

Using Chronic Absenteeism for School Accountability: An Examination of States' Strategies and Pennsylvania's Accountability Indicator

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About the REL

- Bridges the worlds of education research and education practice
- Serves four states (Delaware, Maryland, New Jersey, and Pennsylvania) and the District of Columbia
- The role of the REL in the near term is to work with state and local education agencies to increase their capacity to use research evidence to inform education decisions
- The ultimate goal or long term outcome of interest is for the work of the REL to improve student outcomes



Why this analysis?

- The Every Student Succeeds Act (ESSA) enables states to identify school accountability indicators that reflect school quality or student success.
- Thirty-seven states, including Pennsylvania, use some measure of chronic absenteeism as one of these indicators.
- But states vary in how they define and incorporate this indicator into their accountability systems, which can affect which schools they identify as needing more support.
- The Pennsylvania Department of Education (PDE) sought to learn more about its own measure of chronic absenteeism and about measures used in other states.

Our analysis sought to answer three key questions

1. How do other states measure chronic absenteeism and use it to identify schools that need support?
2. How well does Pennsylvania's current measure of chronic absenteeism differentiate between schools?
3. How would changes to the current measure alter the list of schools identified as needing support?

How states are defining and using chronic absenteeism in their school accountability systems

How states define chronic absenteeism

Definition of chronically absent student	Number of states
Absent at least 10 percent of days enrolled	29
Absent at least 5 percent of days enrolled	1
Absent at least 15 days	2
Absent at least 10 days	1
Other	3
Not specified	1

How states generate a school-level indicator for chronic absenteeism

Method used to generate indicator for each school	Number of states
In proportion to the percentage of students chronically absent	19
Percentile rank	3
Achievement of specified thresholds	6
Achievement of target rates	6
Extent to which chronic absenteeism was reduced	4
Aggregation of individual student risk levels	1
Undefined	1

- Three states (DC, Ohio, and Tennessee) use two metrics, and schools are awarded points using the higher-scored metric.
- Five states include subgroup performance in their weighted indicator score.

Examples of chronic absenteeism indicators used by states

- Pennsylvania: Proportional points approach
 - Schools' performance on chronic absenteeism is determined by the percentage of non-chronically absent students in the school.



Examples of chronic absenteeism indicators used by states

- New Jersey: Percentile rank approach that incorporates subgroup performance
 - Step 1: Each school receives a standardized score for:
 - a) Its overall student population relative to other schools
 - b) Each subgroup represented in the school relative to other like subgroups across the state
 - Step 2: The standardized score for each subgroup is averaged to create the average subgroup score.
 - Step 3: The average subgroup score is averaged with the standardized score for the overall student population.
 - Step 4: The resulting score is converted to percentile rankings relative to schools across the state.



Examples of chronic absenteeism indicators used by states

- Nebraska: Reduction approach

- Step 1: Develop a school baseline rate using three years of data.
- Step 2: Subtract the school's current rate from the baseline rate.
- Step 3: Standardize the score across all schools so that (1) schools with the largest reduction in chronic absenteeism are the highest performing on the indicator and (2) schools with the largest increase in chronic absenteeism are the lowest performing.



How states use chronic absenteeism to identify schools that need support

- To understand how states use their chronic absenteeism indicator to identify schools that need support, we must examine how states combine the indicator with other indicators in their school accountability systems.
- The role that chronic absenteeism plays in school identification depends, in part, on the systems that states are using to combine measures.
- We identified three types of systems that states are using to identify Comprehensive Support and Improvement (CSI) schools

System used	Number of states
Score-based system	26
Classification-based system	7
Multistage identification system	4

Score-based systems

- Each school receives an overall accountability score, determined by weighting and adding different indicators. As required by the ESSA, CSI schools are Title I schools with an overall accountability score in the lowest 5 percent.
- The role that chronic absenteeism plays in identifying schools depends on:
 - The weight that states give the chronic absenteeism measure when calculating the overall accountability score
 - The variability of the measure across schools (that is, the *effective weight*)

Example: Hawaii

1. Points are awarded proportionally to the percentage of chronically absent students; other indicators also receive scores.
2. Individual indicator scores are averaged together with weights.
3. Schools with the lowest weighted scores are identified for CSI support.

Classification-based systems

- Each indicator in a school receives a category rating (for example, highest performing, moderately performing, lowest performing). CSI schools are identified based on prespecified combinations of indicator categories.
- The role that chronic absenteeism plays in identifying schools depends on:
 - How states define categories of performance
 - The predetermined rules for identifying CSI schools

Example: California

1. Each indicator receives a color rating (blue to red) based on the indicator's current performance and how much performance has increased or decreased from the previous reporting period.
2. CSI schools are determined based on the number of indicators they have of each color. For example, schools with all red indicators are automatically identified for CSI.

Multistage identification systems

- Schools are grouped by how well they perform on a subset of indicators. The lowest-performing schools on those indicators are then grouped by how well they perform on other indicators. The schools remaining after the final stage are identified for CSI.
- The role that chronic absenteeism plays in identifying schools depends on:
 - The variability of the measure across schools
 - The stage at which the measure is included in the system

Example: Pennsylvania

Stage 1: Identify schools that performed the lowest on both:

- a) Student achievement and
- b) Student growth

Stage 2: Identify CSI schools as Stage 1 schools that performed below the state-designated threshold on:

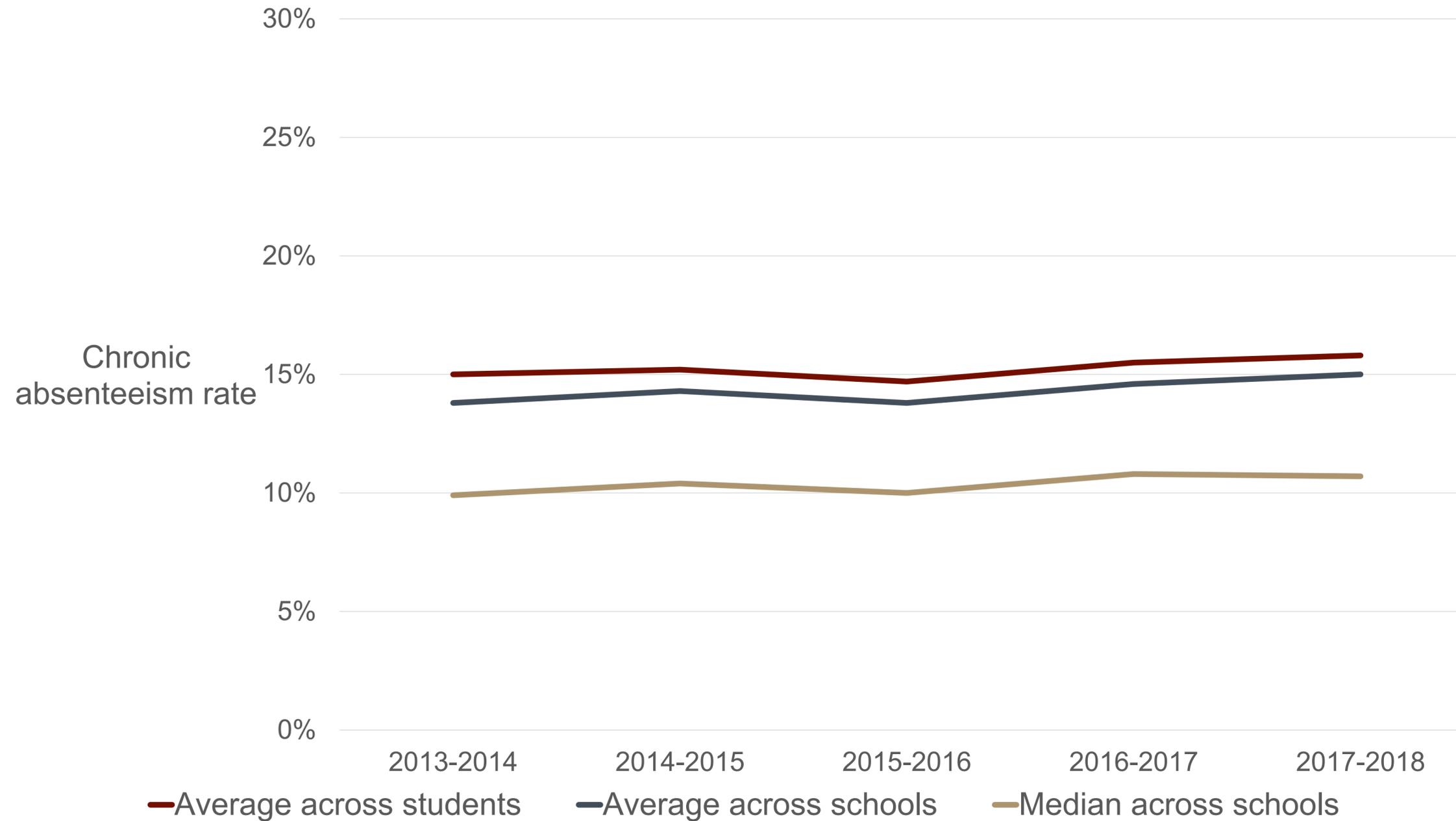
- a) Graduation rate or
- b) Progress in achieving English language proficiency or
- c) Chronic absenteeism and career readiness

Takeaways from reviewing states' use of chronic absenteeism

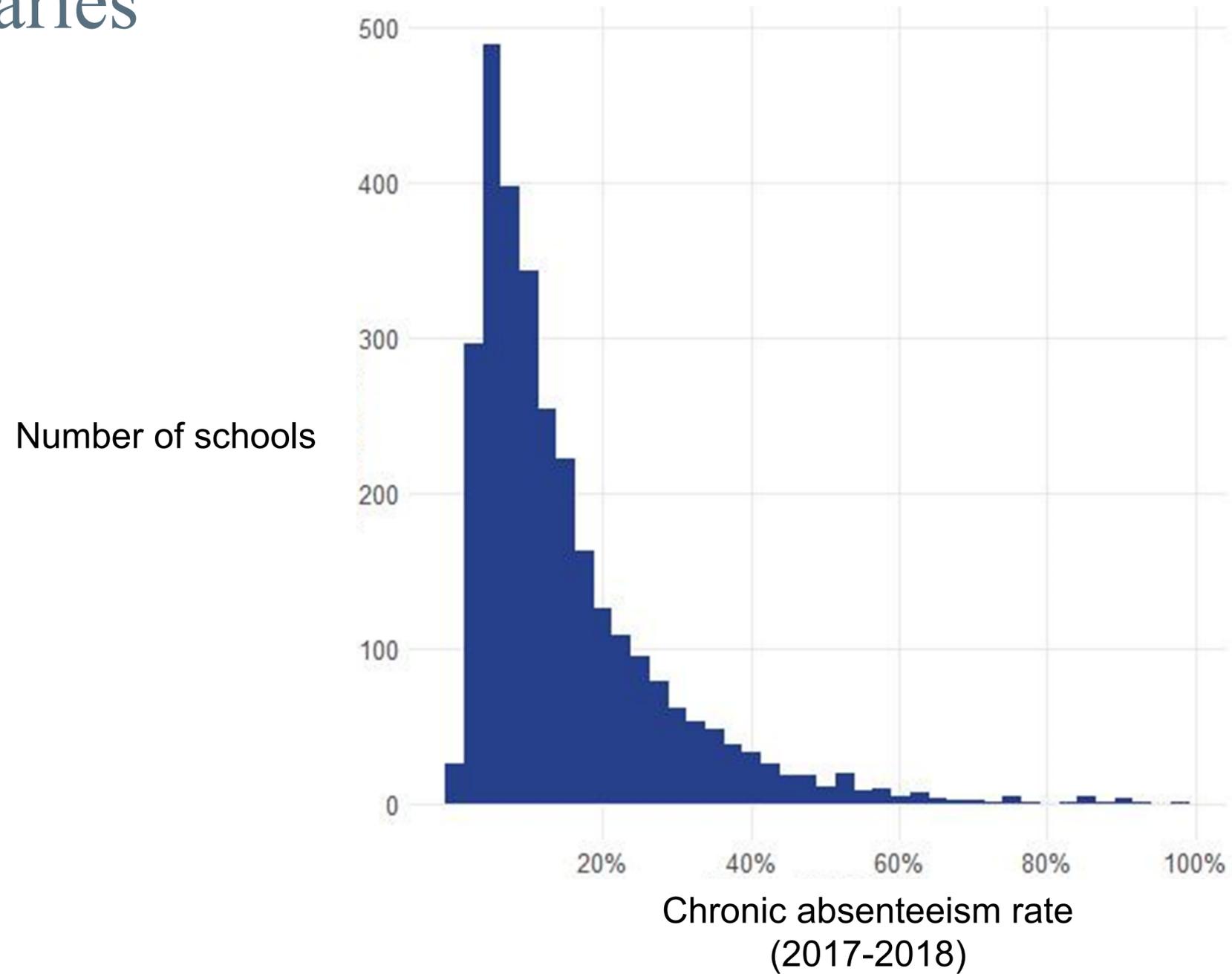
- There is some, but not much, variation in how states define “chronically absent.”
- There is more variation in how states use students' attendance data to develop a school-level accountability indicator for chronic absenteeism.
- Pennsylvania's approach to identifying CSI schools is uncommon. Schools that are low performers on chronic absenteeism will only be identified if they are also low performers on all of the following:
 - Academic achievement
 - Academic growth
 - Career readiness

Understanding how well Pennsylvania's current measure of chronic absenteeism differentiates between schools

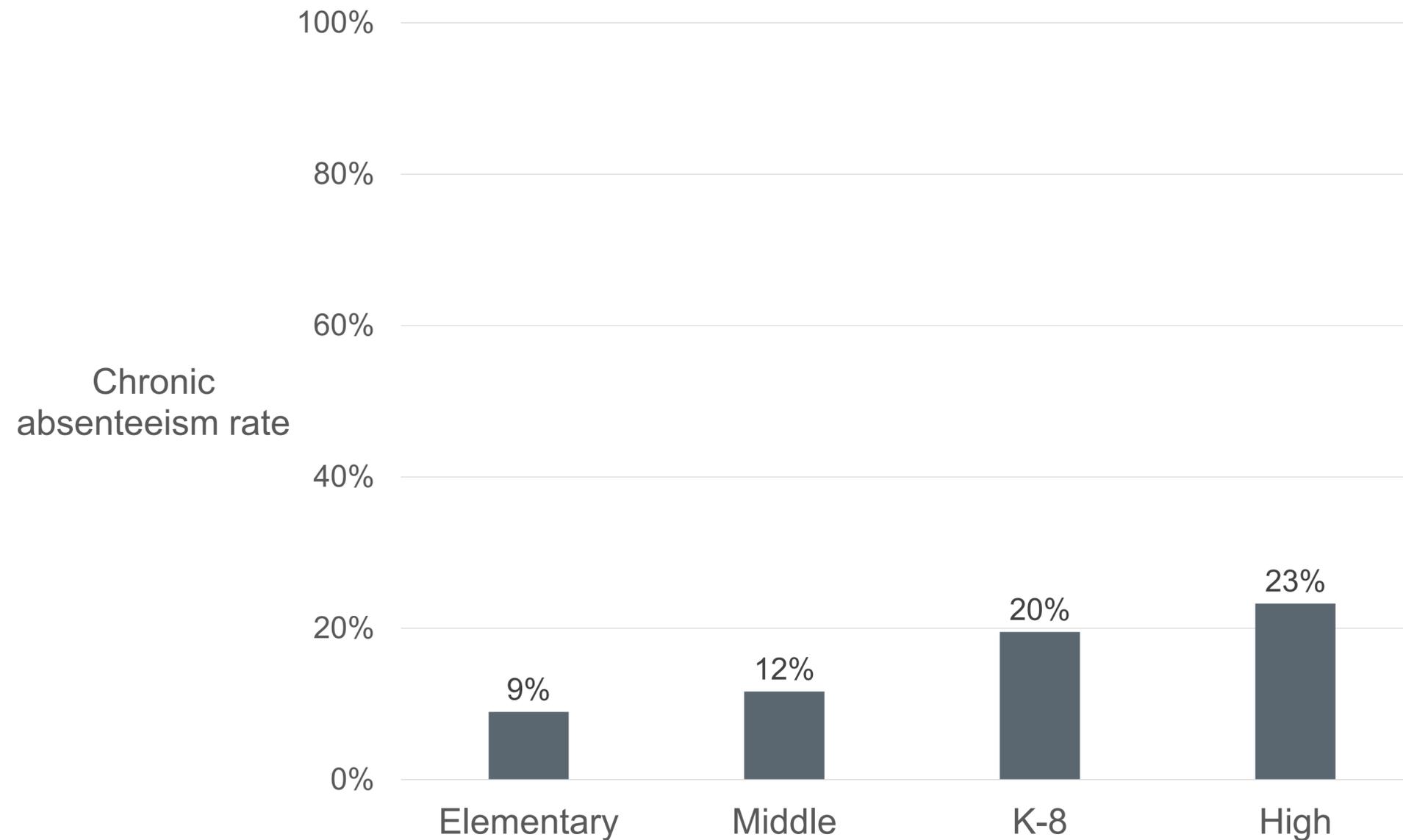
The percentage of chronically absent students has been stable



Across Pennsylvania schools, the percentage of chronically absent students varies



Chronic absenteeism rates are higher for older students



In most schools, chronic absenteeism is stable over time

- Within schools, there is a very high correlation in chronic absenteeism rates from one year to the next ($r = 0.93$).
 - Most schools do not see large changes from year to year in the percentage of students who are chronically absent.
- The correlation of Pennsylvania's chronic absenteeism indicator (the two-year average of a school's chronic absenteeism rate) is even higher ($r = 0.97$).
 - The increase is due largely to the overlapping year of the two-year averages when the indicator is correlated annually.

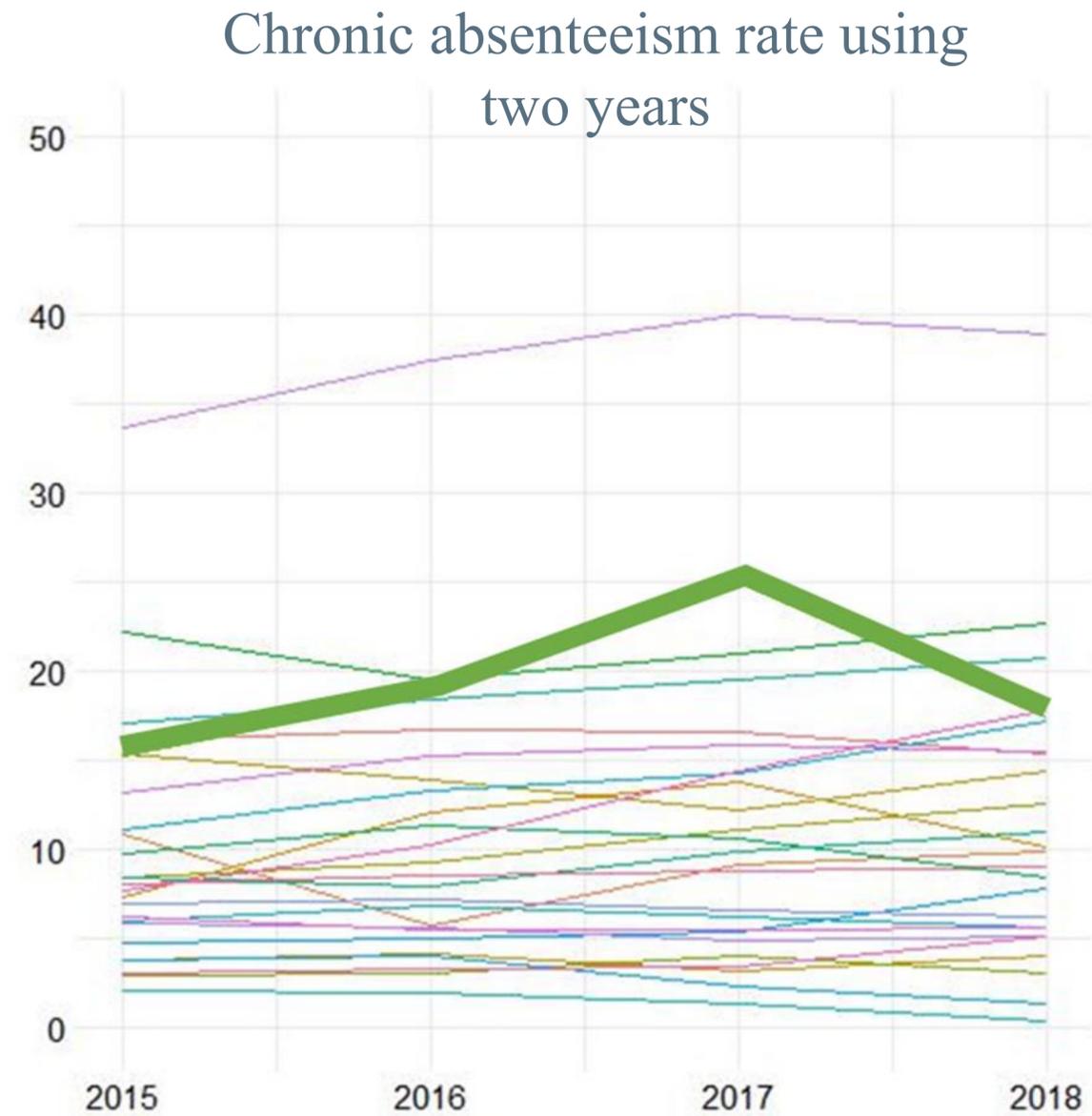
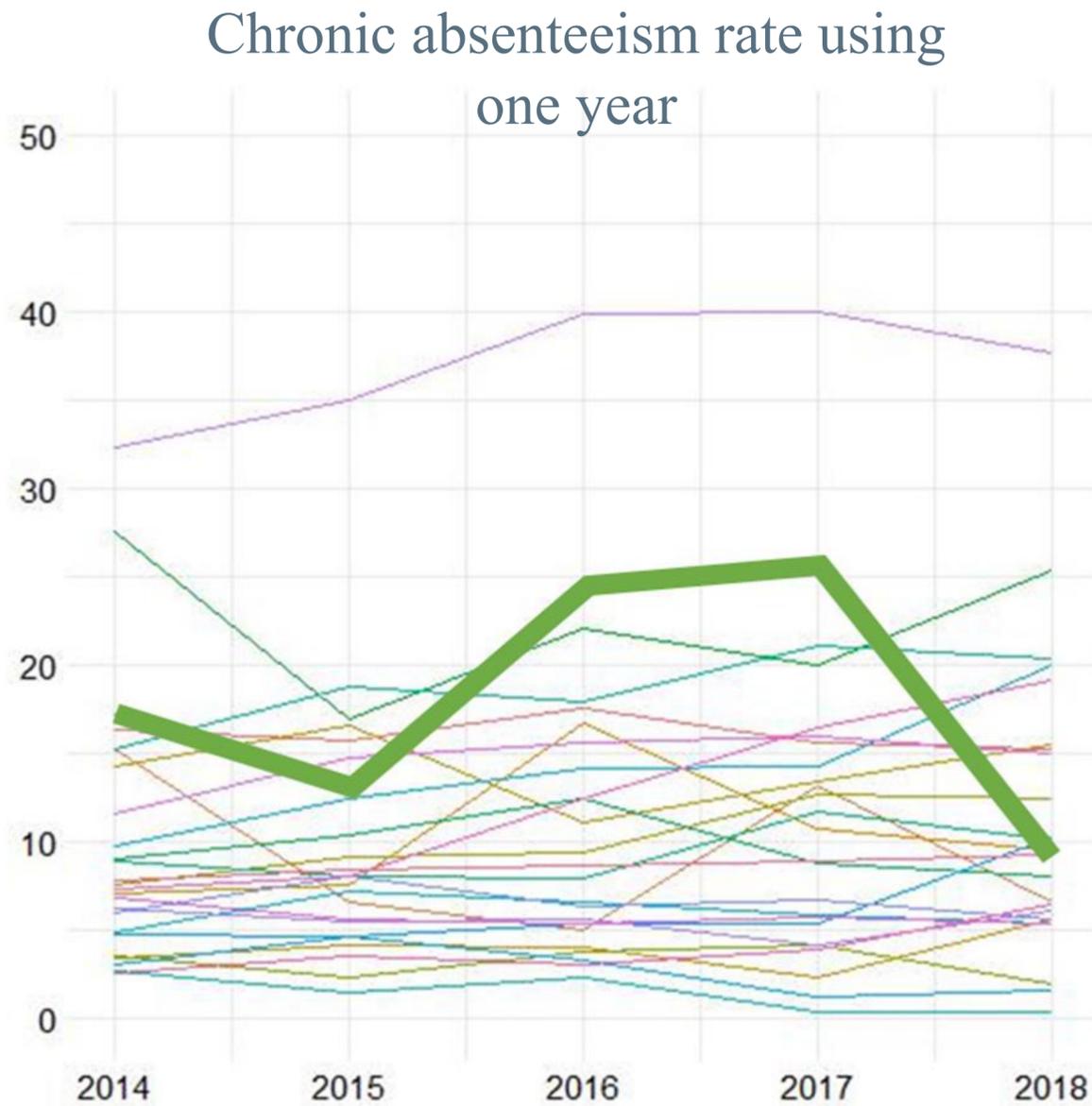
Chronic absenteeism rates in Pennsylvania are highly reliable

- We examined the reliability of chronic absenteeism rates in Pennsylvania—that is, how much of the variation in schools’ rates is a result of true differences rather than measurement error.
- For the single-year rate, only 2 percent of the variation is due to measurement error, meaning that variation between schools’ rates is almost entirely due to true differences.
- For the two-year average, only 1 percent of the variation is due to measurement error.
- The chronic absenteeism indicator is highly reliable, but using a single year would also result in a highly reliable measure.

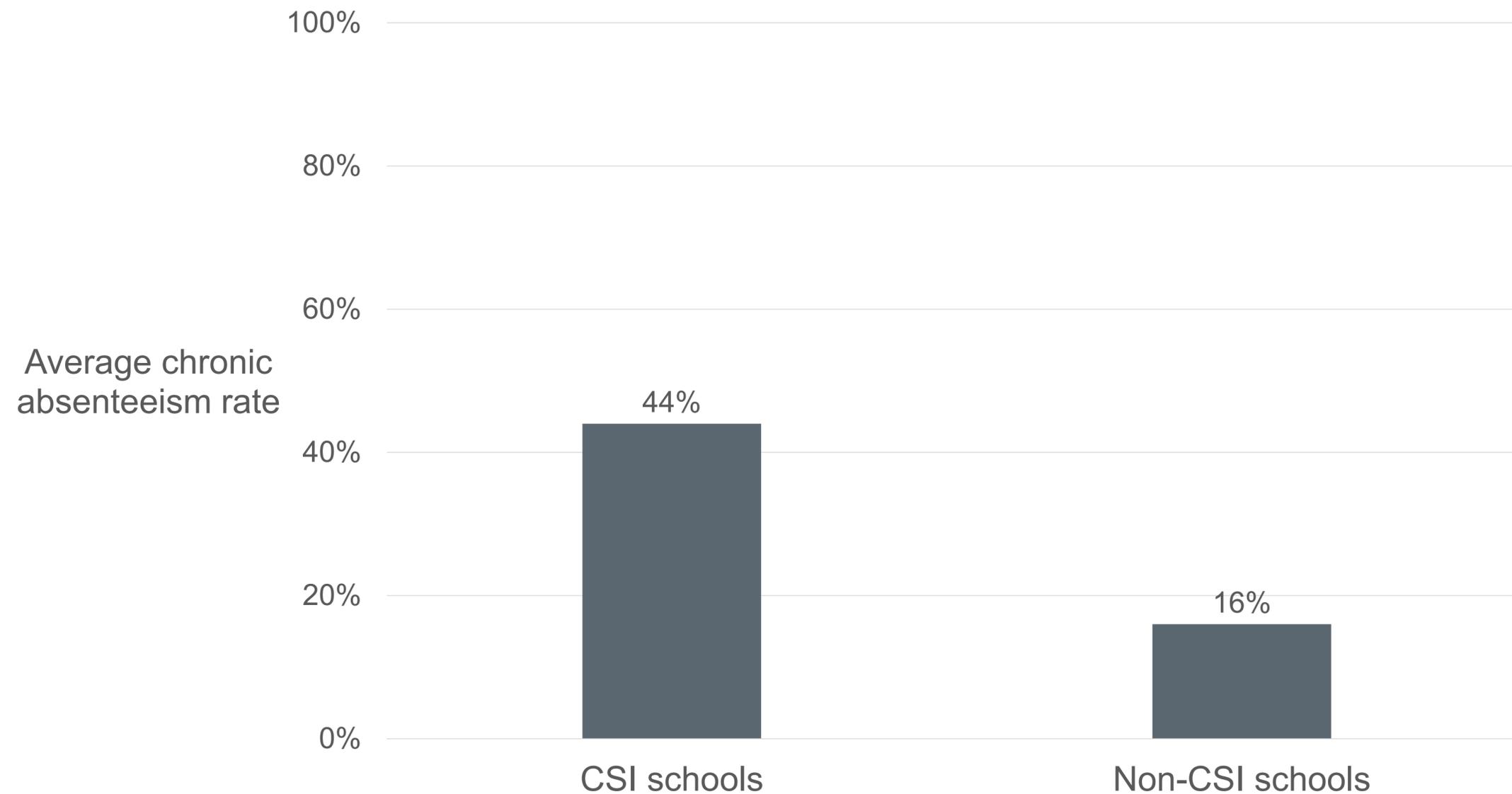
Takeaways on the reliability of the accountability indicator

- Pennsylvania's current accountability indicator (two-year average of schools' chronic absenteeism rates):
 - Is a very consistent approach to measuring chronic absenteeism in the state's schools
 - Is highly reliable, meaning that changes in schools' indicator values are not driven by error
- However, annual rates of chronic absenteeism rates are also very consistent and highly reliable.
- The tradeoff of using a two-year average: short-term changes in performance (which are not driven by error) are less likely to be recognized in the accountability system.

Pennsylvania's average (two-year) indicator reduces the measure's variability



CSI schools have much higher percentages of chronically absent students



Chronic absenteeism correlates with Pennsylvania's other accountability indicators

Indicator	Correlation with chronic absenteeism
Average proficiency	0.50
Average Growth Index	0.15
Graduation rate	0.65
English language proficiency	0.50
Career readiness	0.43

- Most correlations are moderate: they indicate that chronic absenteeism is correlated with other indicators but is not redundant
- The chronic absenteeism indicator has a lower correlation with average growth.
 - One possible explanation is that the indicator provides more information about the students enrolled in the school than about the school's performance.

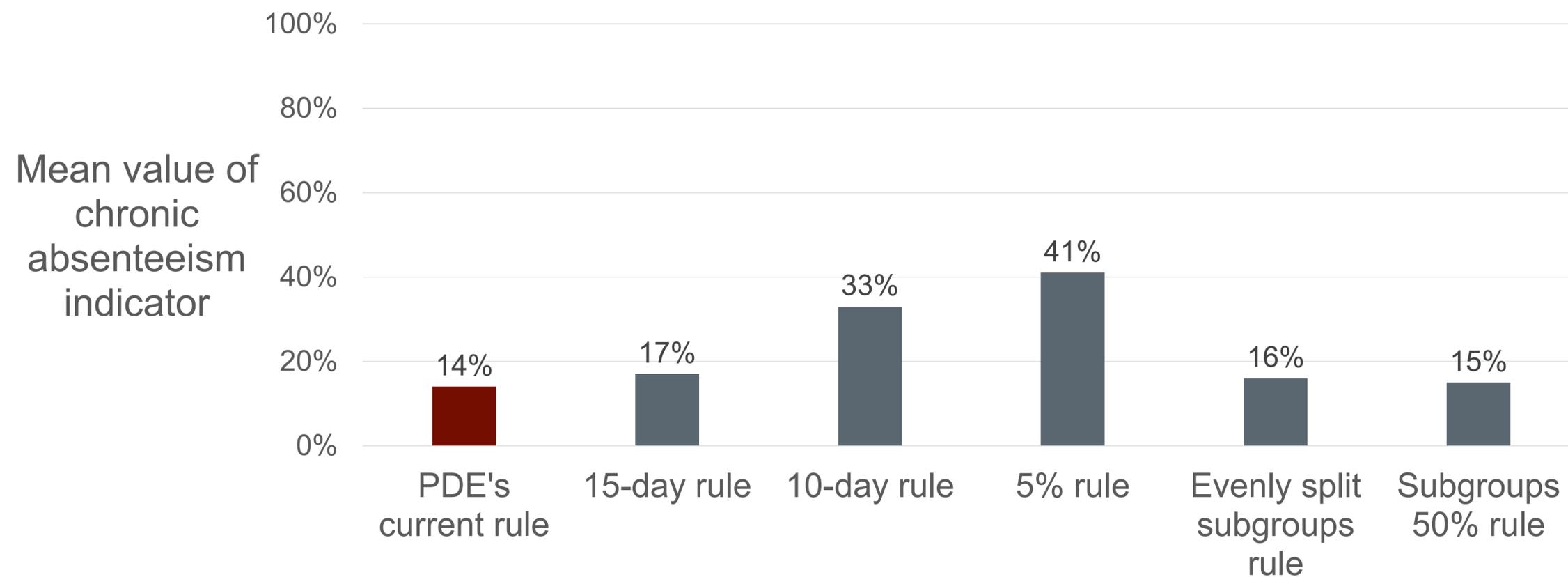
How changes to the current measure would alter the list of schools identified as needing support

Changes to the rules underlying Pennsylvania's current indicator

- Changes to the definition of a “chronically absent student”
 1. **15-day rule:** Percentage of students who are absent at least 15 days (*used in Alabama*)
 2. **10-day rule:** Percentage of students who are absent at least 10 days (*used in New Mexico*)
 3. **5 percent rule:** Percentage of students who are absent more than 5 percent of days enrolled (*used in Montana*)
- Changes to more directly incorporate subgroup performance
 4. **Evenly split subgroups rule:** The school's overall chronic absenteeism score is the straight average of the chronic absenteeism rate for each of the school's subgroups, including an “All students” subgroup (*used in Minnesota*)
 5. **Subgroups 50 percent rule:** The school's overall chronic absenteeism score is the school's “All students” chronic absenteeism rate averaged with the straight average of the chronic absenteeism rate for each of the school's other subgroups (*used in New Jersey*)

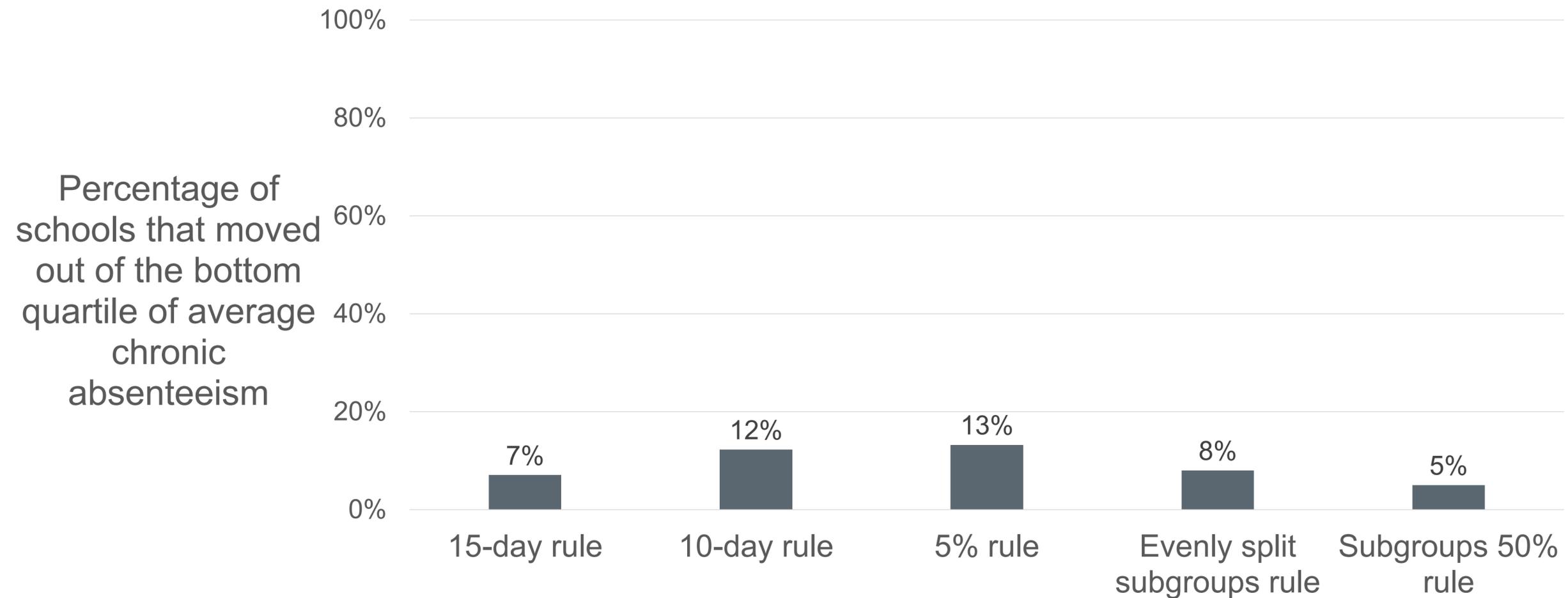
The alternative rules vary in how much they change schools' rates of chronic absenteeism

- Changing the definition of chronically absent, particularly if using the 10-day or 5 percent rule, greatly increases many schools' chronic absenteeism.
- More directly incorporating subgroup performance has little effect on schools' chronic absenteeism indicator.



Schools that are currently the lowest performers on chronic absenteeism continue to be the lowest performers across the alternative rules

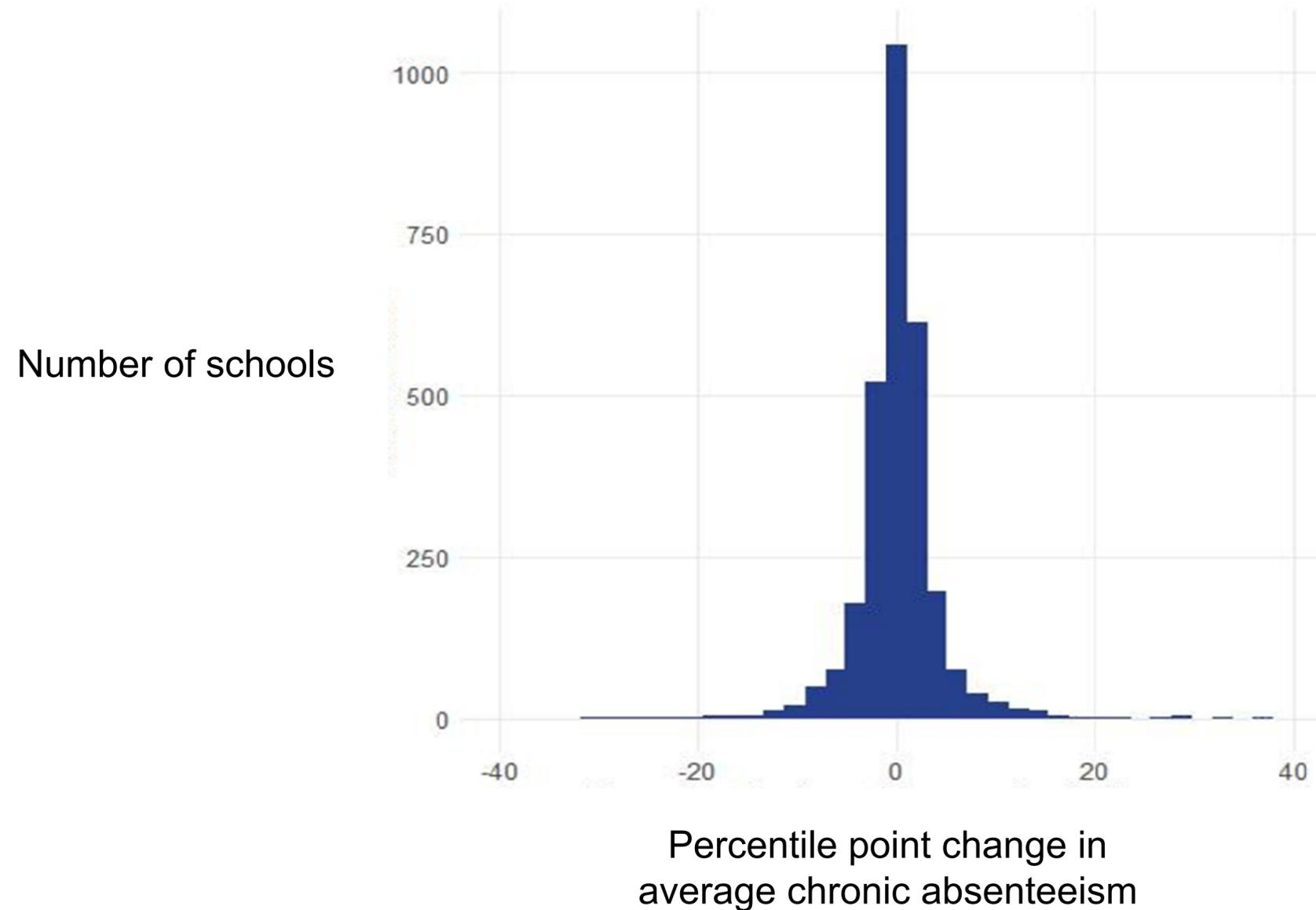
- This means that schools' relative *ranking* compared with that of other schools does not change much.



What if Pennsylvania were to measure chronic absenteeism *reduction* rather than chronic absenteeism rates?

- We created a sixth alternative rule to capture this
 6. **Percentile change rule:** Calculate the difference between the school's current rate of chronic absenteeism and a baseline rate. The indicator value is the percentile rank of the difference compared with all other schools (*similar to the rule used in Nebraska*)

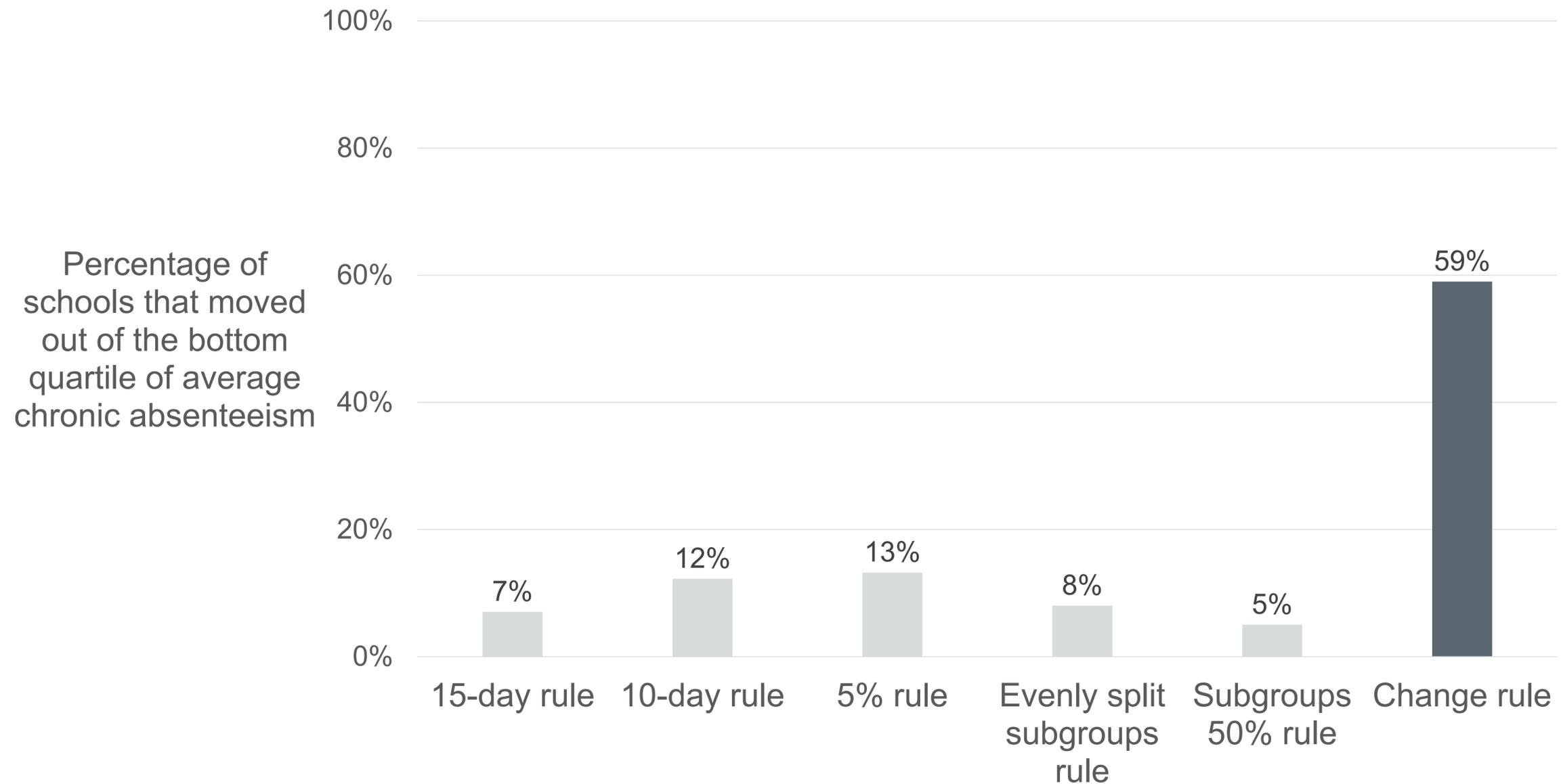
Most schools' average rate of chronic absenteeism did not substantially change from one period to the next



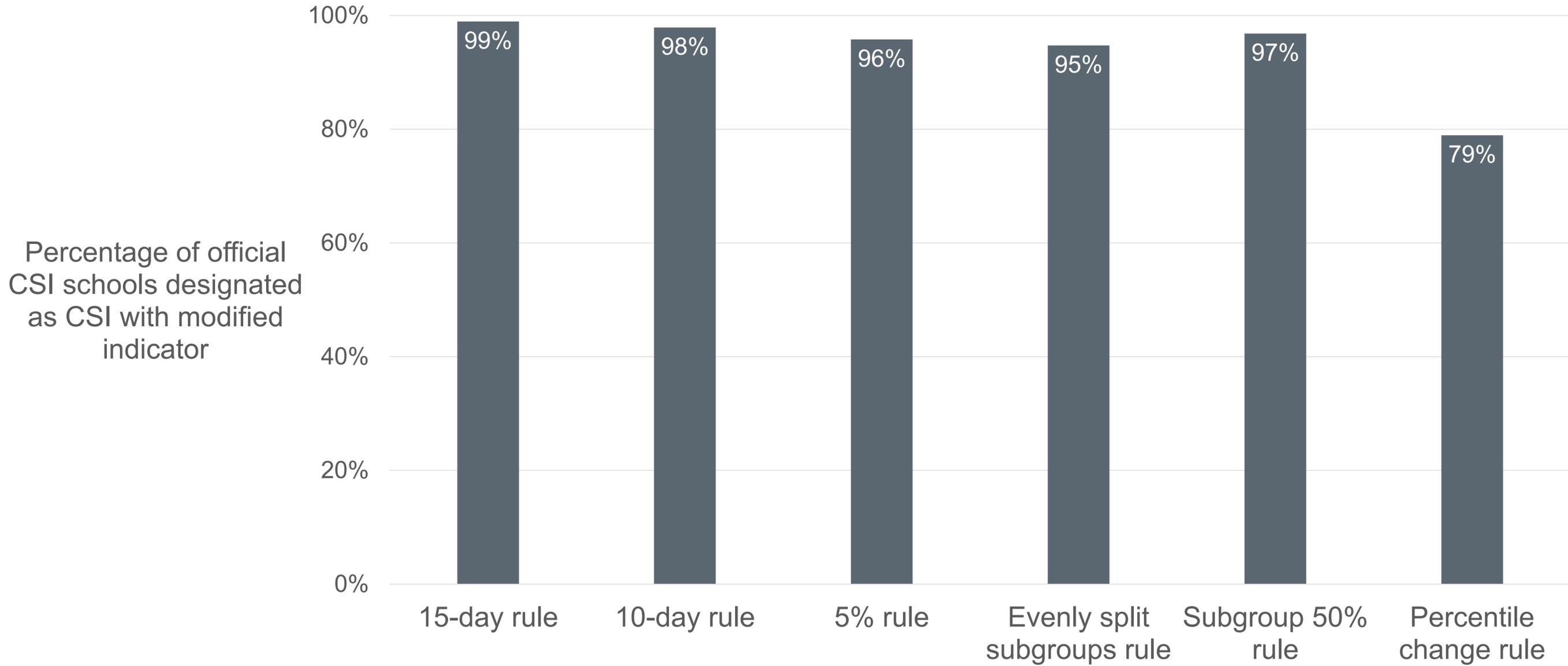
The percentile change rule differs substantially from Pennsylvania's current rule

- This rule differs in that it turns a “status” indicator into an “improvement” indicator.
- The correlation between a school's current chronic absenteeism rate (“status”) and the amount that it reduced chronic absenteeism (“improvement”) is very low ($r = 0.15$).
- The percentile change rule is less reliable than the current rule.
 - Percentile change rule: 13.4 percent of the variance is due to measurement error.
 - Pennsylvania's current rule: 1 percent of the variance is due to measurement error.

The percentile change rule leads to a much different group of low-performing schools on the chronic absenteeism indicator



Most CSI schools remain CSI schools despite the indicator used



Conclusions

- Pennsylvania's current indicator to measure chronic absenteeism:
 - Reliably measures the percentage of students who are chronically absent
 - Shows CSI schools performing worse than other schools in the state
- Potential alternatives to the current indicator:
 - In some cases lead to much different rates of chronically absent students in schools
 - Except for the percentile change indicator, would result in most of the lowest-performing schools continuing to be the lowest performers
- Modifying the indicator has little effect on which schools are identified for CSI

Questions

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