



Using MEPS 2.0 to Consistently Measure School-Level Student Poverty Rates over Time

Housekeeping

- The event is being recorded, and the recording will be posted online afterward.
- Speaker biographies and related materials are available online.
- All participants are muted, but you can type your questions or comments into the Q&A box at any time. We will have a Q&A segment at the end of the session.
- You can hide captions or adjust settings with the Live Transcript button.

Agenda

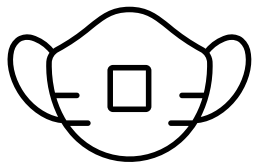
- MEPS 2.0 Update
- MEPS 2.0: Use Cases
 - School-Level Spending
 - School-Level Mental Health Professionals
- Accessing MEPS 2.0
- Q&A

MEPS 2.0 Update

Why Model Estimates of Poverty in Schools?



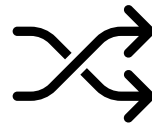
Community Eligibility Provision (CEP)



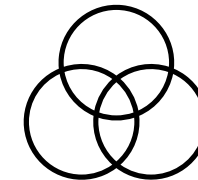
Worsened by pandemic and two years of universal free meals



Accuracy and reliability of the **free and reduced-price lunch (FRPL)** measure

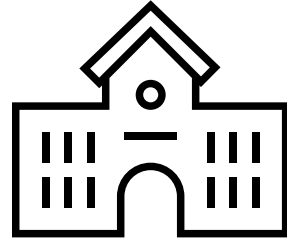


States have reported a mix of **FRPL** and **direct certification (DC)** since 2016

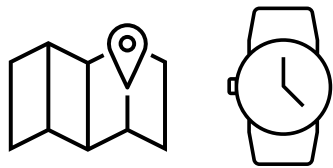


FRPL and DC assess eligibility at different poverty thresholds and for different populations

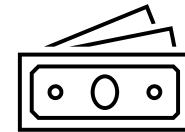
What is MEPS 2.0?



A school-level measure of the share of students from households earning up to **100% of the federal poverty level** that is comparable across states and time



An **estimate** of school poverty
Use in research on cross-state or national
analyses or longitudinal within-state
analyses



It should **not** be used to allocate
resources within a state or
district

How does MEPS use FL and DC?

States in Free Lunch Model	States in Direct Certification Model
90 percent of districts report free lunch data for at least 90 percent of students	90 percent of districts report direct certification data for at least 90 percent of students

Number of States Used in Each Model, by Year

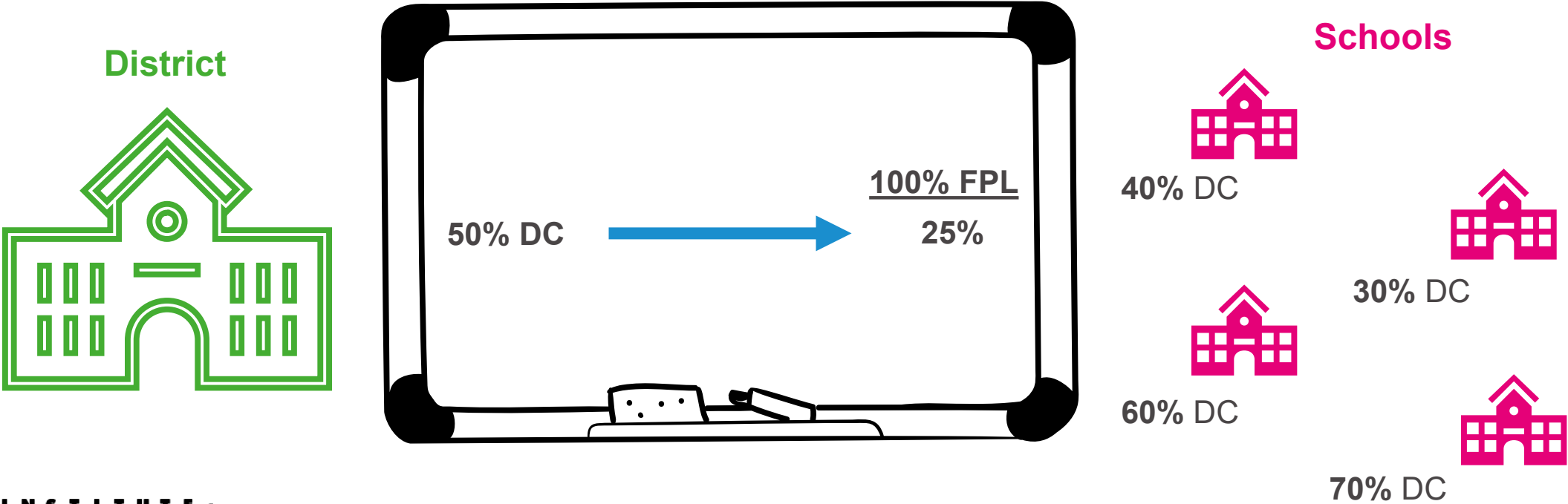
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Direct cert.	N/A	N/A	N/A	N/A	N/A	N/A	20	31	25	31	29	28	30	30
Free lunch	51	51	51	51	51	51	51	47	46	45	45	44	45	45

Source: Urban Institute analysis of Model Estimates of Poverty in Schools data.

Notes: N/A = not applicable. This table shows the number of states with available data for the free lunch and direct certification models for each year. Several states that report sufficient free lunch and direct certification data (90 percent of districts for 90 percent of students) are included in both models. For an example of which states are included in each model for 2022, see table 4.

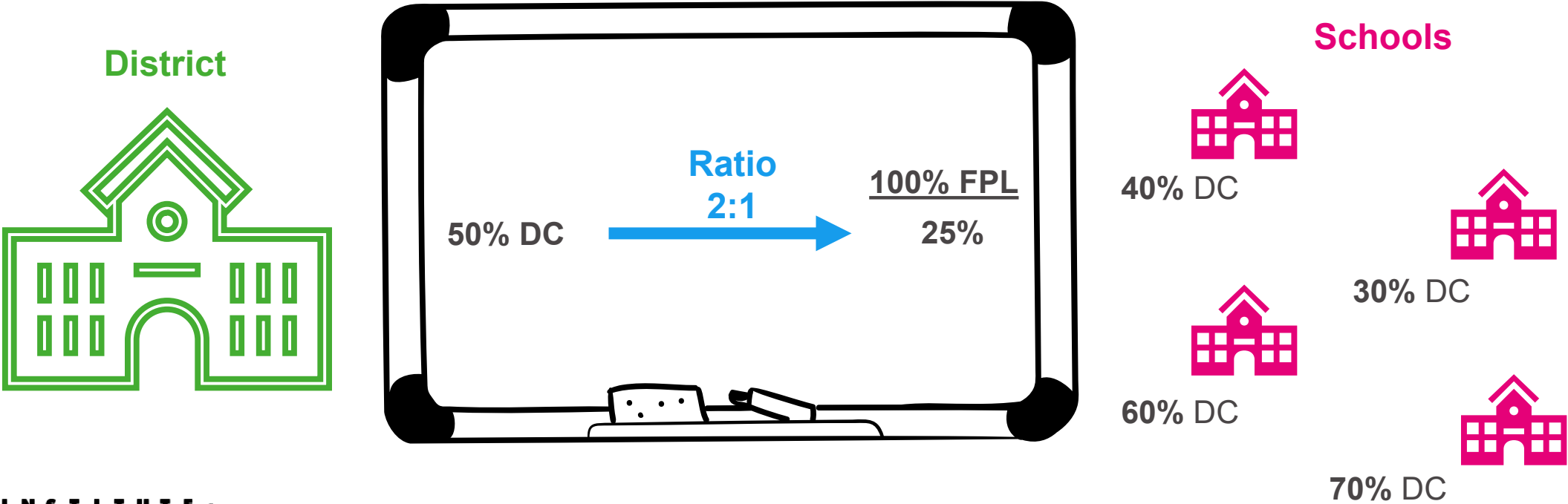
MEPS 2.0 Methodology

- Linear Mixed Effects Model
 - identify district-level relationships between the share of **free lunch/directly certified** students and students living at or below 100% of the federal poverty line



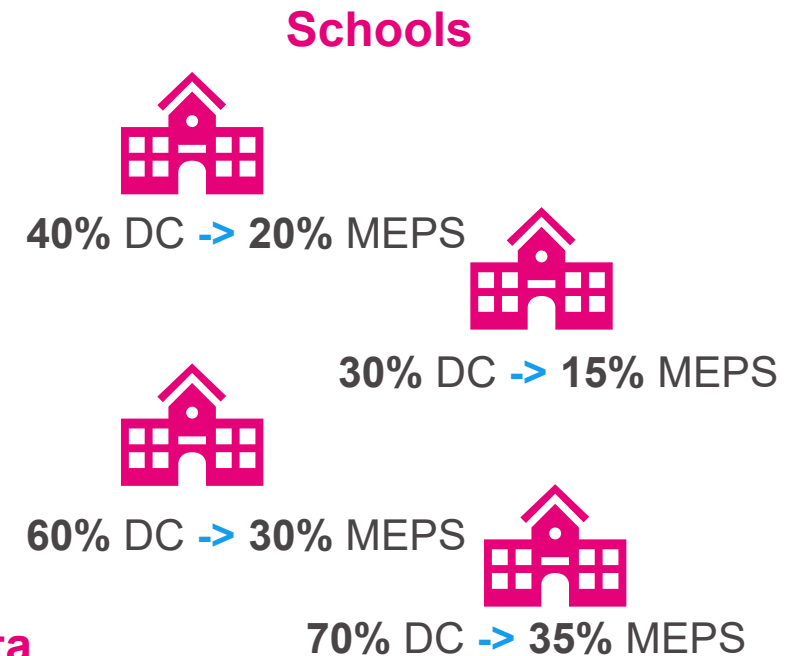
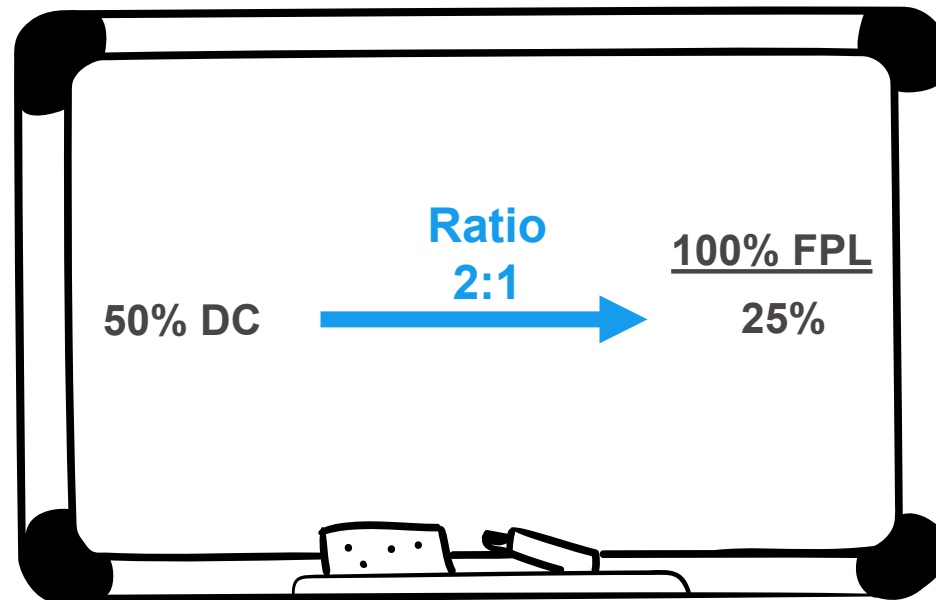
MEPS 2.0 Methodology

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MEPS 2.0 Methodology

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Use that relationship to predict school-level data

Which schools have MEPS 2.0?

Open, nonvirtual schools serving grades K–12 in all 50 states plus Washington, DC, with data on free lunch or direct certification students

Share of Districts and Schools Used to Estimate School-Level Poverty and for Which MEPS 2.0 Are Estimated

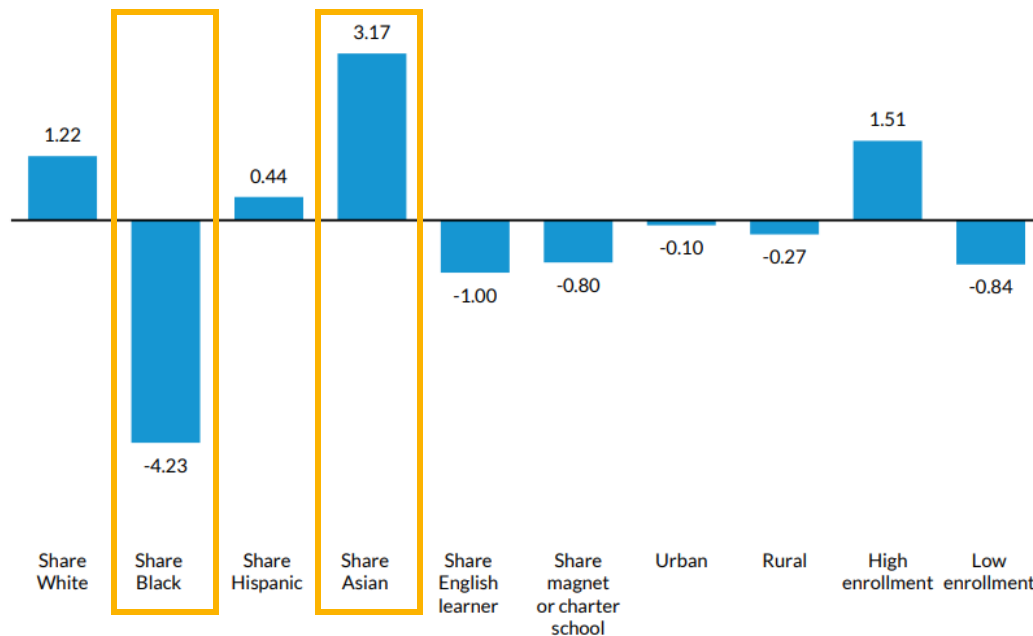
	Free Lunch		Direct Certification		Schools with MEPS 2.0
	Districts	Schools	Districts	Schools	
2009	99.8%	96.9%	N/A	N/A	96.8%
2010	99.8%	98.0%	N/A	N/A	97.6%
2011	99.8%	98.2%	N/A	N/A	97.5%
2012	99.8%	98.5%	N/A	N/A	98.0%
2013	99.8%	98.6%	N/A	N/A	98.2%
2014	99.8%	98.4%	N/A	N/A	97.8%
2015	99.8%	98.5%	28.7%	35.7%	98.0%
2016	96.3%	94.7%	45.6%	51.9%	98.5%
2017	95.9%	93.9%	29.4%	34.1%	98.5%
2018	92.0%	91.5%	46.8%	52.3%	97.9%
2019	92.0%	91.6%	43.8%	47.9%	98.0%
2020	88.9%	90.5%	41.0%	44.8%	97.5%
2021	91.9%	91.4%	46.7%	50.2%	97.6%
2022	91.9%	91.4%	44.2%	48.2%	97.5%

Source: Urban Institute analysis of MEPS 2.0 data.

Notes: MEPS = Model Estimates of Poverty in Schools. Direct certification data become available in 2015. Schools missing MEPS 2.0 are missing underlying school-level inputs we use in the model. The share of schools with MEPS 2.0 is lower than the share of schools used to predict MEPS 2.0 because of adjustments that rely on the availability of enrollment data.

When could MEPS 2.0 be biased?

Estimated Bias, by Race, Ethnicity, English Learner Status, Geography, and Enrollment



MEPS slightly:

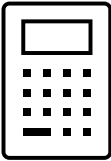
- Underestimates in schools serving high shares of Black students
- Overestimates in schools serving high shares of Asian students

URBAN INSTITUTE

Source: Urban Institute analysis of Model Estimates of Poverty in Schools data.

Notes: All shares range from 0 to 100 percent. We obtained the point estimates here using bivariate regressions where the reference category is either having no students of the given demographic or not having the given characteristic.

Modified MEPS 2.0 to account for bias



mathematically align schools' MEPS 2.0 to equal the SAIPE poverty measure

Districts where aggregated MEPS is < SAIPE
allocate additional modeled students living in poverty to each school until match SAIPE



districts where aggregated MEPS is > SAIPE
incrementally remove modeled students living in poverty to each school until we match SAIPE

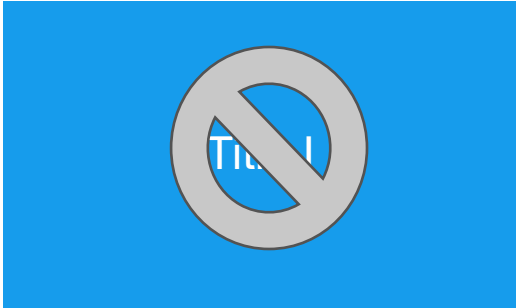
How MEPS 2.0 different from MEPS 1.0?

Common Core of Data
via Education Data
Portal

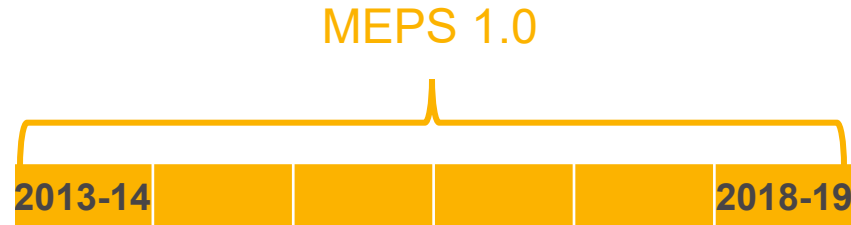
Statistical Area Income
Poverty Estimates
(SAIPE)

American Community
Survey –
Public Use Microdata
Area
(ACS PUMA)

Geographic LEAIDs



Is it different in other ways?



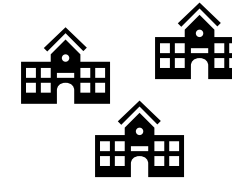
- During our efforts to improve MEPS 1.0, we identified:
 - a coding error that meant state fixed effects were not properly applied
 - a specification error in the variance covariance matrix.
- MEPS 1.0 are correlated at least 0.95 with MEPS 2.0. This is the case both nationwide, except for West Virginia.
 - West Virginia schools had incorrectly reported free lunch data as “zeros.”
 - Model misspecification had a bigger impact on the estimated standard errors, which are only correlated about 0.70 with MEPS 2.0 standard errors.

When to use what and how:

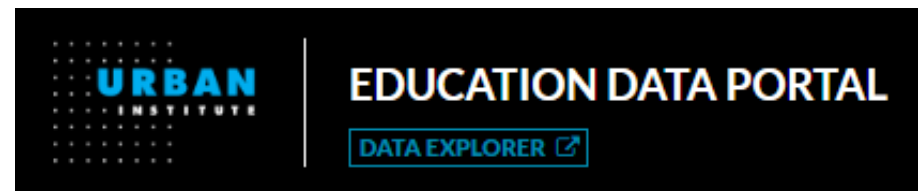
Context matters: Circumstances where SAIPE is



more reliable (e.g., restricted to large settings)
Modified MEPS 2.0



less reliable (e.g., includes small settings)
Original MEPS 2.0



Original MEPS 2.0
Standard Errors
Annual, Weighted Percentiles

Modified MEPS 2.0
Annual, Weighted Percentiles



**MEPS 2.0 Use Case:
School-Level Funding**

MEPS Application: School-Level Spending

- By combining MEPS data with federal data on school-level expenditures, we can gain a better understanding of changes in expenditures for low-income students before and after the pandemic.
- Three federal K12 funding allocations, largely distributed using the Title I formula:
 - **Coronavirus Aid, Relief, and Economic Security Act (CARES) Act:** Authorized \$13.2 billion, committed for spending until September 30, 2022.
 - **Coronavirus Response and Relief Supplemental Appropriations Act (CRRSA):** Authorized \$54.3 billion, committed for spending until September 30, 2023.
 - **American Rescue Plan (ARP) Act:** Authorized \$122 billion (with some funding conditional on submitting a spending plan), committed for spending until September 30, 2024.*

*some states and territories received extensions that allow them to spend some ARP funding out to March 30, 2026

Prepublication: subject to change.

Why MEPS 2.0?

- Allows for the development of consistent estimates of school-level spending for students from low-income families for nearly all states

Number of States with Available Data on Low-Income Students

At least 80 percent of schools in our sample have available data within the state and year

	States In Sample	DC	FRPL	MEPS 2.0	Modified MEPS 2.0
2018	49	22	38	49	49
2020	50	27	38	50	50
2021	49	26	38	49	48

Source: Urban Institute analysis.

Notes: DC= Direct certification. FRPL= Free and reduced price lunch. MEPS=Model estimates of poverty in schools. "States in sample" refer to states that have available school-level funding data in the given year.

Prepublication: subject to change.

District-Level ESSER Spending Affects Student Outcomes

- An additional \$1,000 in federal revenue per pupil is associated with moderate **increases in math scores** of 0.007-0.009 standard deviations and **in reading scores** of 0.002-0.005 standard deviations (Dewey et al. 2024, Goldhaber and Falken 2025).
- Moving toward spending adequacy (spending that fully meets student need) in the pandemic is associated with **reduced time spent in virtual instruction** (Weber and Baker 2025).
- HVAC upgrades during the pandemic led to **increases in test scores and a reduction in student absences** (Persico and Fuller 2025).

Prepublication: subject to change.

Our Approach

- NERD\$ data, published by the Edunomics Lab at Georgetown University
 - A compilation of school-level per-pupil spending data.
 - Publication of these data are required under the Every Student Succeeds Act.
- Common Core data on the number of full-time equivalent (FTE) teachers at each school, to build a teacher-student ratio.

Prepublication: subject to change.

Our Approach

Washington School	Adams School
Spending: \$11,000 per pupil 20 students from low-income families, 80 students from higher-income families	Spending: \$12,000 per pupil 50 students from low-income families, 50 students from higher-income families

In this case, the exposure-based spending ratio would be calculated as:

$$\frac{(\$11,000 * 20) + (\$12,000 * 50)}{70} \div \frac{(\$11,000 * 80) + (\$12,000 * 50)}{130}$$

Thus, the values would produce the following ratio:

$$\$11,714 / \$11,384 = 1.03$$

A value above 1.00 indicates relatively more funding for students from low-income families; in this case, students from low-income families receive, on average, 3 percent more than students from higher-income families.

Overview of Spending

- Even after accounting for inflation, typical school-level spending increased by about \$500-600 per student from 2018-19 to 2020-21, and by around \$400 from 2020-21 to 2021-22.
- The number of teachers per student also increased from 2018-19 to 2020-21.

Average Per-Student Spending and Teachers Per Student Over Time

Resources Per Student Increased at the School Level After the Start of the Pandemic

Year	NERD\$-Adjusted Funding (2021 Dollars)	Raw Funding (2021 Dollars)	Teacher-Student Ratio (Per 100 Students)
2018-19	\$14,956	\$14,155	6.26
2019-20			
2020-21	\$15,504	\$14,793	6.50
2021-22		\$15,188	6.50

Source: Urban Institute analysis of NERD\$, MEPS, and Common Core data.

Notes: Schools are included if they meet sample criteria, even if they don't report in all three years of data. Analysis is weighted by school-level enrollment. Dollars are adjusted for local labor costs.

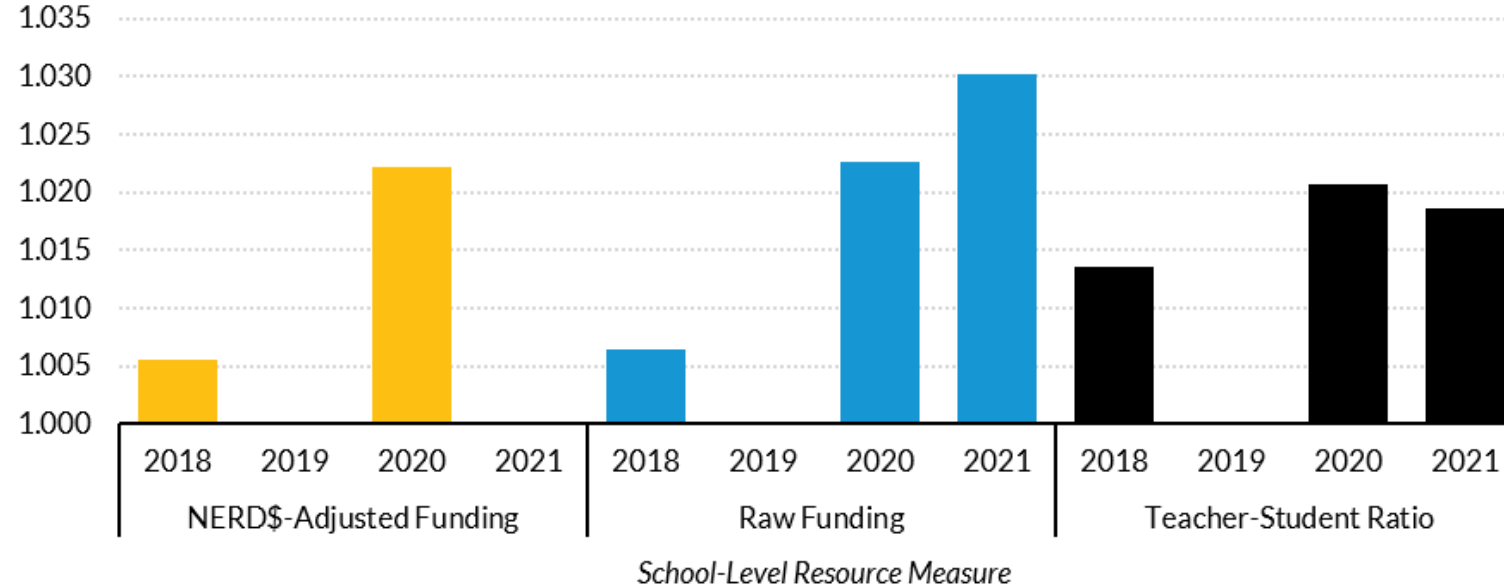
Prepublication: subject to change.

Changes in School-Level Progressivity

National Estimate of School-Level Expenditure Progressivity

For Years 2018-19, 2020-21, and 2021-22

Allocation Towards Students From Low-Income Households



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Source: Urban Institute analysis of NERD\$, MEPS, and CCD data.

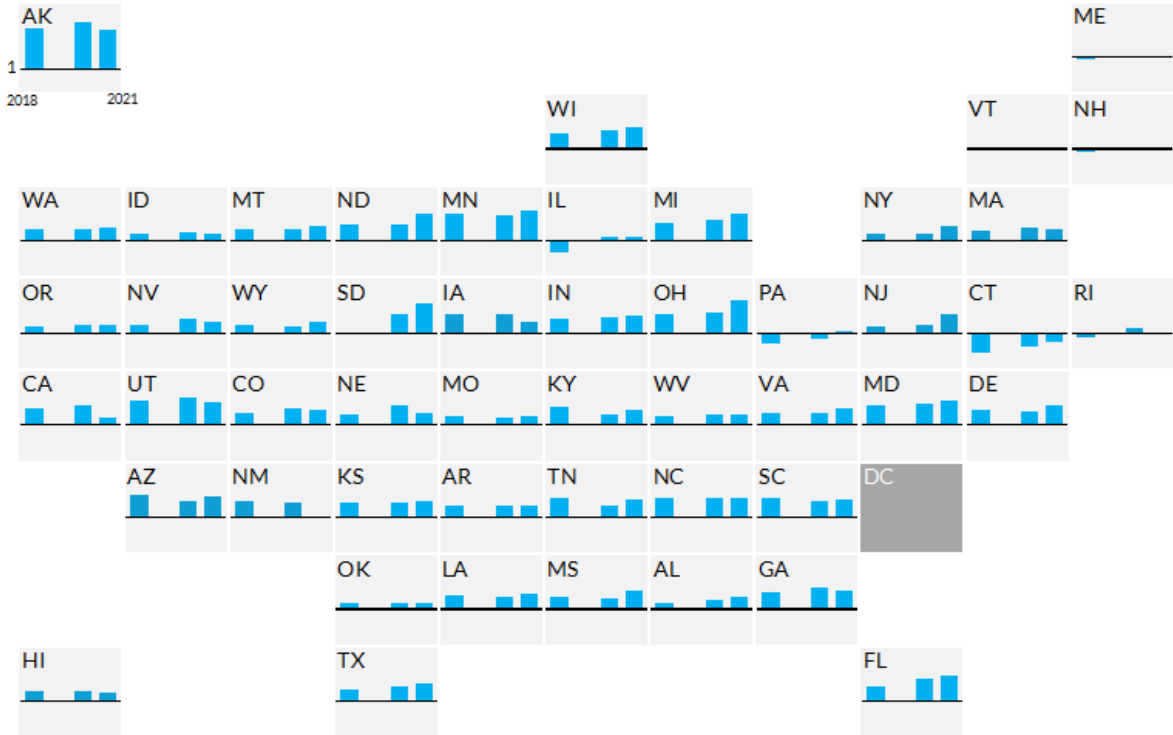
Notes: Allocation can be interpreted as a percentage difference, such that a value of 1.01 means that students from low-income households receive 1 percent more spending, or FTE teachers per student population, than students from higher-income households.

Prepublication: subject to change.

Results By State, School-Level Spending

School-Level Expenditure Progressivity by State

Using Raw School-Level Expenditure Data and MEPS Data on Students Below Poverty Threshold



Source: Urban Institute analysis of NERD\$ and MEPS data.

Notes: All states except Alaska have a progressivity scale from 0.90 to 1.15, where values above 1 indicate that school-level funding is weighted towards students from households below the federal poverty level. Alaska is on a scale from 0.90 to 1.30.

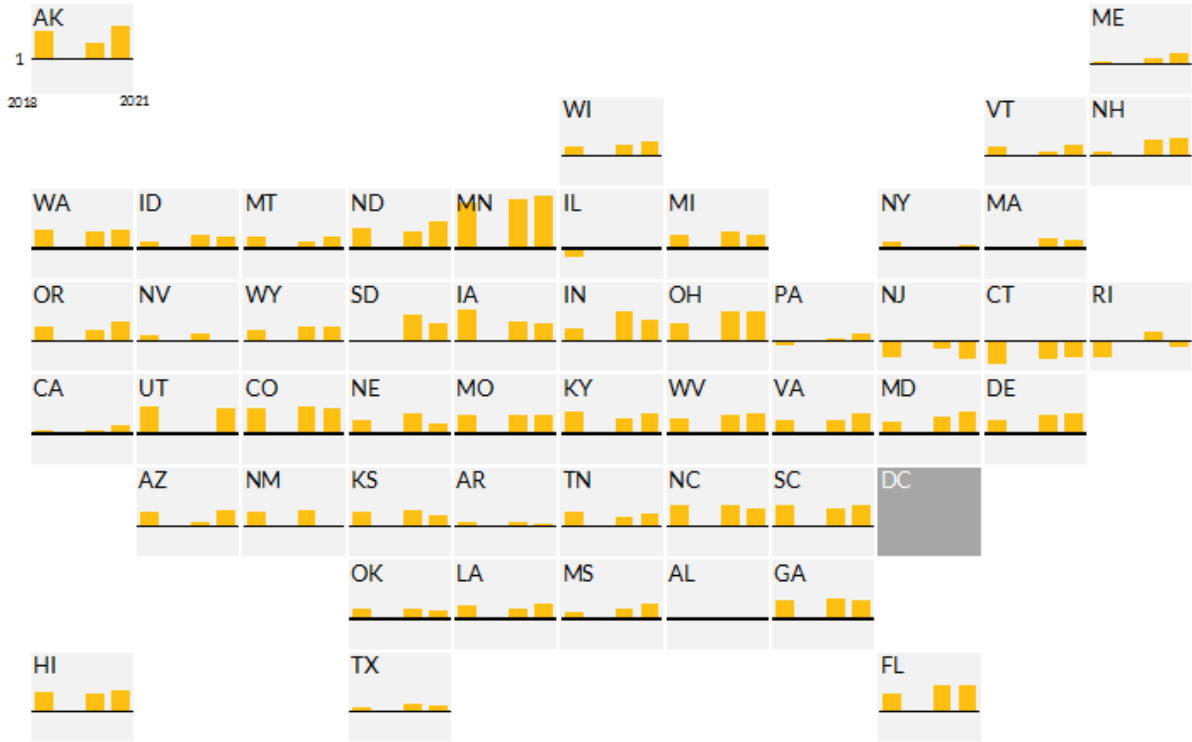
Data are not available for SD in the 2018-19 school year, and for NM in the 2021-22 school year.

Prepublication: subject to change.

Results By State, School-Level Teacher-Student Ratio

Teacher-Student Ratio Progressivity by State

Using School-Level Teacher/Student Enrollment Ratios and MEPS Data on Students Below Poverty Threshold



Source: Urban Institute analysis of CCD and MEPS data.

Notes: All states except Alaska have a progressivity scale from 0.95 to 1.10, where values above 1 indicate that school-level teacher-student ratio is weighted towards students from households below the federal poverty level. Alaska is on a scale from 0.90 to 1.15.

Prepublication: subject to change.

Further Questions

- School-level allocation of educational expenditures for low-income students **increased slightly after the pandemic**.
- The increase was on the order of **about 2.5 percentage points (about \$350) more in spending per low-income student** over two years. Several factors may have tempered our findings:
 - Federal dollars make up a relatively small percentage (13.7% in 2021-22) of K12 funding ([Cornman et al. 2024](#)).
 - The structure of school-level spending data make it difficult to fully account for dollars going to schools ([Blagg, Lafortune and Monarrez 2022](#)).
 - Just 26 percent of ESSER funding was allocated to specific schools, relative to spending on district-wide programs ([ED OIG](#)).
 - Districts with higher levels of student economic need have spent ESSER funding at a slower rate than districts with lower levels of need ([Roza and Silberstein 2023](#), [Lafortune et al 2023](#)).
 - Declines in enrollment were largely in districts which tend to have higher shares of students from higher-income households ([Bacher-Hick et al. 2024](#), [Francis and Goodman 2025](#)).

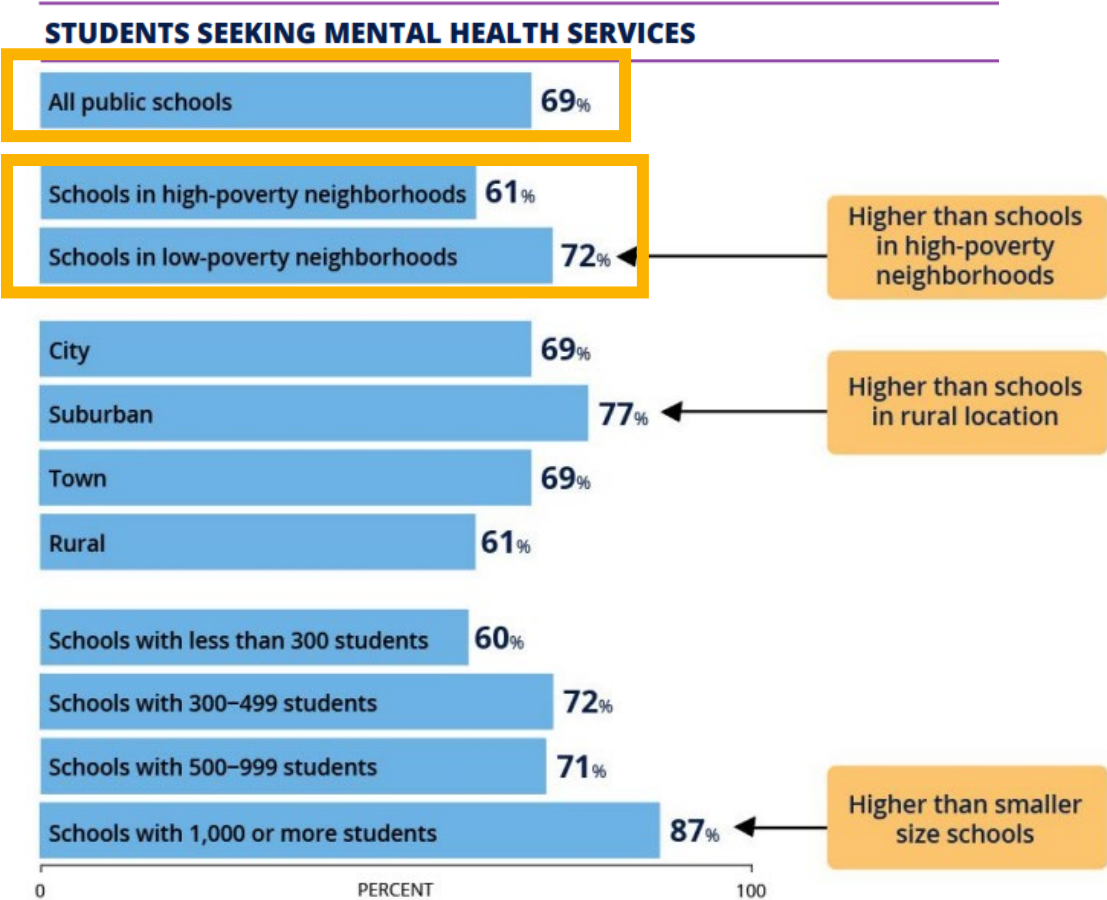
Prepublication: subject to change.



MEPS 2.0 Use Case: School Mental Health Resources

Student Mental Health Resources

More than **two-thirds** of public schools have reported an increase in students seeking mental health services



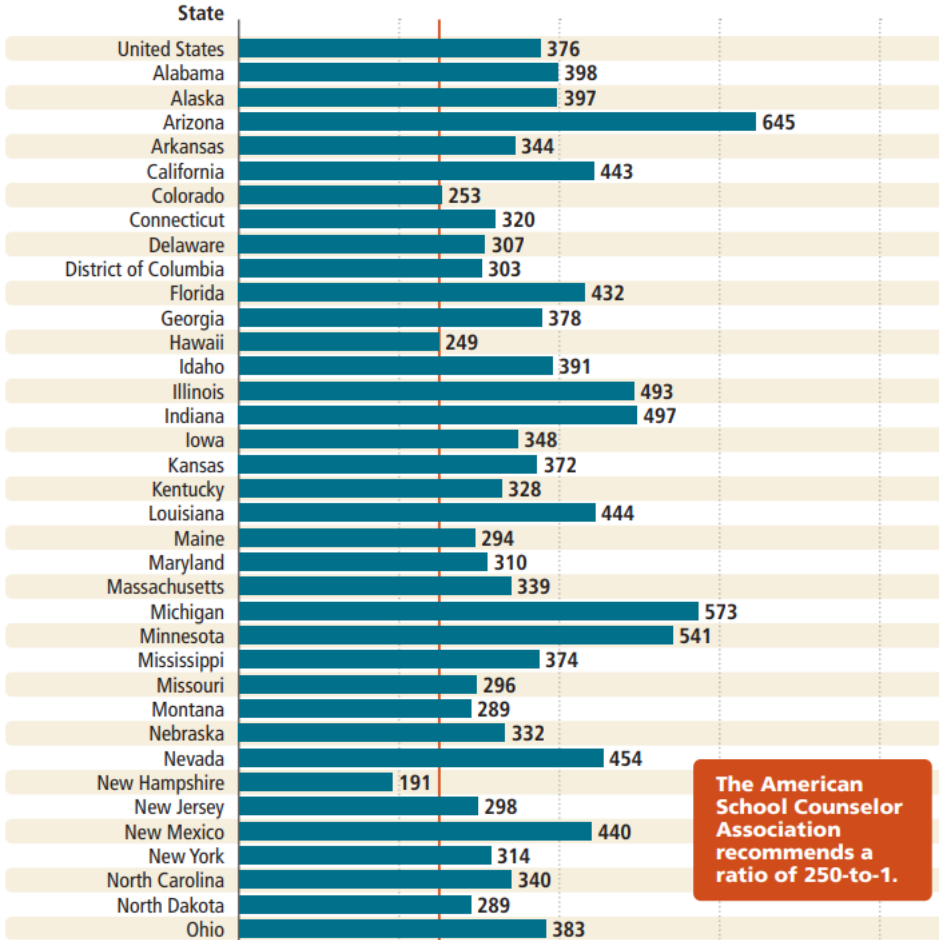
Source: IES analysis of 2022 School Pulse Panel Survey. Prepublication: subject to change.

The recommended counselor ratio is 250:1



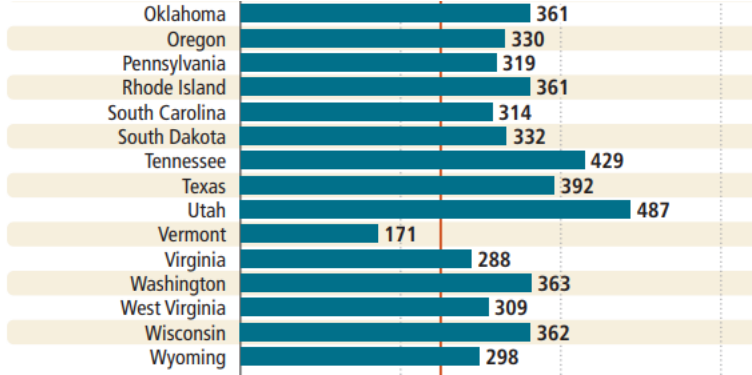
AMERICAN
SCHOOL
COUNSELOR
ASSOCIATION

Student-to-School-Counselor Ratio 2023–2024



The American School Counselor Association recommends a ratio of 250-to-1.

In 2024, the national ratio was **376:1**



Pennsylvania & Student Mental Health

BIGGEST CHALLENGES



For the third year in a row, the biggest challenges faced by school leaders continue to be student mental health needs, budget pressures and staffing shortages.

MENTAL HEALTH



More than 80% of school districts reported experiencing a scarcity of qualified mental health care providers, making it the biggest challenge in connecting students to the care they need.

Source: [2025 State of Education](#), Pennsylvania School Board Association

considered suicide, made a suicide plan, and attempted suicide, Oldham said. Yet ratios of school counselors to students trail recommendations, especially in low-wealth school districts.

“The American School Counselor Association recommends a student to school counselor ratio of 250-to-1,” Oldham said. “In Pennsylvania, the median ratio is 353-to-1. Half of all Pennsylvania school buildings have ratios higher than 350-to-1, with one of every 10 buildings having ratios of 500 or more students to a single school counselor.”

Source: [School Mental Health Testimony](#), Pennsylvania State Education Association.

Prepublication: subject to change.

PA and Student Mental Health Support

In 2022, created additional student mental health funding of \$100 million through the [Ready to Learn Block Grant](#)



\$100,000 to school districts
plus \$15 per student



\$70,000 to charters, Intermediate
Units, and Area Career and Technical
Centers

Money can be spent on

- providing training
- partnering with community providers
- expanding telehealth
- hiring

Using data from

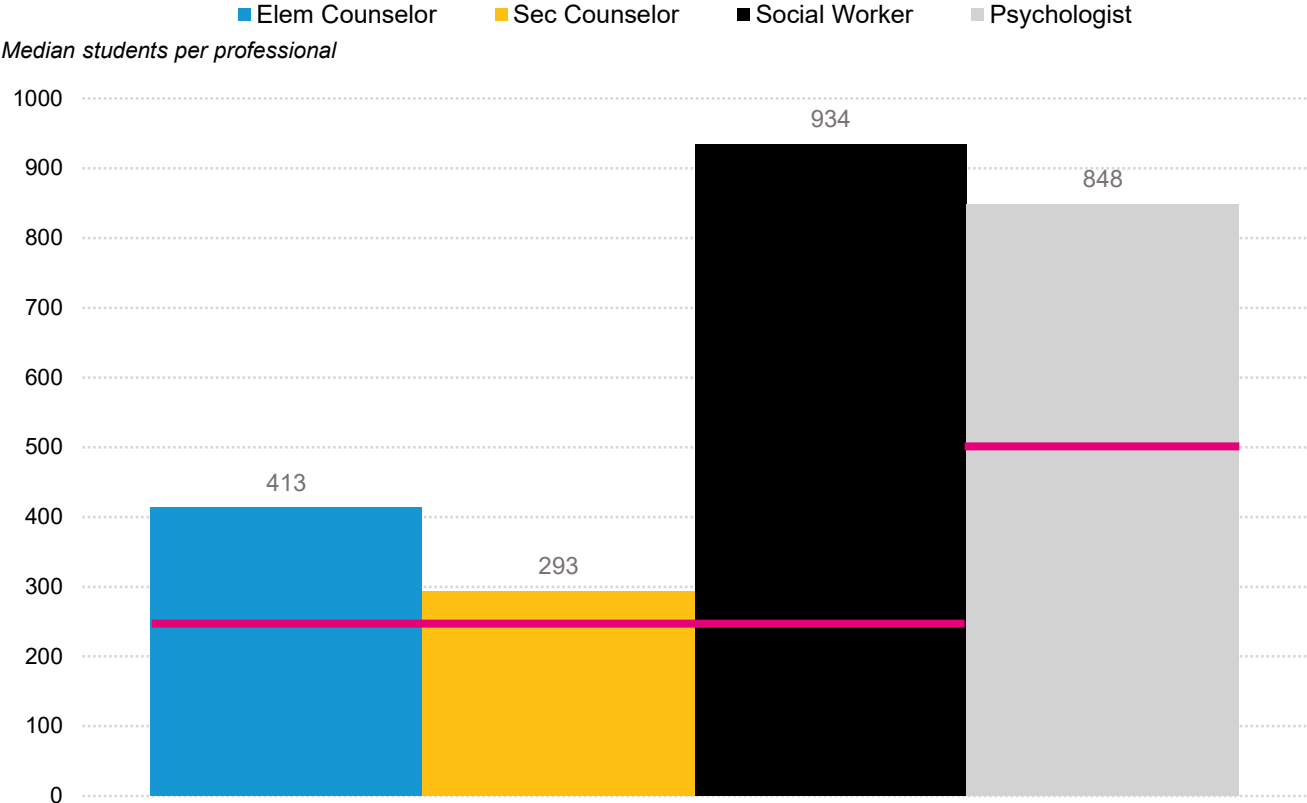
- Pennsylvania [Professional and Support Personnel Staff](#)
- Common Core of Data via the Education Data Portal
- MEPS 2.0

We answer

- Did schools serving high shares of low-income students respond differently to their funding?

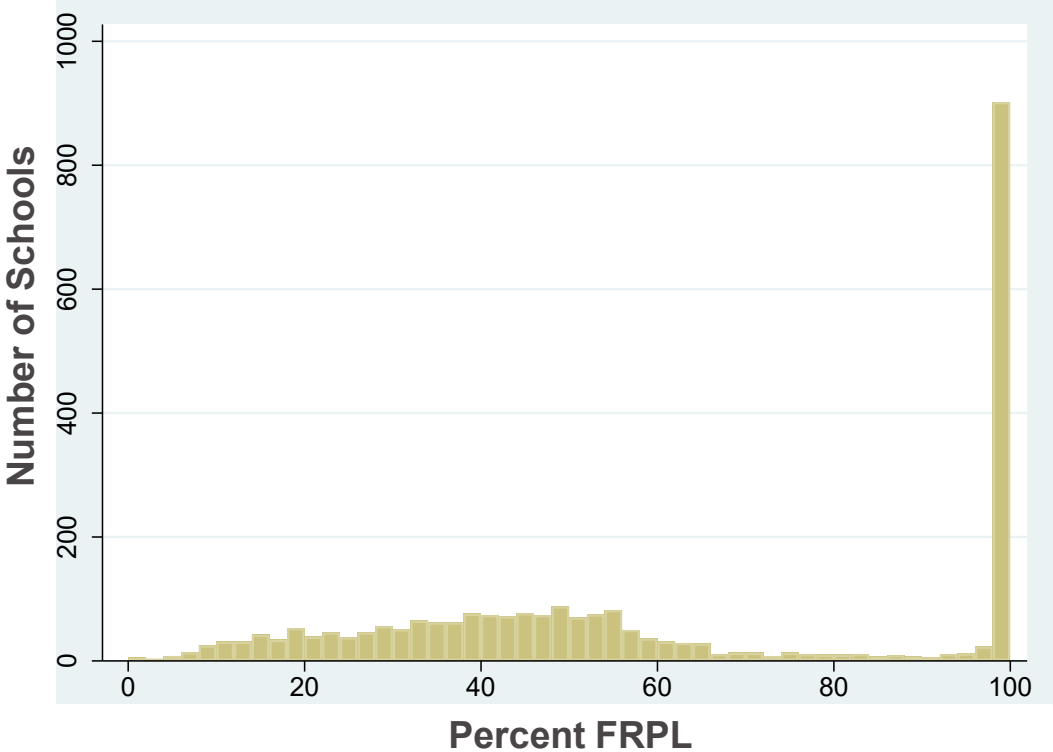
First round of funding approved April 2023

Of those that got funding, what did median ratios look like pre-funding?



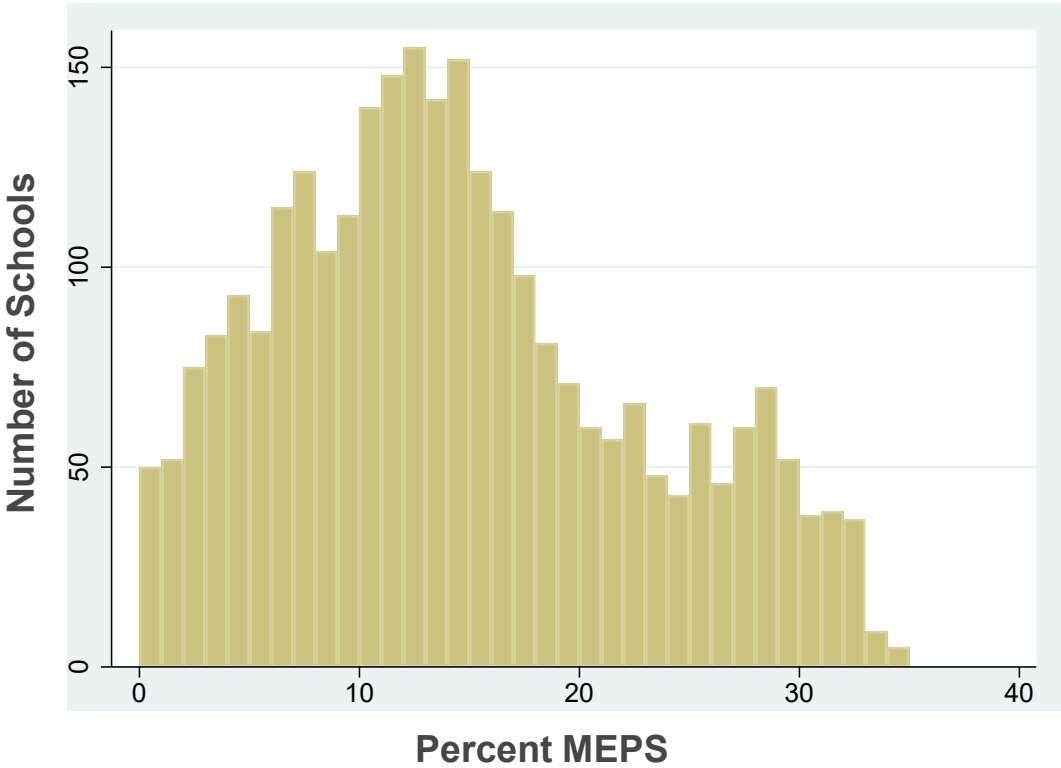
Note: [Data from 2023-24](#). Sample restricted to schools that matched the Common Core of Data, which generally excludes Intermediate Unit districts. The sample contains 713 of 749 school districts/charters and 2,840 of 2,867 schools. 707 out of 713 districts received funding. Prepublication: subject to change.

Why MEPS 2.0?



Source: Urban analysis of Common Core of Data and MEPS 2.0 in 2022-23.

What about by poverty?

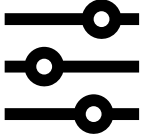


Source: Urban analysis of Common Core of Data and MEPS 2.0 in 2022-23. Prepublication: subject to change.

How many districts hired?



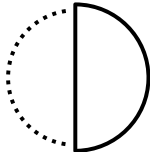
Over 40% of districts/charters hired more staff in 583 schools



Hiring was spread evenly across all four poverty quartiles



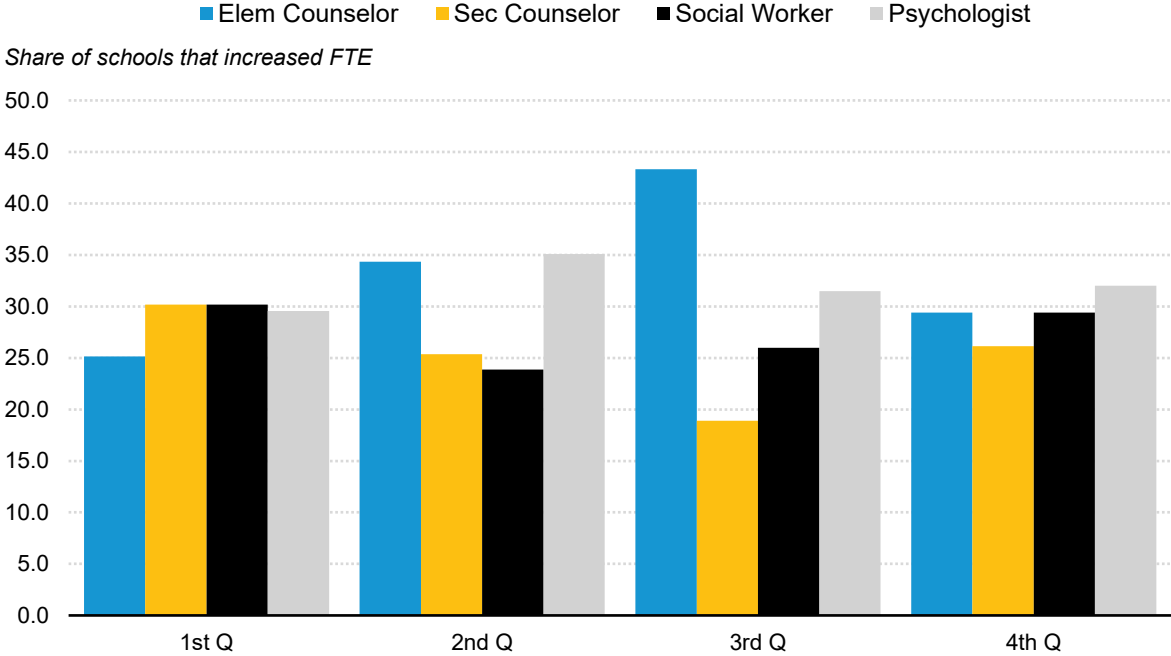
Schools that hired had higher ratios compared than those that did not hire



Hiring doesn't necessarily mean a whole FTE, so how much did ratios improve?

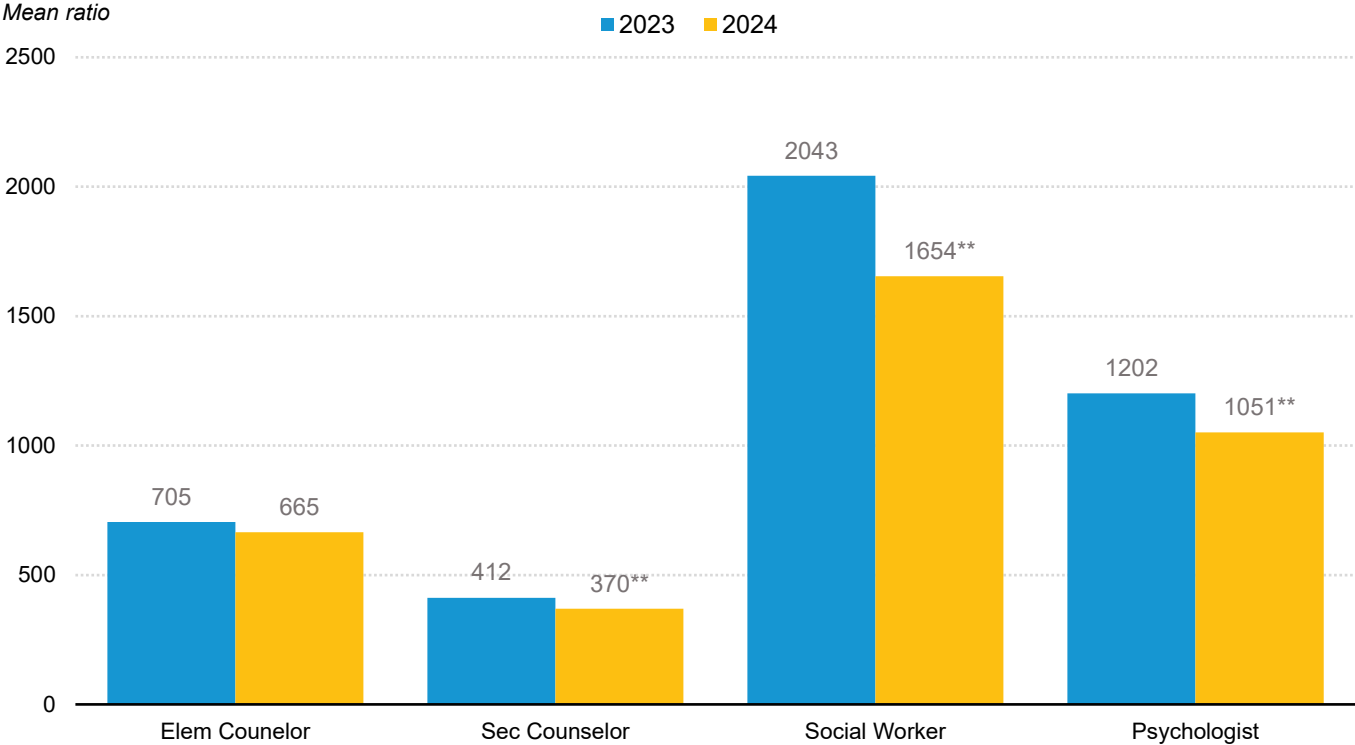
Prepublication: subject to change.

Who did they hire?



Source: Urban analysis. Some schools hired in more than one position.
Prepublication: subject to change.

How did ratios change?



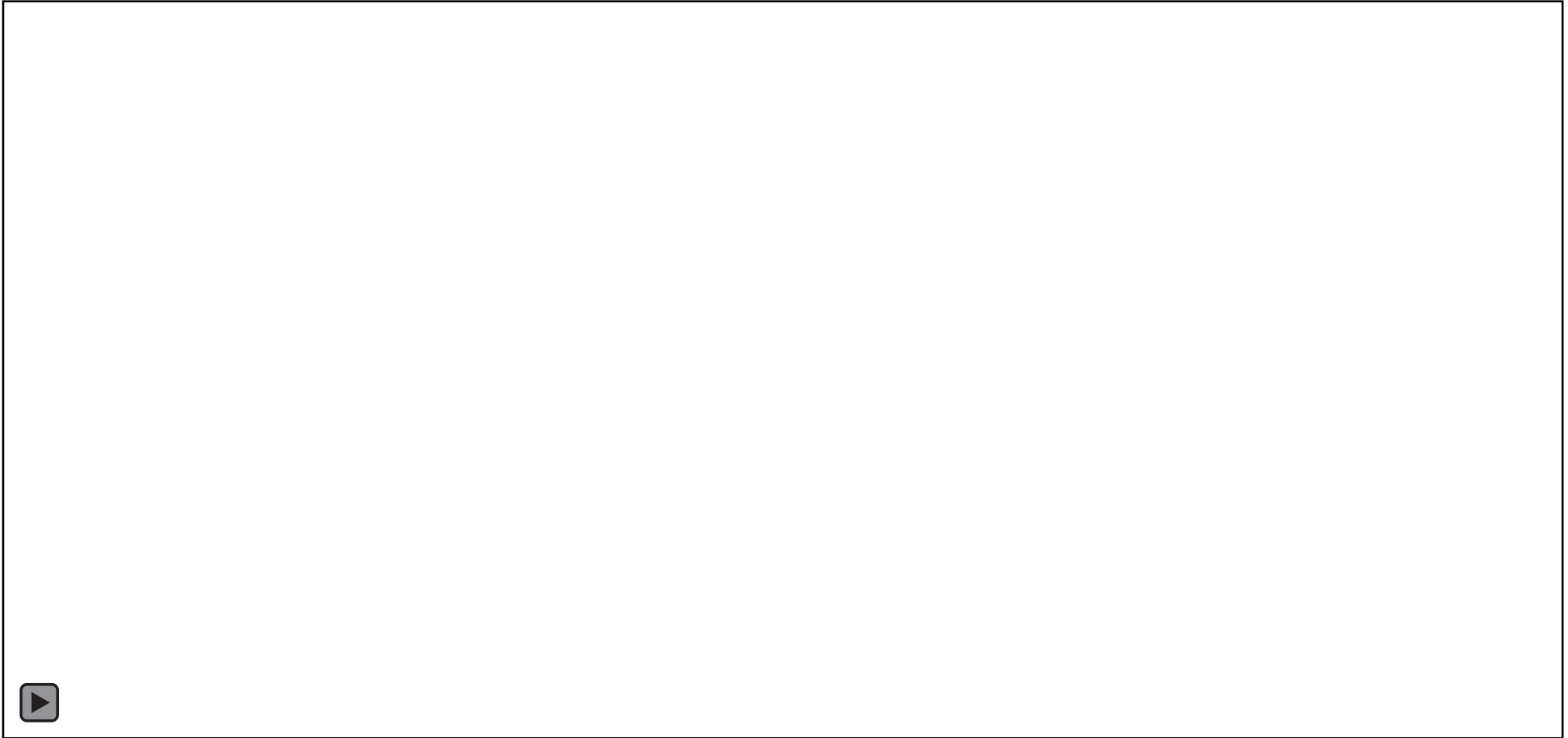
Source: Urban analysis
Note: Regression analysis between 2023 and 2024 among schools that hired. ** = statistically significant at 0.05.
Prepublication: subject to change.

Summary and next steps:

- Federal funding is unpredictable, and states have started their own school mental health supports
- PA's system is not specifically allocated to low-income students, rather provided to districts to determine the “best use”
- Districts serving low-income students did not use the support differently from other districts in terms of hiring, though they generally had low ratios to begin with
- Ratios improved, but the labor market continues to be limited

Accessing MEPS 2.0

Accessing MEPS 2.0



Accessing MEPS 2.0



Accessing MEPS 2.0



Accessing MEPS 2.0

The screenshot shows the Urban Institute Education Data Portal. The header includes the Urban Institute logo, the title 'EDUCATION DATA PORTAL', a 'DATA EXPLORER' button, and navigation links for 'OVERVIEW' and 'Topics:'. A blue banner at the top right says 'We want your [Feedback](#).' The left sidebar contains a menu with items like 'About this project', 'Data sources', 'Updates timeline', 'How to use this API', 'General Endpoint Requests', 'Summary Endpoint Requests', 'Stata', 'R', 'FAQs', 'Data Policy and Terms of Use', 'Citing these data', 'Version history', 'Acknowledgements', and 'Contact us'. The 'Stata' item is highlighted with a yellow box. The main content area for 'Stata' provides instructions for installing the package, including code snippets for 'ssc install libjson' and 'ssc install educationdata, replace', and a troubleshooting command 'adoupdate'. The 'R' item in the sidebar is also highlighted with a yellow box. The main content area for 'R' provides instructions for installing the package, including the code snippet 'install.packages('educationdata')'.

URBAN INSTITUTE EDUCATION DATA PORTAL [DATA EXPLORER](#) [OVERVIEW](#) Topics:

We want your [Feedback](#).

Stata

Instead of using API calls, you can download our Stata package using the instructions below.

Before you install the package, run the following:

```
ssc install libjson
```

Then, the following command will install or, if the package is already installed, update the education data package.

```
ssc install educationdata, replace
```

If you are having trouble, first try running the following:

```
adoupdate
```

If you're still having trouble, uninstall any existing installations using the instructions below, close and reopen Stata, and then rerun the commands above.

For more information, or to troubleshoot, please visit github.com/UrbanInstitute/education-data-package-stata.

R

Alternatively, you can download our R package. To install educationdata, run:

```
install.packages('educationdata')
```

For more information, or to troubleshoot, please visit github.com/UrbanInstitute/education-data-package-r.

Q&A