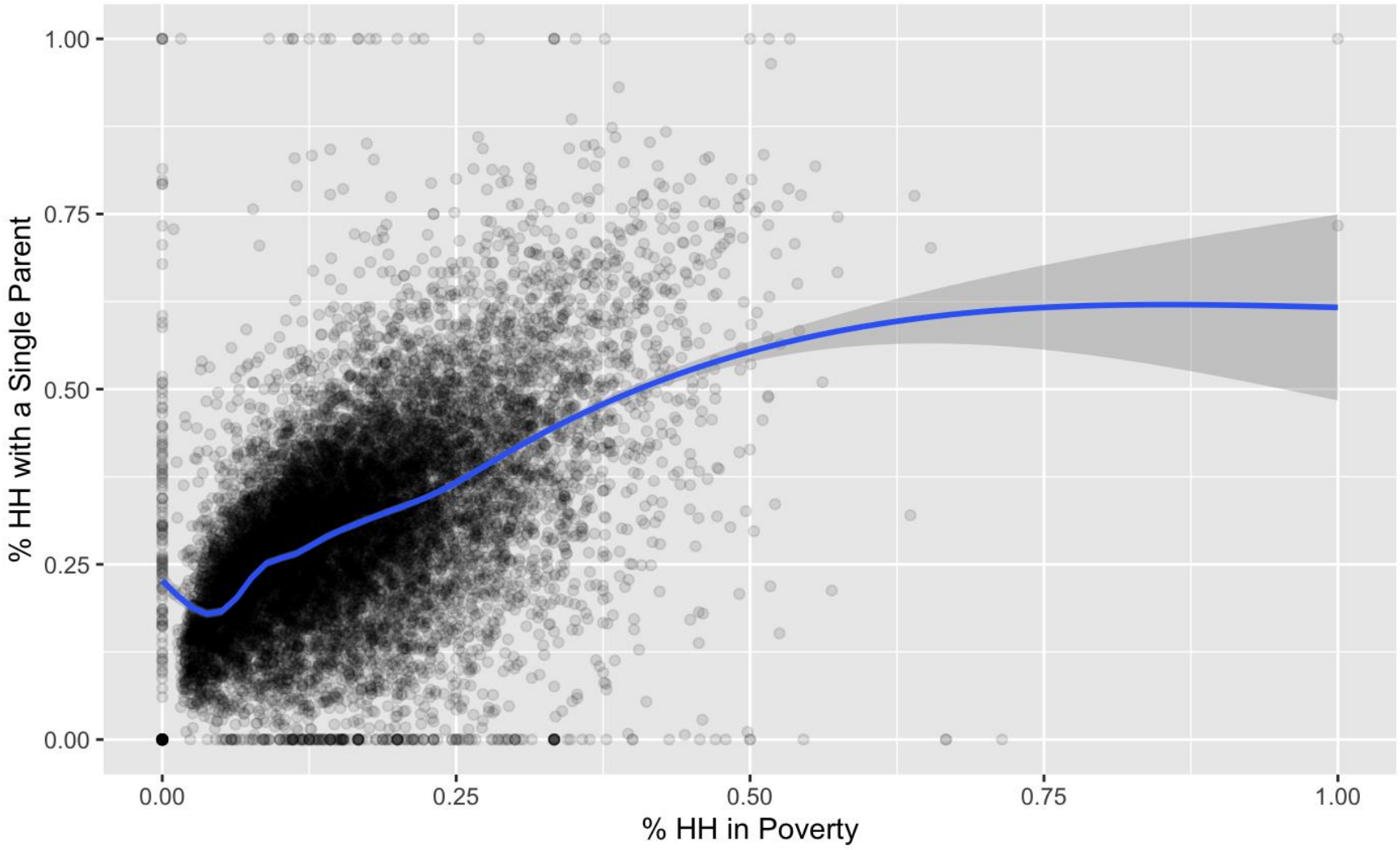
% HH in Poverty vs % HH without Computer/Internet



% HH with crowded conditions vs % HH linguistically isolated



% HH poverty vs % HH single parent



Possible Research Questions

- Larger research questions?
  - What are some of the biggest influences (race/ethnicity, certain household conditions, neighborhood safety level) on the *graduation rate* in a certain school district?
  - How much do racial and ethnic percentages correlate with household conditions within the district?
  - How have the household conditions of school districts in different areas in the U.S. improved or not over time?

Data?

- National Center for Education Statistics
- School learning modalities during the pandemic
- Racial and Ethnic enrollment makeup

Challenges & Difficulties

- Data:
  - dealing with margin of errors – potting error bars
  - While we do not have technically any missing data, there are some high margins of errors that we need to do analysis on.
  - What is a school district?

- Github:
  - How should we be using branching and tracking progress weekly?
  - Best way to organize our repository?

Next Steps

- Moving forward with a research question
  - Do we want to focus in on one question, or decide on a broad topic to explore with multiple questions?

- Wrangle and tidy outside datasets relevant to our research question(s)

- Determine a plan of action for how to delegate tasks moving forward