

# Are we ready for extended school closures?

## Evidence from American Community Survey (2014-2018)

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# Background

- Global outbreaks of COVID-19
- On March 13, 2020, White House declared a national emergency.
- Nationwide school closures
  - State governors issued executive orders or made recommendations for all public schools to be closed.
  - Around the end of April, the governors in 48 states ordered or recommended that schools be closed for the remainder of the academic year
  - Nationwide, school closures affect at least 124,000 U.S. public and private schools and at least 55.1 million students

# Background

- School closure is necessary
  - Prevent the spread of infections in a short time period.
  - Previous experiences from fighting against the highly pathogenic H5N1 influenza virus
- Extended school closure is costly
  - Disrupts education for schoolchildren
  - Poor nutrition for the recipients of free/reduced meals.
  - Frustrated for school closures when they are suddenly asked to transit from traditional learning to distance learning.
  - Children who stay at home have access to adults who can provide the human capital educational infrastructure necessary for in-home remote learning
  - Impair family finance.

# Purpose and significance

- The COVID-19 is an unprecedented pandemic, resulting in 32.7 million people infected and 582,769 deaths in the U.S. by May 16, 2021
- School closure is an option for the 2020-21 school year, with remote education as a mandatory alternative.
- Research questions
  - (a) What is prevalence of PreK-12 students who could not participate in remote education because they lack internet access, hi-speed internet, or computers at home?
  - (b) How much does the prevalence vary across groups of students as a function of free/reduced meal recipients; living in a single-parent family; etc.?

# Method

- Data
  - 2014-2018 American Community Survey (ACS)
- Variables
  - PreK-12 student status, family federal poverty level, race/ethnicity group, family structure, and parents' occupations
  - Age, gender, and race
  - Information on internet access, internet subscription, and computer devices

# Results

- Demographic and socioeconomic characteristics (unit: student)
  - 51.3 million school-aged children in public schools in the United States.
  - 48.4% in PreK- Grade 5, 21.7% are in Grade 6-8, and 29.9% are in Grade 9-12.
  - Males 51.4% vs. Female 48.6%
  - 48.8% non-Hispanic whites, 14.6% non-Hispanic blacks, 26.6% Hispanic students, 4.7% Asians, 0.8% American Indians or Alaska Natives, and 4.9% others.
  - 27.6% live in households receiving Food Stamp or Supplemental Nutrition Assistance Program (SNAP).

# Results (Cont.)

- Childcare-related measures
  - 52% are aged 11 or younger, indicating 26.7 million students cannot stay alone at home.
  - Over one third of students live within a single parent household (36.5%), representing 18.6 million students.
  - Parents of 10 million students work either as healthcare workers or in first-response teams (19.8%).

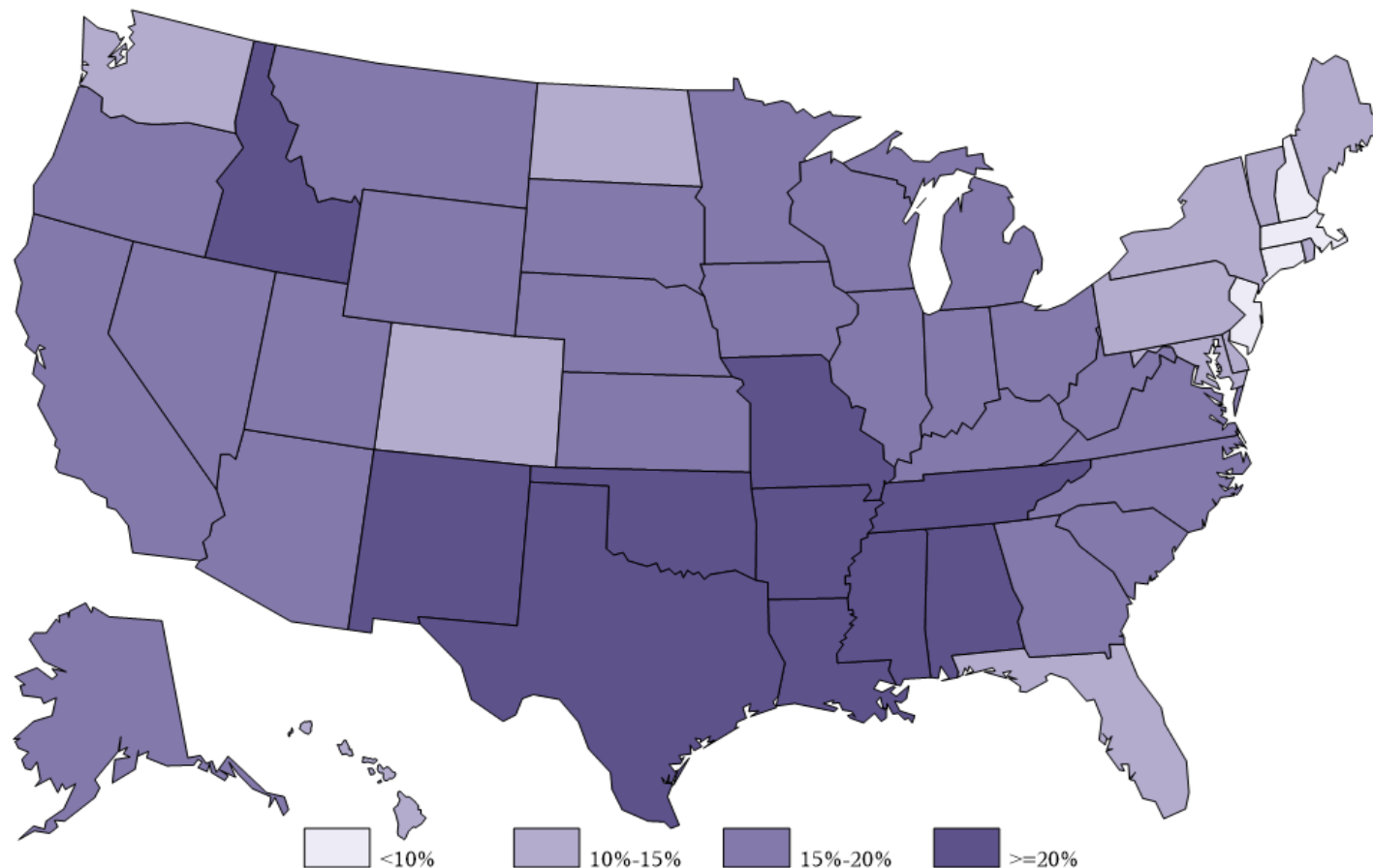
# Results (Cont.)

- Distance-education-related measures
  - 8.8% of the PreK-12 public school students, representing 4.5 million children, live in households without internet access.
  - 12.7% of students (6.5 million) living in households which do not subscribe to an internet service.
  - 9.8% of students (5 million) do not have any computer devices at home (e.g., laptop, desktop, tablet, and other computer devices).
  - A total of 8.6 million students are not able to participate in remote education because they either lack access to internet service or do not have computer devices.



# Measures vary across states

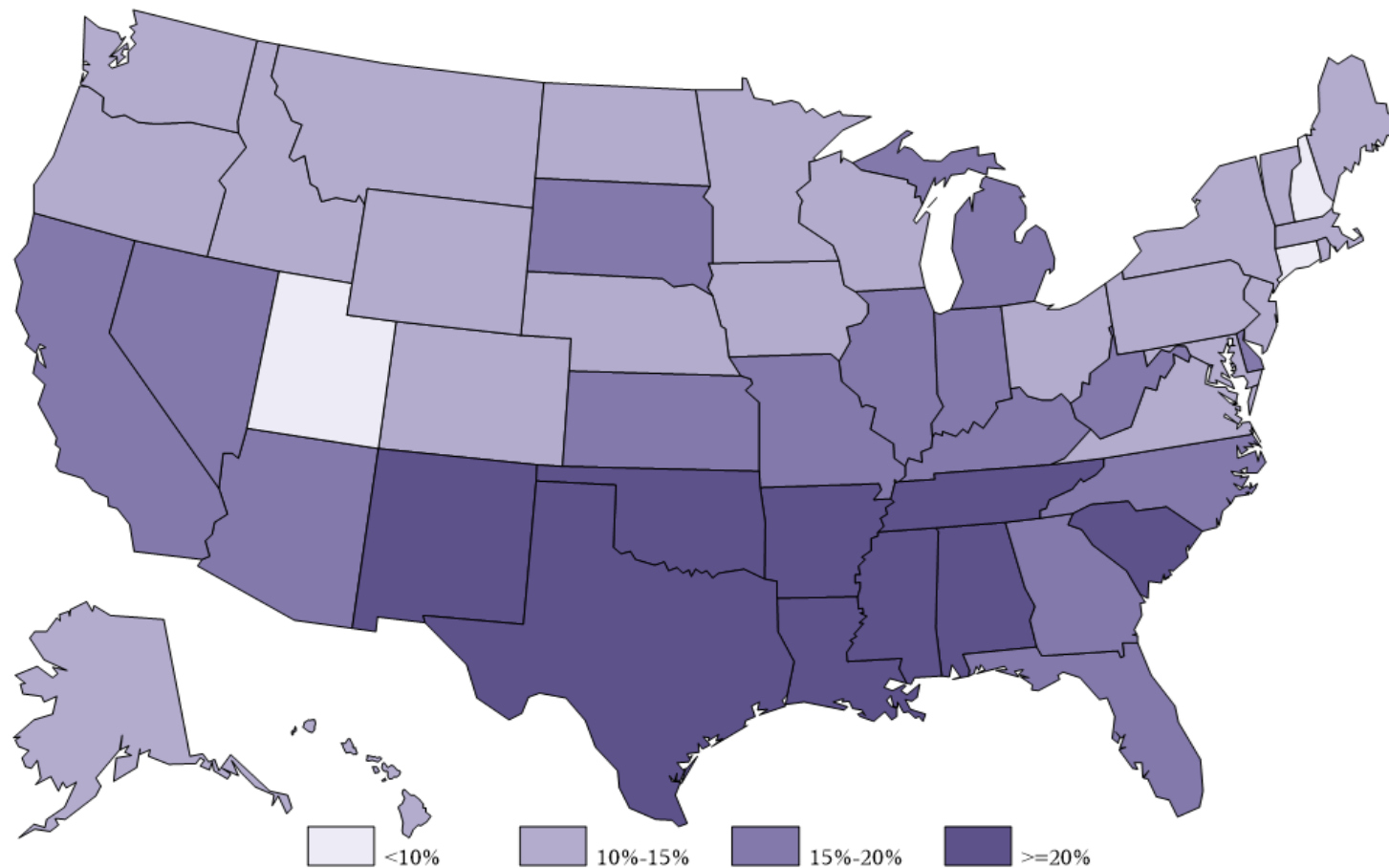
Percent of students living in households without highspeed internet although with internet access



Population: U.S. PreK-12 students (N = 51.3 million)  
Source: 5-Year American Community Survey (2014-2018)

# Measures vary across states

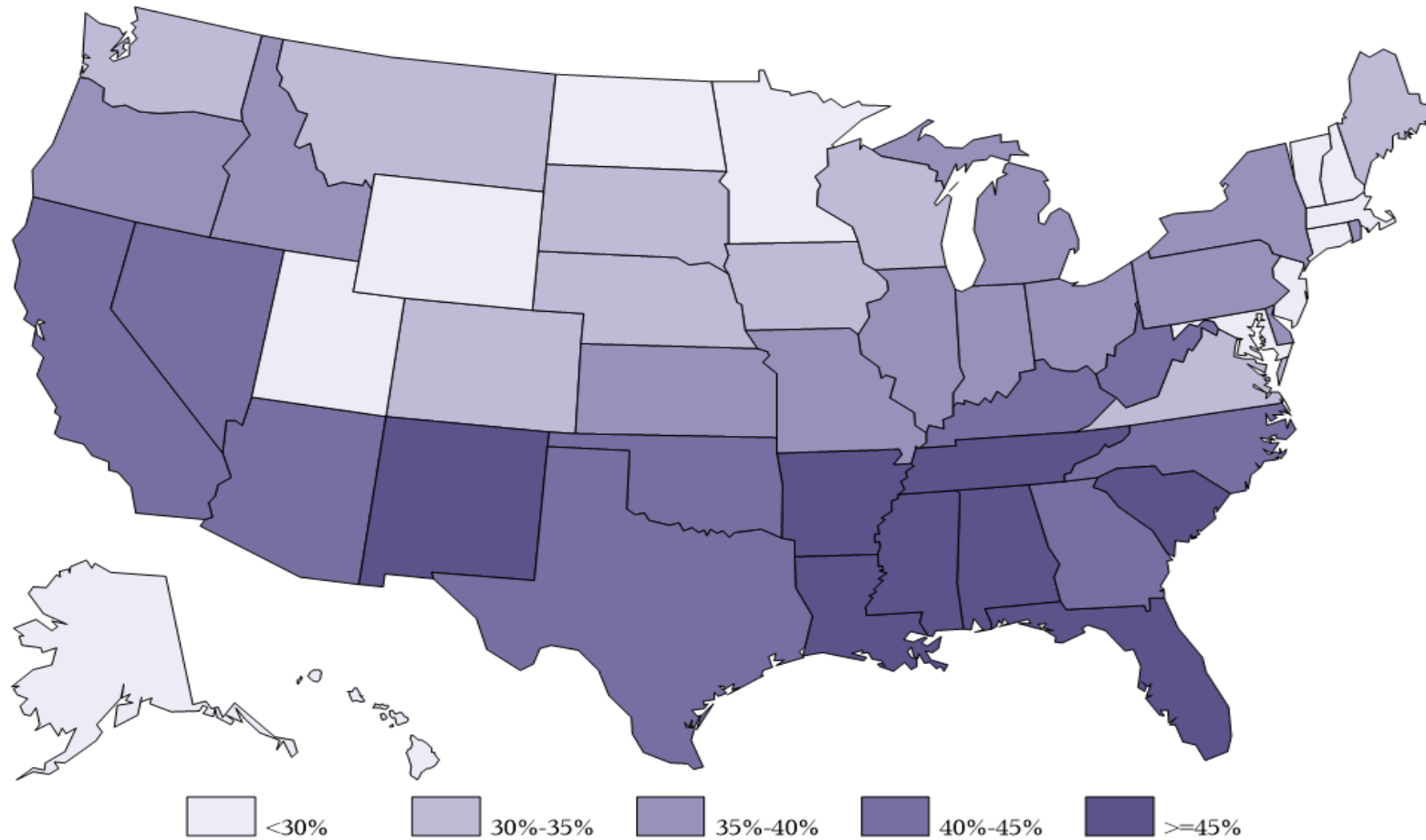
**Percent of students living in households without either computer devices or internet subscription**



Population: U.S. PreK-12 students (N = 51.3 million)  
Source: 5-Year American Community Survey (2014-2018)

## Measures vary across states

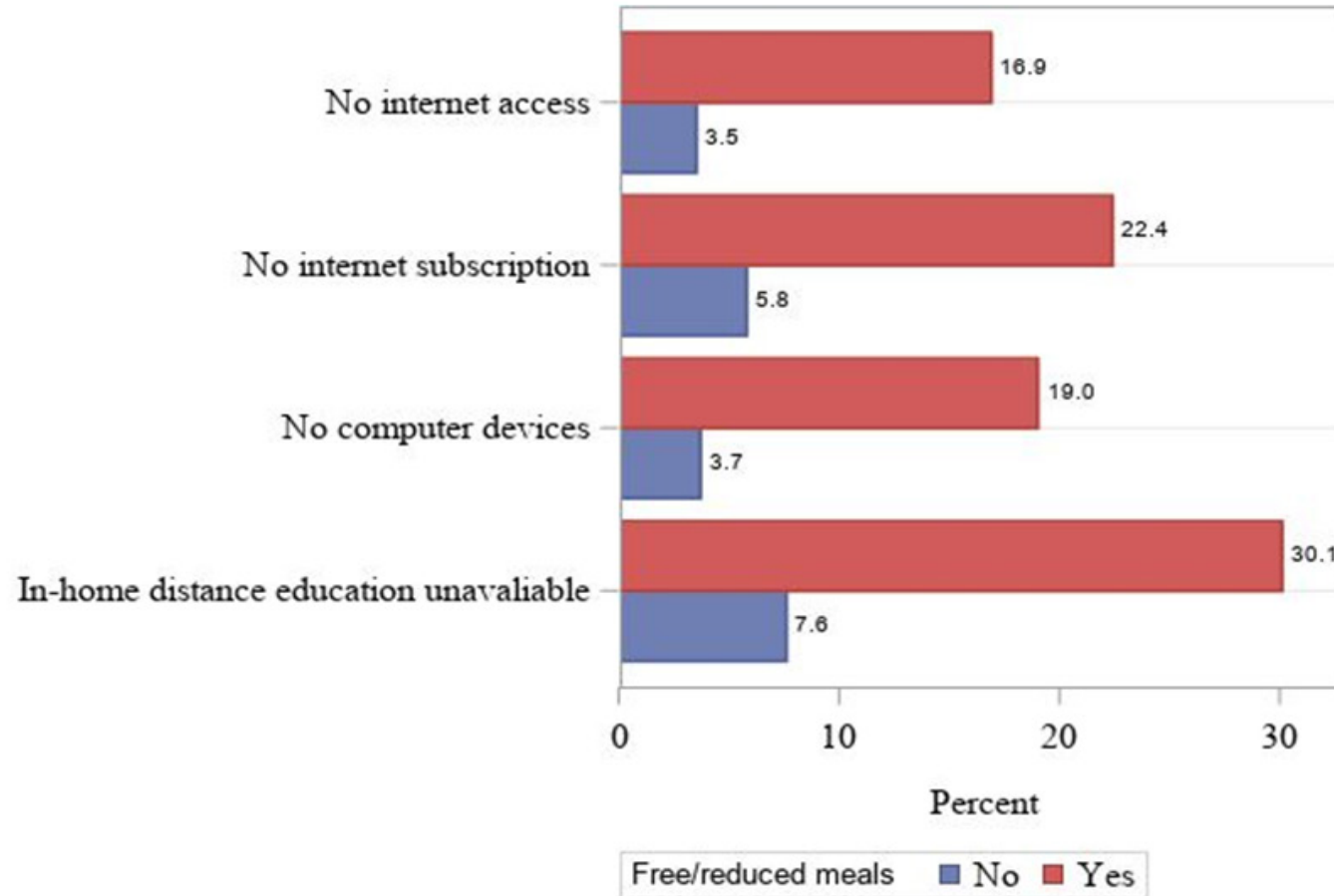
### Percent of students in households below 185% federal poverty line



Population: U.S. PreK-12 students (N = 51.3 million)  
Source: 5-Year American Community Survey (2014-2018)

# Measures vary across states

**Comparison between students with and without free/reduced meals in distance-education-related measures**



# Summary

- 8.6 million students unable to participate in remote education
- Pandemic exacerbates income-based disparities in education
- Measures vary across states

# Conclusion

- The United States is not prepared for a long-time school closure.
- We are not ready for distance learning: 6.5 million students live in households without internet subscription and 5 million students have no computer devices at home.
- We are not ready to solve childcare issues for families with working parents: 26.7 million students were under 12 year old and cannot be left home alone.

# Policy implications

- Distance learning
  - Provide students and families with computer and internet
- Students qualified for free-reduced-price meal plan
- Childcare
- A great variance in distance-education-related measures across states
  - Each state, or maybe each school district, should make its own decision on how to implement education