

Healthy Schools, Healthy Society

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Funding sources:

National Institutes of Health

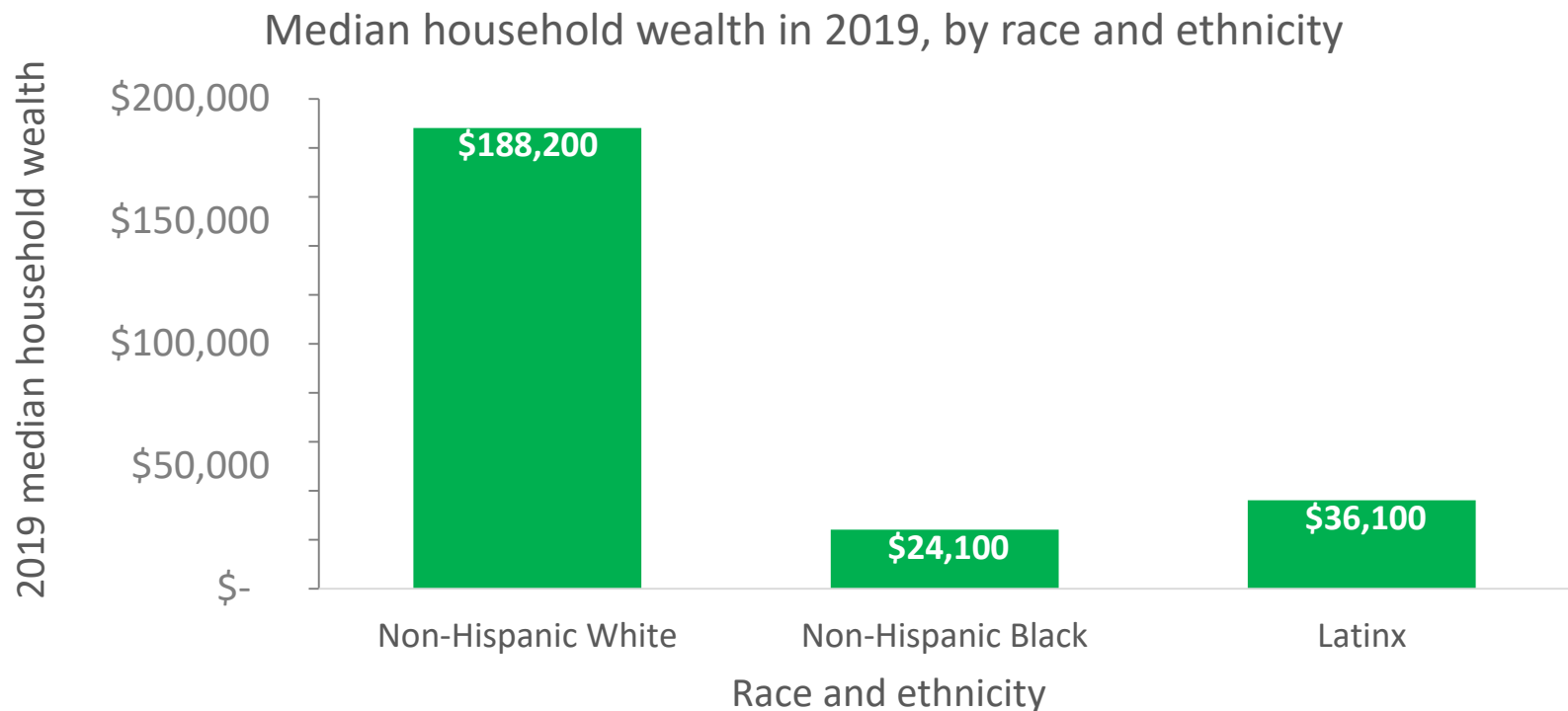
Robert Wood Johnson Foundation

No additional consulting

Disasters and diseases

In a context of structural inequities, disasters and diseases exacerbate disparities

→ **Equitable policies can counter inequities**



Investing in schools

- Centers of community: Students, teachers, staff, families
- Future of society
- Equity and inclusion
- Healthy learning environments

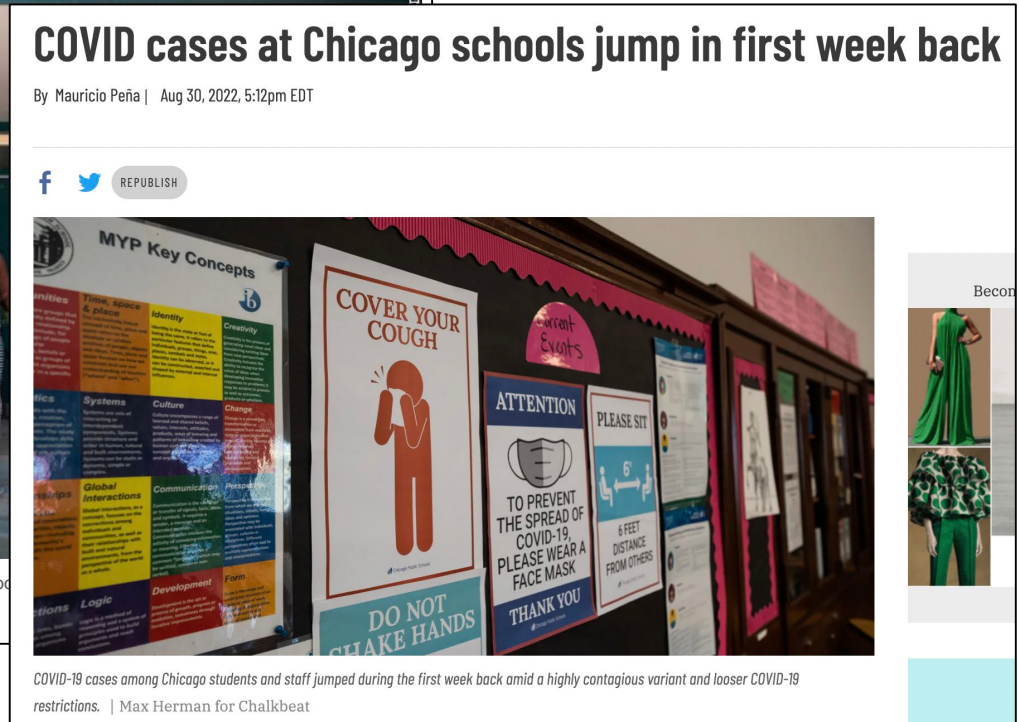
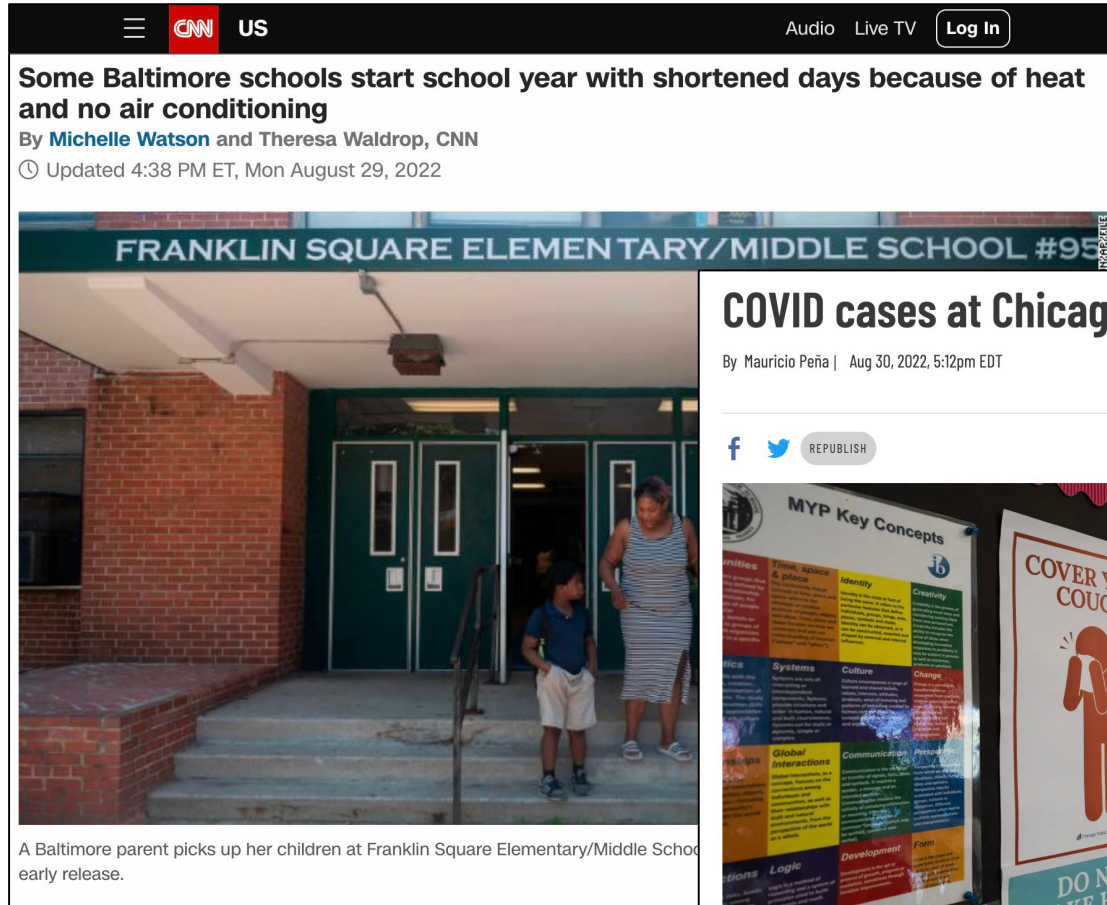


James Rojas. WBZ News Radio.

American Society of Civil Engineers school infrastructure report card: D+

- 53% of public school districts need to update or replace multiple building systems, including HVAC systems
- The best estimates indicate a minimum of \$38B annual funding gap for public school facilities across the country.

Poor infrastructure affects health, education



Watson and Waldrop. Some Baltimore schools start school year with shortened days because of heat and no air conditioning. *CNN*.
Peña. COVID cases at Chicago schools jump in first week back. *Chalkbeat*.

New opportunities in the Inflation Reduction Act

- \$3B for community-led projects
- Greenhouse Gas Reduction Fund: \$27B to create National Green Bank with competitive rates for infrastructure investments – including in schools
 - Supports states and cities in developing own Green Banks for infrastructure lending
 - \$7B for low-income communities can go to schools
 - \$8 billion to eligible institutions that provide financial assistance—in the form of direct investments and financing—to clean energy projects that benefit disadvantaged communities
- \$50M for schools in low-income and disadvantaged communities
- Much less than \$38B/year ASCE estimates needed for schools

Action plan

1. Conduct demonstration projects in lowest resourced schools
2. Transparency and accountability of funding
 - Investments in minority-owned businesses are key
3. Immediately in the interim: HEPA filters/Corsi-Rosenthal boxes in every classroom
4. Strengthen state capacity to provide financing (Green Banks) and technical assistance on school infrastructure projects

Pitfall to avoid: Improving energy efficiency in ways that reduce indoor air quality. Focus on joint maximization.

Need for further investment: Green New Deal for Public Schools

- \$1.4T in funding over 10 years
 - \$446B in Climate Capital Facilities Grants
- Creates Office of Sustainable Schools in Dept of Education

“We need to center our children and their future. The Green New Deal for Public Schools represents the level of school infrastructure investment that is urgent and necessary to heal the harm from decades of disinvestment, redlining and cycles of poverty and trauma, particularly for Black and brown children.”

— Rep. Jamaal Bowman

Need for layered mitigation for health

Ventilation is one layer. Each layer is important. No single layer is sufficient to control COVID on own.

1. Vaccine and booster delivery, requirements
2. Data-driven universal masking
3. Routine testing
4. Ventilation and filtration

Equity and inclusion
mean increasing these standards for individuals and populations with additional risk

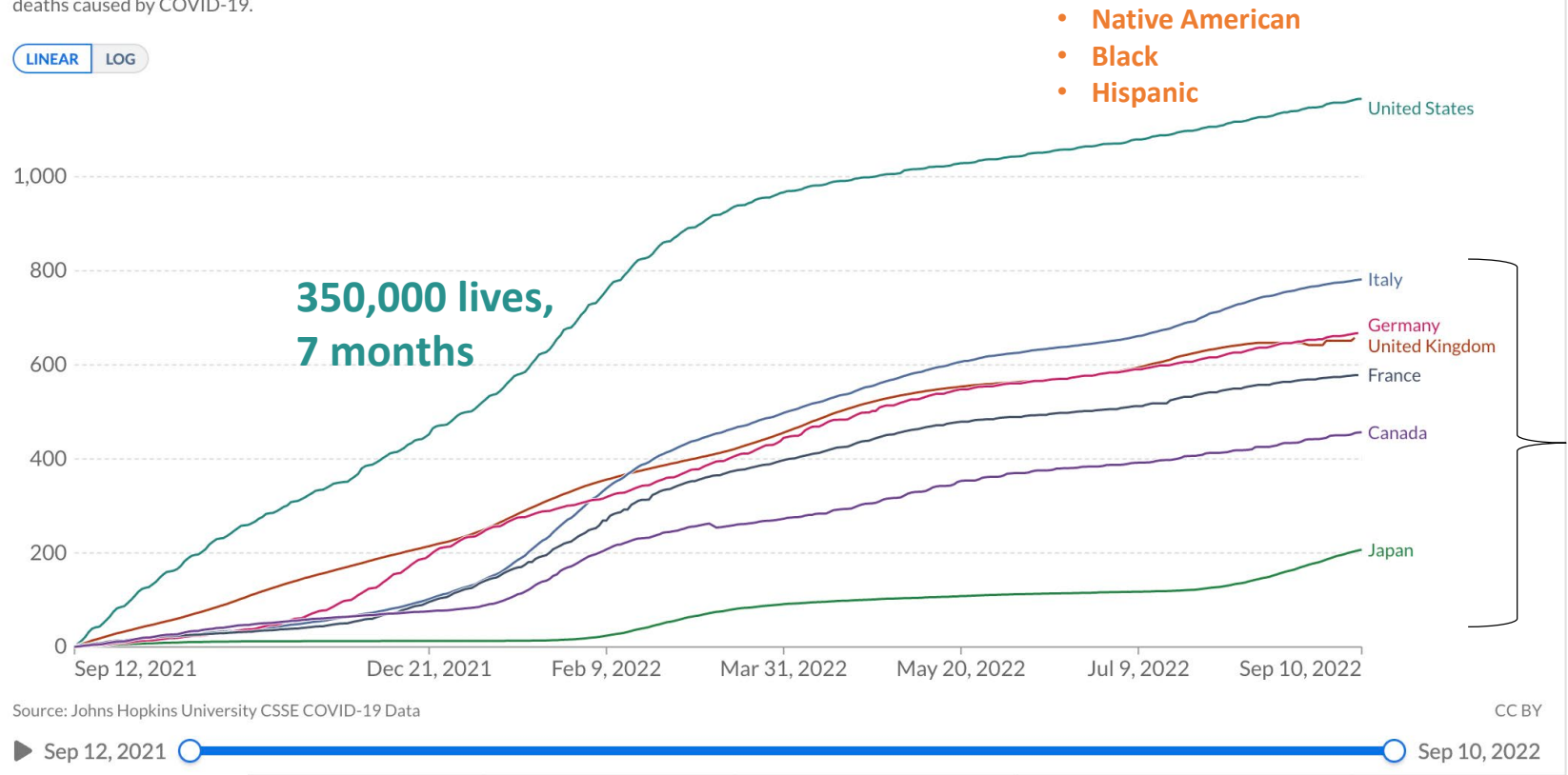
Aspire to better:

Cumulative COVID deaths in the past 12 months, by G7 country

Cumulative confirmed COVID-19 deaths per million people in the last 12 months

Due to varying protocols and challenges in the attribution of the cause of death, the number of confirmed deaths may not accurately represent the true number of deaths caused by COVID-19.

Our World
in Data



264,000 kids left behind



 Courtesy Tina Miller

An undated photo of Ameer and Jeff Hager's four children at the beach.



Kindelan and Shapiro. (2021). Kids who lost parents to COVID-19 describe 'emptiness' they feel this holiday season. ABC News.
<https://abcnews.go.com/GMA/News/kids-lost-parents-covid-19-describe-emptiness-feel/story?id=81448265>

Hillis, S. D., Unwin, H. J. T., Chen, Y., Cluver, L., Sherr, L., Goldman, P. S., ... & Flaxman, S. (2021). Global minimum estimates of children affected by COVID-19-associated orphanhood and deaths of caregivers: a modelling study. *The Lancet*, 398(10298), 391-402.
https://imperialcollegelondon.github.io/orphanhood_calculator/#/country/United%20States%20of%20America

COVID was #1 leading cause of death for people aged 45 to 54 in 2021

65° WATCH

NEWS WEATHER VIDEO 2 INVESTIGATES SPORTS UGA BULLDOGS COMMUNITY ELECTION 2022 HOME EXPERTS STEALS AND DEALS

ATLANTA

More than 60 Georgia teachers, staff lost to COVID-19 since July 2021

By Allie Goolrick, WSBTV.com
February 20, 2022 at 1:44 pm EST



(Family photos)

Shiels, M. S., Haque, A. T., de González, A. B., & Freedman, N. D. (2022). Leading causes of death in the US during the COVID-19 pandemic, March 2020 to October 2021. *JAMA Internal Medicine*, 182(8), 883-886

Goolrick, A. (2022). More than 60 Georgia Teachers, Staff lost to COVID-19 since July 2021.
<https://www.wsbtv.com/news/local/atlanta/60-georgia-teachers-staff-lost-covid-19-since-start-school-year/SFURXQOXAJH25E3VGVZGTEU3HI/>

Population & policy approach

Individual approach: Preventive strategy seeks to identify high-risk susceptible individuals and offer individual protection

Population approach: Seeks to control the determinants of incidence in the population as a whole

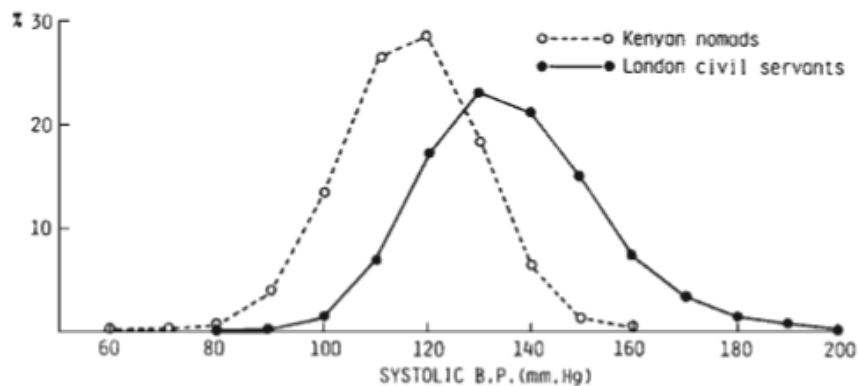
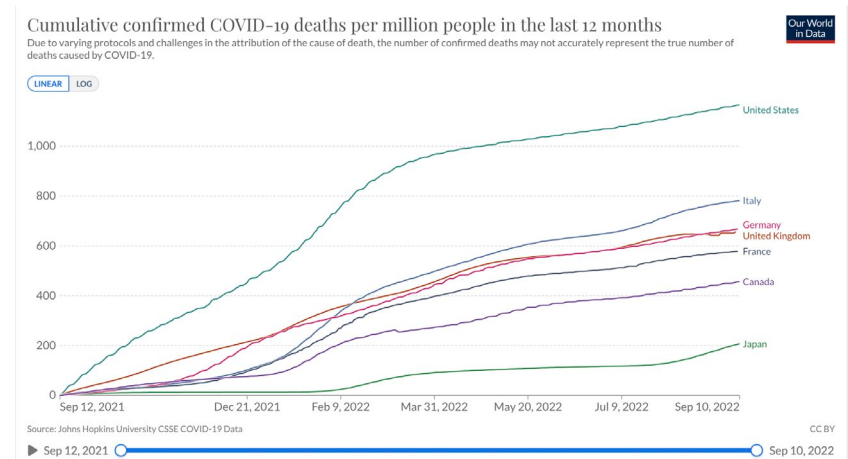


Figure 2 Distributions of systolic blood pressure in middle-aged men in two populations^{2,3}



Clean indoor air as public good: Need for leadership

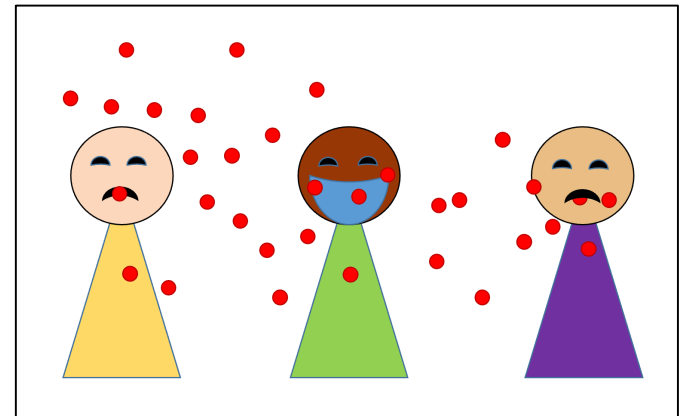
The tragedy of the [unmanaged] commons

- The sum of rational individual-level decisions can ruin a society
- We are in society together. Vaccinated and unvaccinated. Young and old. With risk factors or not yet.

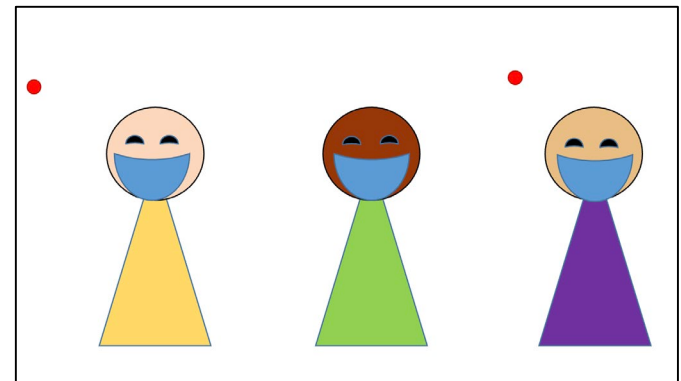


Hardin, G. (1968). The tragedy of the commons: the population problem has no technical solution; it requires a fundamental extension in morality. *science*, 162(3859), 1243-1248.

Little mitigation, much COVID

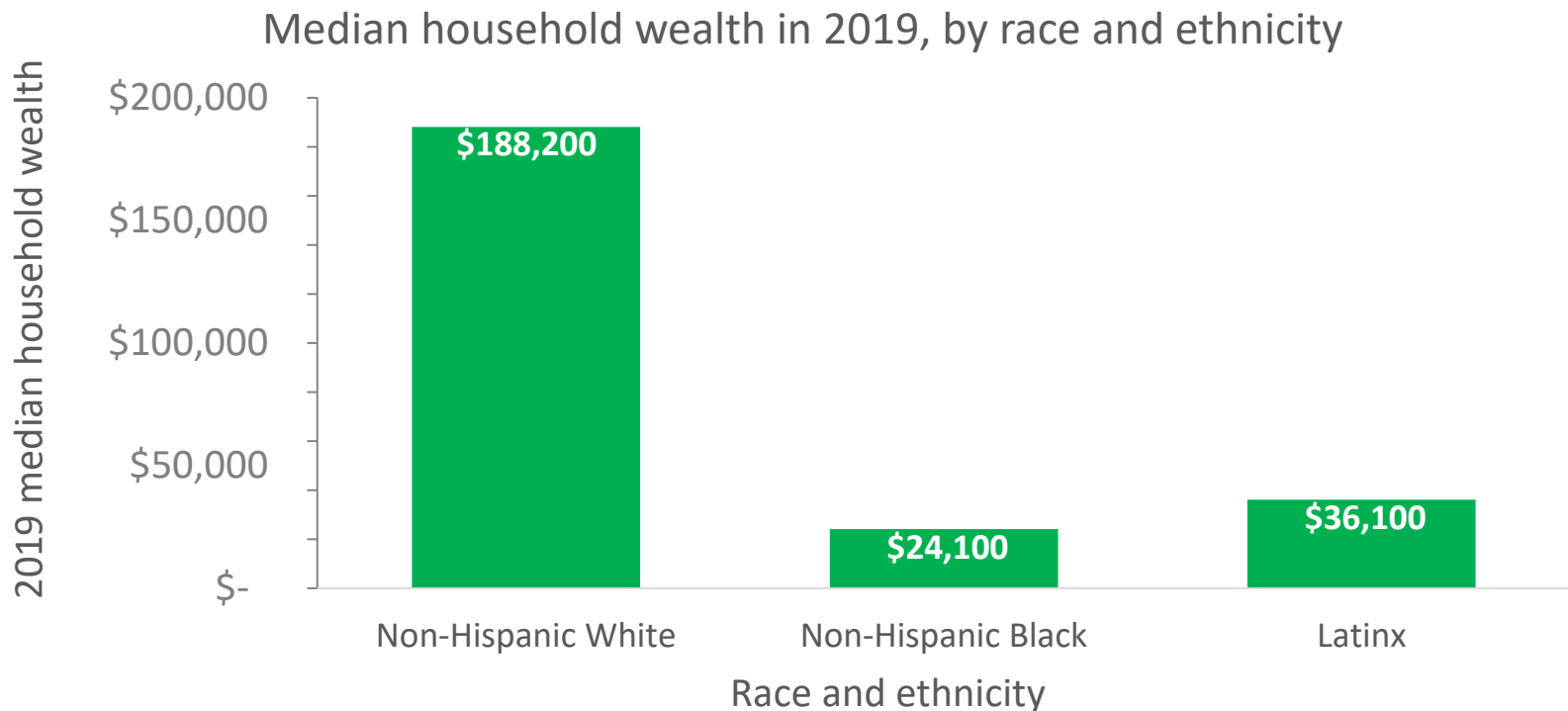


Layered mitigation, clean air



We inform what is possible

- Invest in communities perpetually hit hardest by COVID and other challenges: Demonstration projects
- If there are new variants, speak to the evidence on layered mitigation. 350,000 more families (or worse) may hang in the balance. Don't wait until the surge has happened to learn whether it was not mild, there are 3x child deaths, etc.



Thank you

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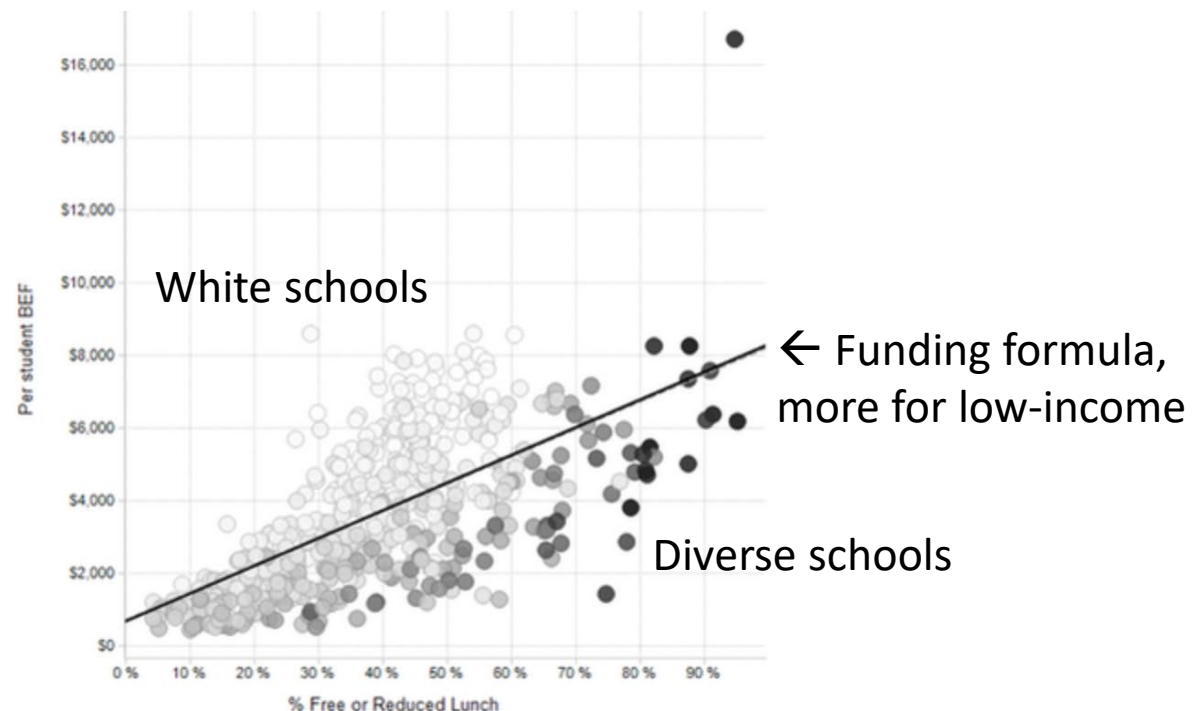
Acknowledgements:

Elise Pechter, Nancy Lessin, David Backer, and Jon Levy

Appendix

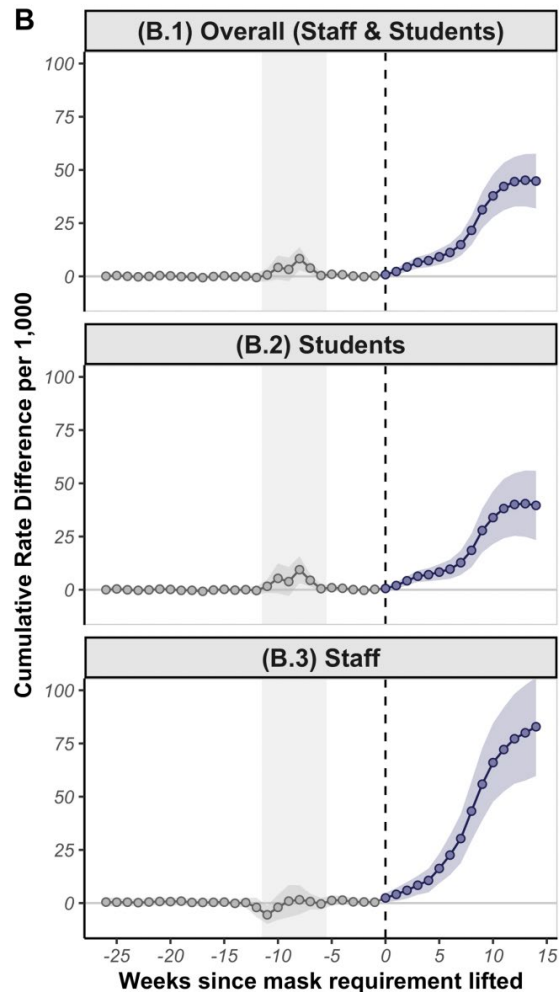
Structural inequities: Schools

District Funding, by Racial Composition and Poverty Level (Pennsylvania)



Black dots represent districts with no white students and white represents districts with 100 percent white students. (David Mosenkis)

Lifting mask mandates and spread of COVID in schools (pre-print under review)



- Nearly 12,000 additional cases in 15 weeks, a 30% increase
- Disruption: More than 20,000 absences

Cowger, T. L., Clarke, J., Murray, E. J., Sánchez, S. M., Bassett, M. T., Ojikutu, B. O., ... & Hall, K. T. (2022). Impact of Lifting School Masking Requirements on Incidence of COVID-19 among Staff and Students in Greater-Boston Area School Districts: A Difference-in-Differences Analysis. *medRxiv*.