

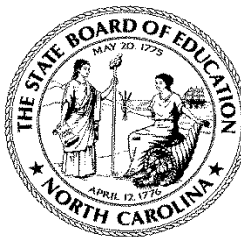
North Carolina Transformation Preliminary Outcomes and Barriers to Improvement

May 1, 2018

VANDERBILT



Peabody College



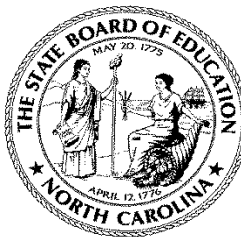
EDUCATION POLICY
INITIATIVE *at* CAROLINA

Background: Partnership and Project

VANDERBILT



Peabody College



EDUCATION POLICY
INITIATIVE *at* CAROLINA

Evaluation of Turning Around NC Lowest Performing Schools

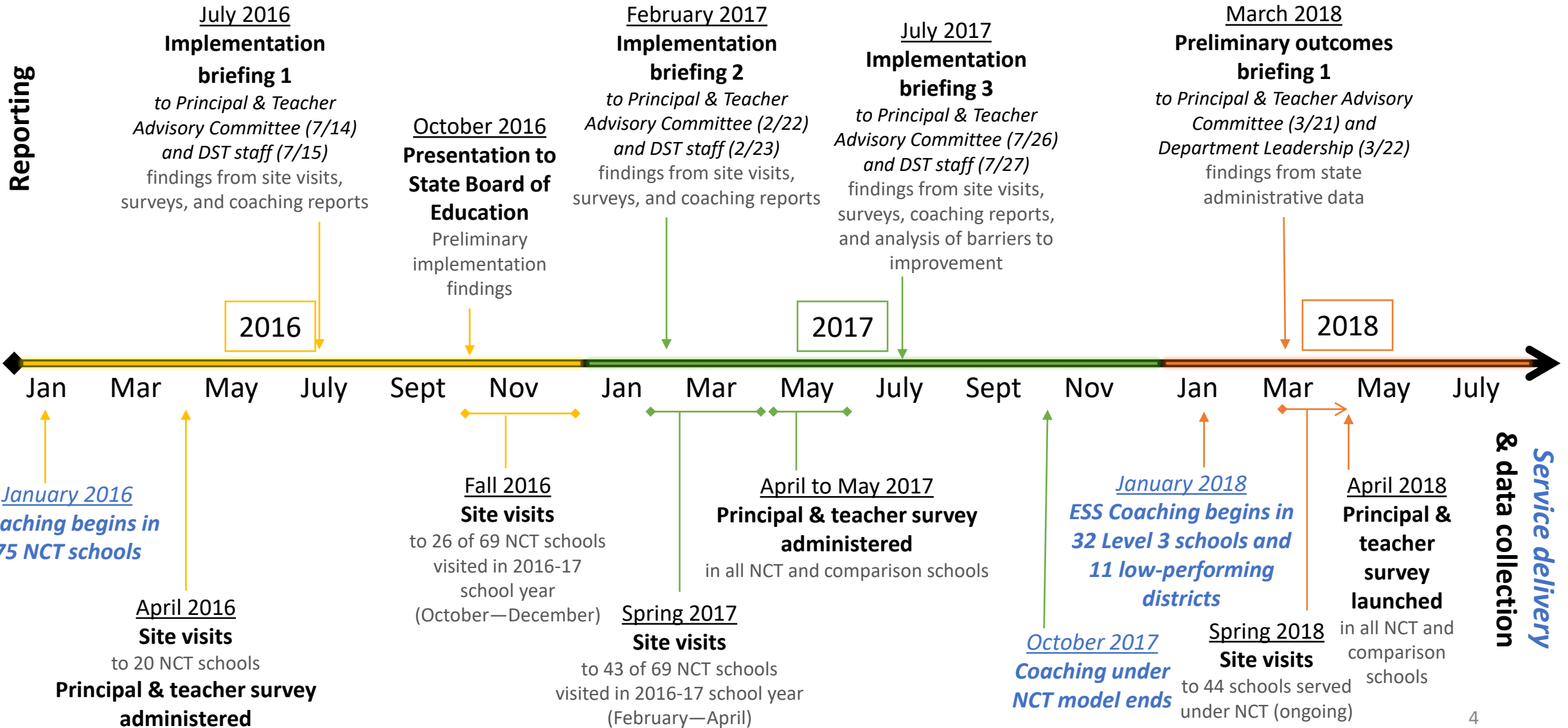
Purpose of NCT Evaluation

- Improve teaching & learning in North Carolina's lowest performing schools
- Support continuous improvement in low-performing schools
- Provide feedback to adapt implementation of services to lowest performing schools
- Evaluate effectiveness of turnaround services

Accomplishments

- Provided actionable feedback on implementation (7/2016, 2/2017 & 7/2017) based on data collected from site visits to 69 of 75 schools served by District and School Transformation (DST), surveys of all NCT and comparison schools, and interviews with leadership in 23 districts with NCT schools
- Collaborated with DST/Educator Support Services (ESS) leadership & staff to refine service delivery
- Communicated evidence on specific barriers (e.g., teacher/principal turnover & chronic absenteeism) to improving teaching & learning in lowest performing schools

Evaluation Timeline



Focal Issues for Today's Discussion

1. Underlying barriers to improving NC's lowest performing schools
 - **What is the Department's role in addressing barriers to improvement (e.g., teacher/principal turnover, chronic absenteeism) in the state's lowest performing schools?**
2. State supports for improving low-performing schools
 - **How should state supports in the lowest performing schools be modified to address barriers to improvement?**
3. Disruption of status quo?
 - **How should ongoing routines and practices in the lowest performing schools be disrupted (e.g., mandated principal/teacher turnover, state guidelines for districts, threat of state takeover) for rapid, sustained improvement in outcomes?**
4. Low-performing schools targeted under ESSA
 - **Which schools should be targeted for services?**
 - **How many schools can be effectively improved given available resources?**

What changes to policy, legislation, and practices need to be considered?

Barriers to Improvement in NC's Lowest Performing Schools

Barriers to Improvement in NC's Lowest Performing Schools (%)

		Baseline (2014-15)	
		NCT	Comparison
Principal turnover		24	 28
Teacher turnover		29	 27
Novice teacher rate		32	 28
Student transfer rate		17	 15
Student chronic absenteeism		8	 6

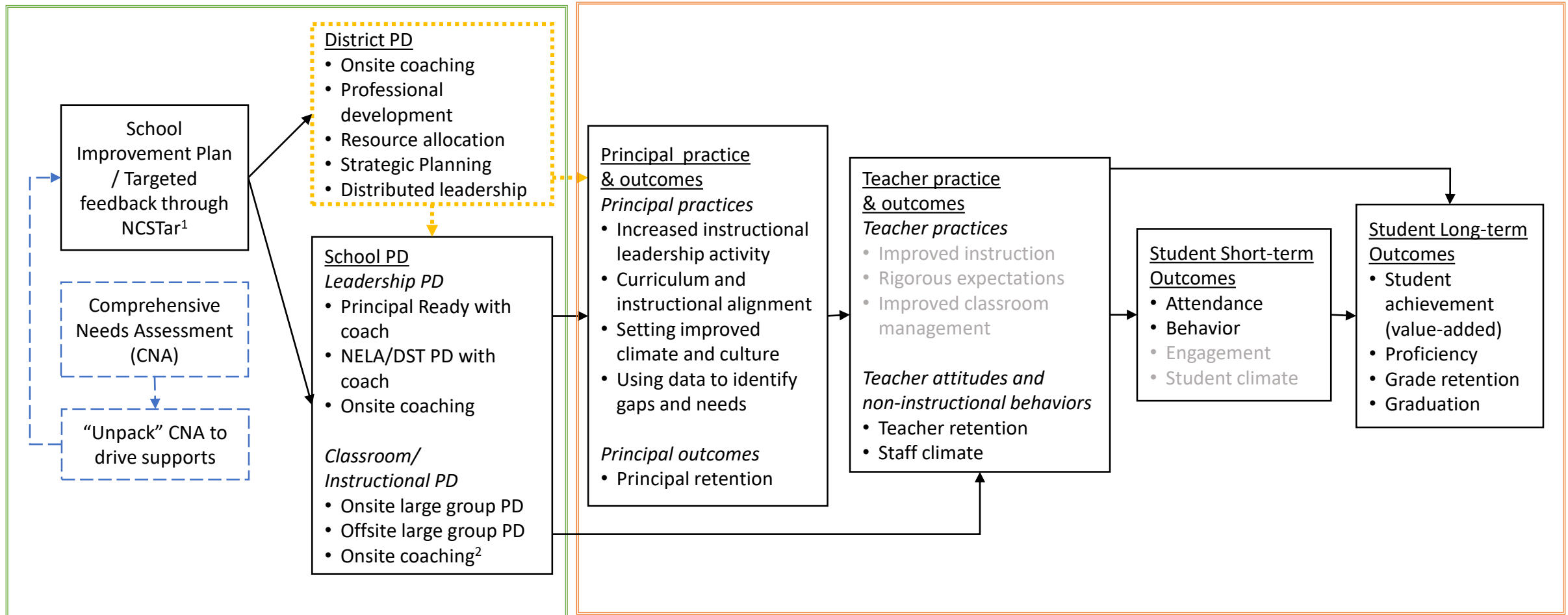
Averages don't reveal severity of barriers in individual schools.
In NCT schools, teacher turnover ranged from 4% to 57% in 2014-15.

Theory of Action: NCT School Transformation

North Carolina Transformation: Theory of Action

DST Intervention

School Transformation Outcomes



Blue dashed components denote variable timeline across treatment schools. Yellow dotted components denotes activity that is not available to all districts. Gray text denotes data not currently available.

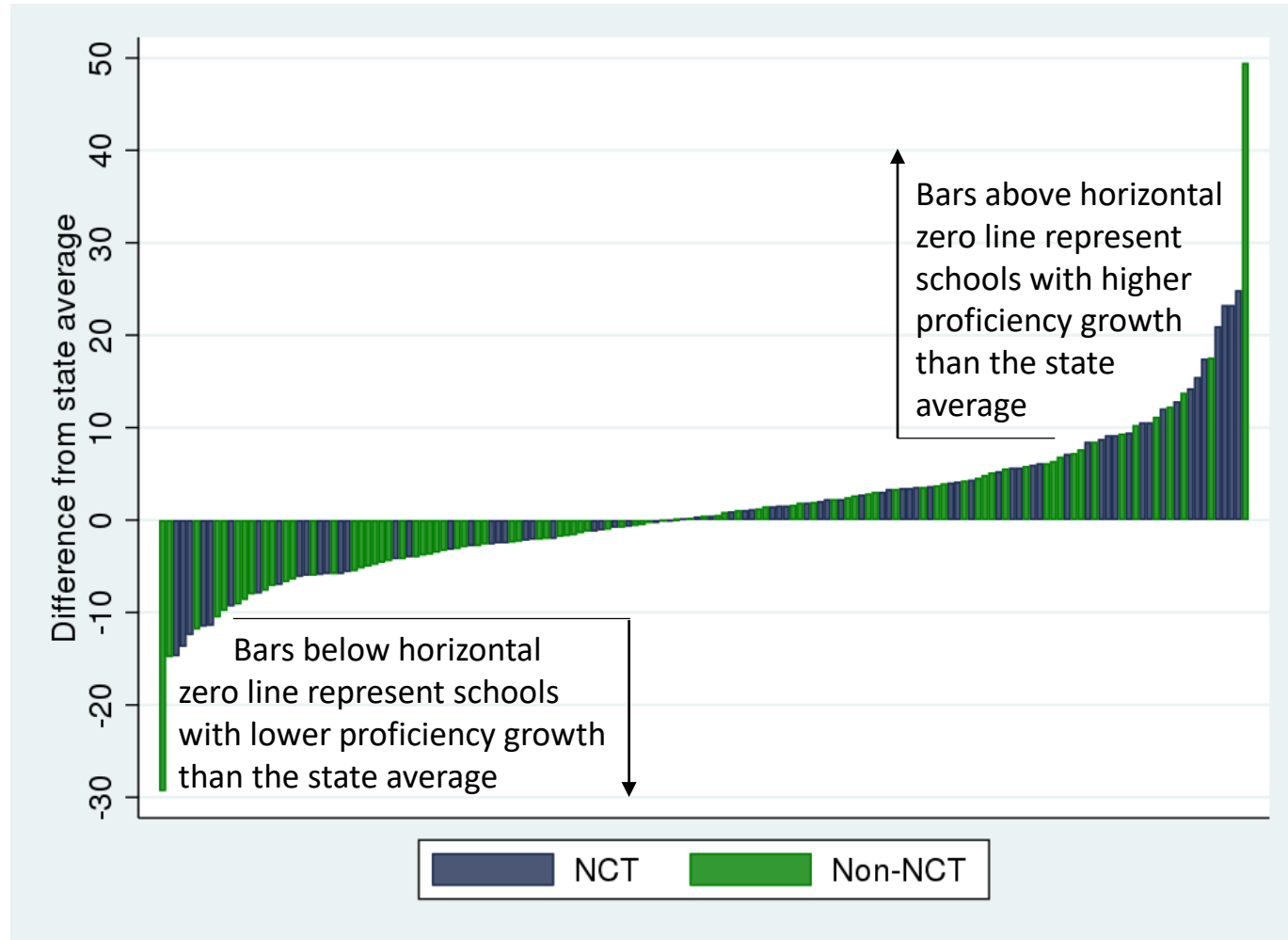
¹ NCSTAR is the management tool for school improvement planning

² Onsite coaching could include modeling, instructional planning, observation with feedback, and other interactions

Preliminary Outcomes:

Comparing 75 Schools Served by DST
with 85 Next Lowest Performing Schools
and All Regular Schools

Proficiency Changes in NCT vs. All Schools

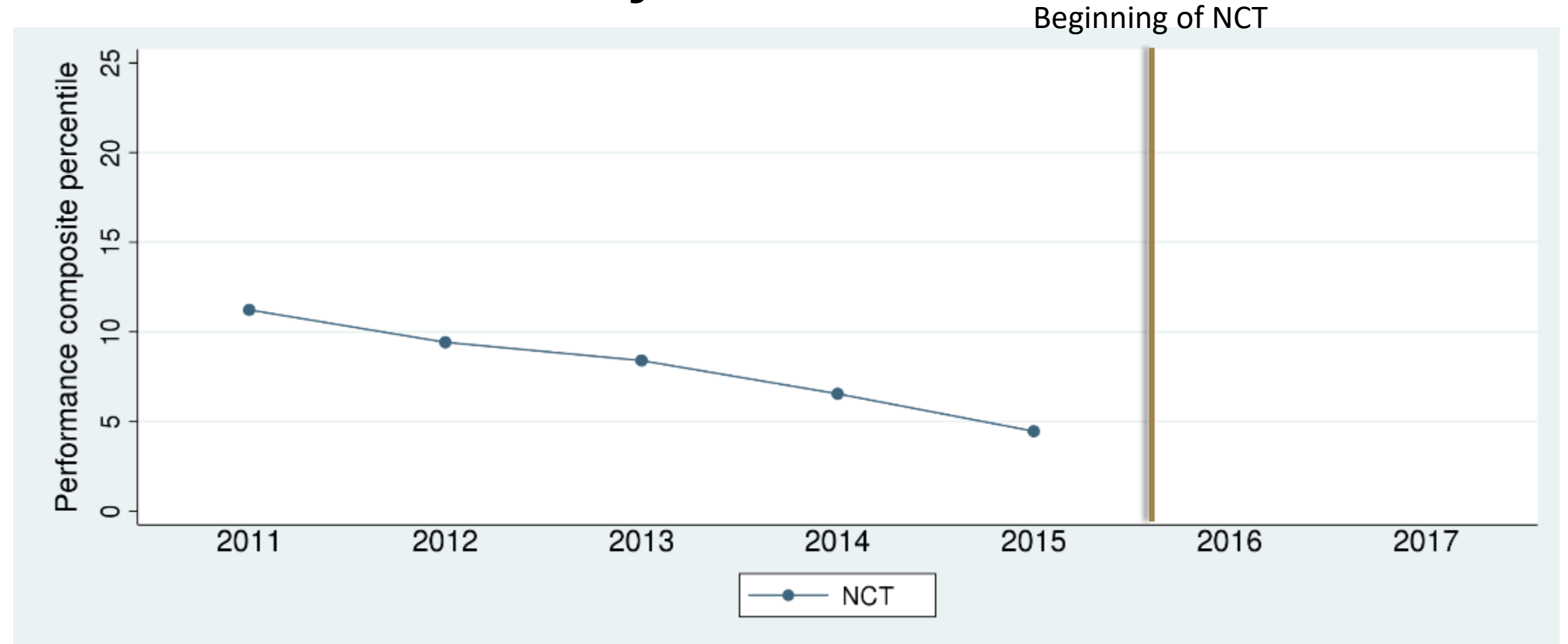


60% of NCT schools (45 of 75) outperformed the state average change in proficiency rates from 2014-15 to 2016-17.

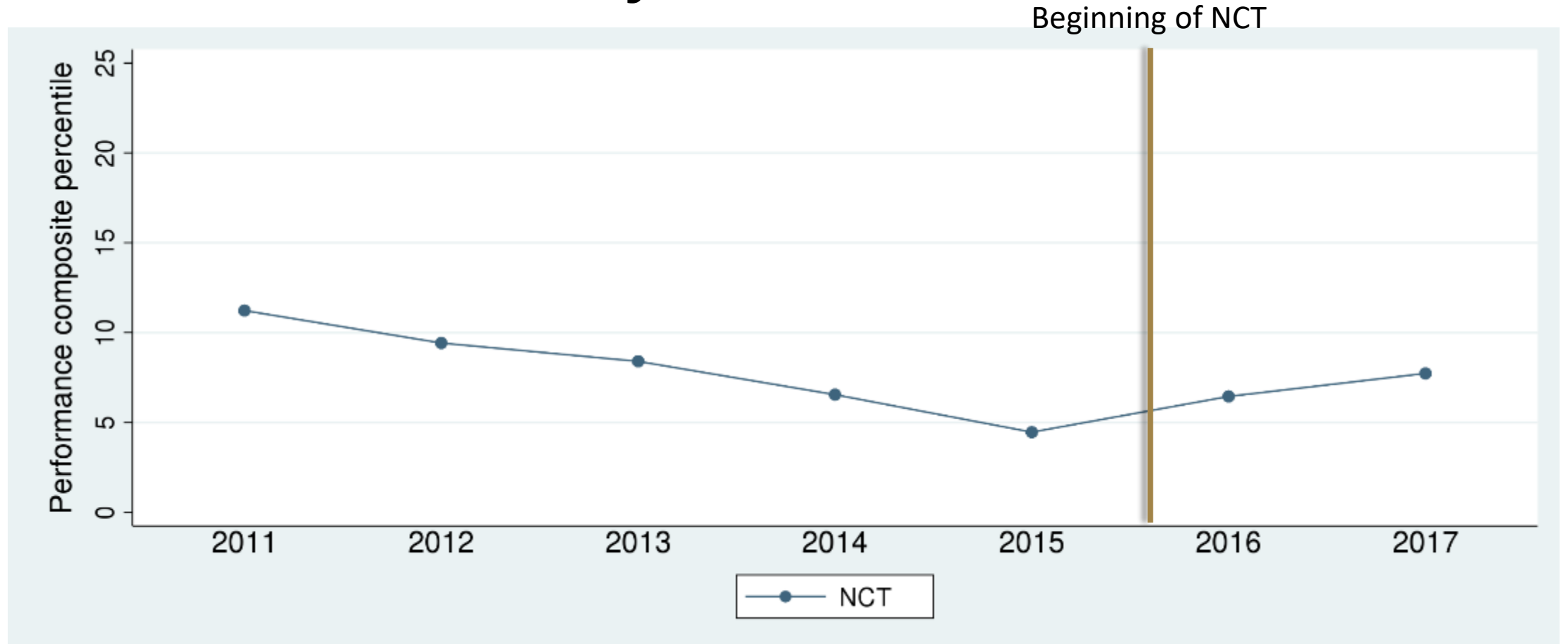
The average NCT school exceeded the state average proficiency change by 2.2 percentage points.

NOTE: Each bar represents 1 school.

School Proficiency Over Time

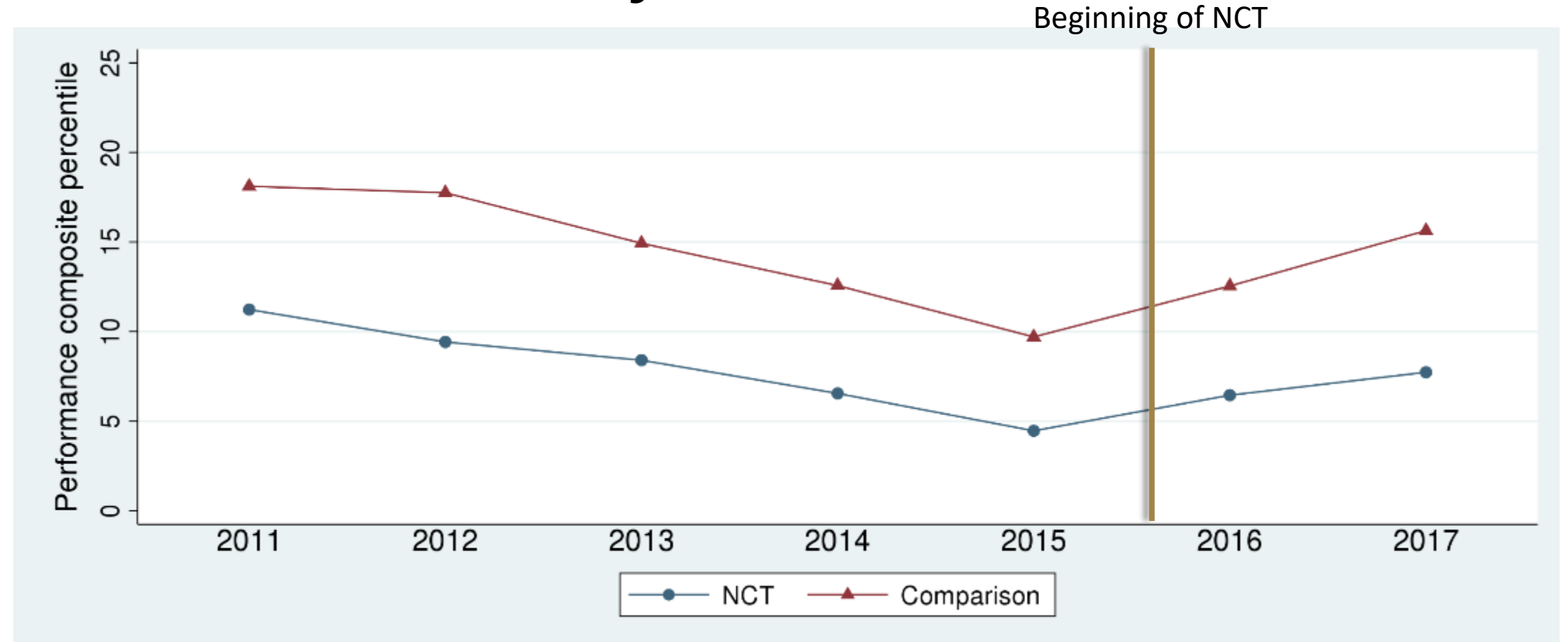


School Proficiency Over Time



On average, NCT schools increased proficiency rates by 4.91 points from 2015 to 2017.

School Proficiency Over Time



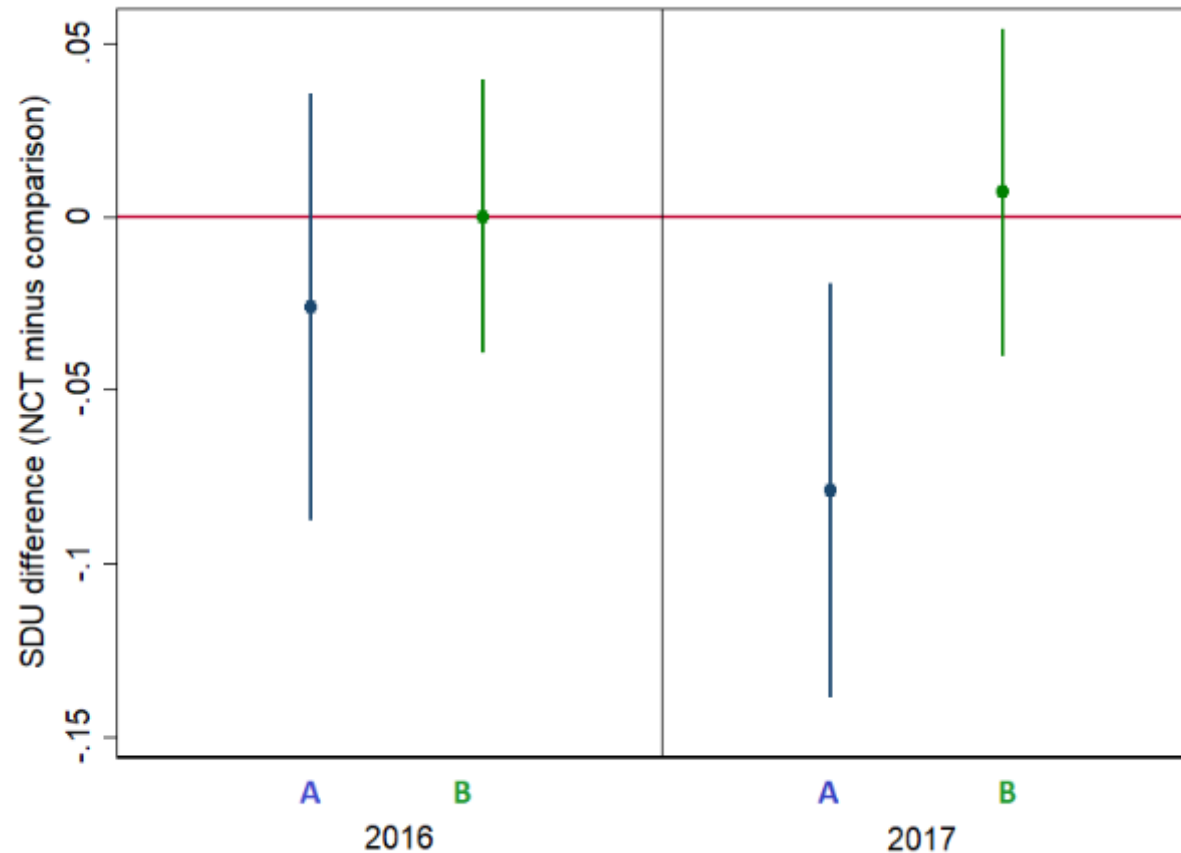
On average, NCT schools increased proficiency rates by 4.91 points from 2015 to 2017.
During the same time period, comparison schools increased proficiency rates by 6.64 points.
During the same period, all regular schools in the state increased by 2.81 points (not displayed).

Average change in proficiency by school level

2014-15 to 2016-17

	NCT	Comp.	All	Difference (NCT-comp)	Difference (NCT-all)
Elementary (37 NCT)	+3.98	+8.07	+2.43	-4.09	+1.55
Middle (26 NCT)	+5.92	+5.87	+2.89	+0.04	+3.03
High (12 NCT)	+5.62	+3.61	+3.36	+2.01	+2.26
Total (75 NCT)	+4.91	+6.64	+2.81	-1.73	+2.10

Preliminary Outcomes: *Student Achievement Growth*



There was no significant difference between student achievement growth in NCT and comparison schools in 2016.

In 2017, students in NCT schools made significantly less progress than students in comparison schools from 2015 to 2017 (A).

In 2017, there was no significant difference between NCT and comparison schools, relative to their respective five-year trends (B).

Preliminary Outcomes: *Value-Added & Graduation Rate*

- School value-added (EVAAS)
 - In 2016, NCT and comparison schools were not significantly different
 - In 2017, NCT schools showed less growth than comparison schools
- Graduation rate (4-year)
 - In 2016, NCT schools descriptively appeared to dip relative to comparison schools, although the difference was not statistically significant
 - In 2017, NCT and comparison schools were not significantly different

Preliminary Outcomes: *Principal & Teacher Turnover*

Principal turnover

In 2016, NCT principals were more likely to turn over than comparison school principals

In 2017, there was no difference between NCT and comparison school principals

Teacher turnover

In 2016, there was no difference between NCT and comparison school teachers

In 2017, NCT teachers were more likely to turn over, and more likely to turn over during the school year

Barriers to improvement in NCT schools

PRINCIPAL TURNOVER

45% of NCT schools lost their principals in the 2015-16 school year.

13% of NCT schools experienced principal turnovers *during* the 2015-16 school year.

Student achievement. Within-year turnovers are associated with a 0.8 decrease in performance composite, and between-year turnovers are associated with about half of that.

Teacher turnover. The average study school loses 10 of its 30 teachers each year. In years with a within-year transition, the average study school would lose 11 or 12.

TEACHER TURNOVER

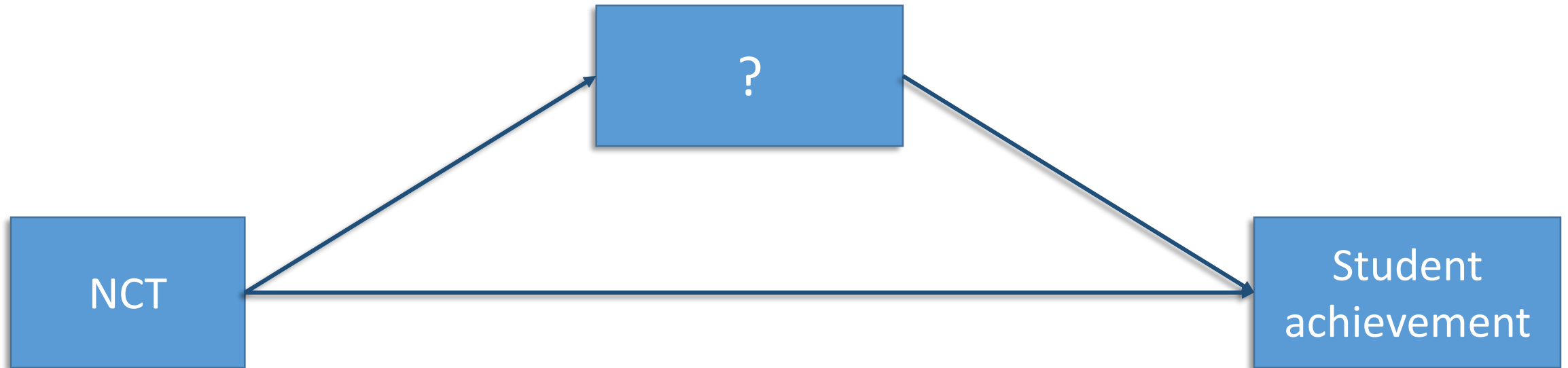
1/3 NCT teachers left their schools each year, compared with less than 1/5 in the average NC school.

8% of NCT teachers turn over *during* the school year.

Student achievement. A student whose teacher turns over during the school year is expected to lose about 18.5% of an average student's growth.



What barriers to improvement may have affected NCT outcomes?



What barriers to improvement may have affected NCT outcomes?

- Suppressors

- ☒ Teacher turnover (within year in high schools)
- ☒ Student chronic absenteeism (in middle schools)
- ☐ Principal turnover

- Mediators

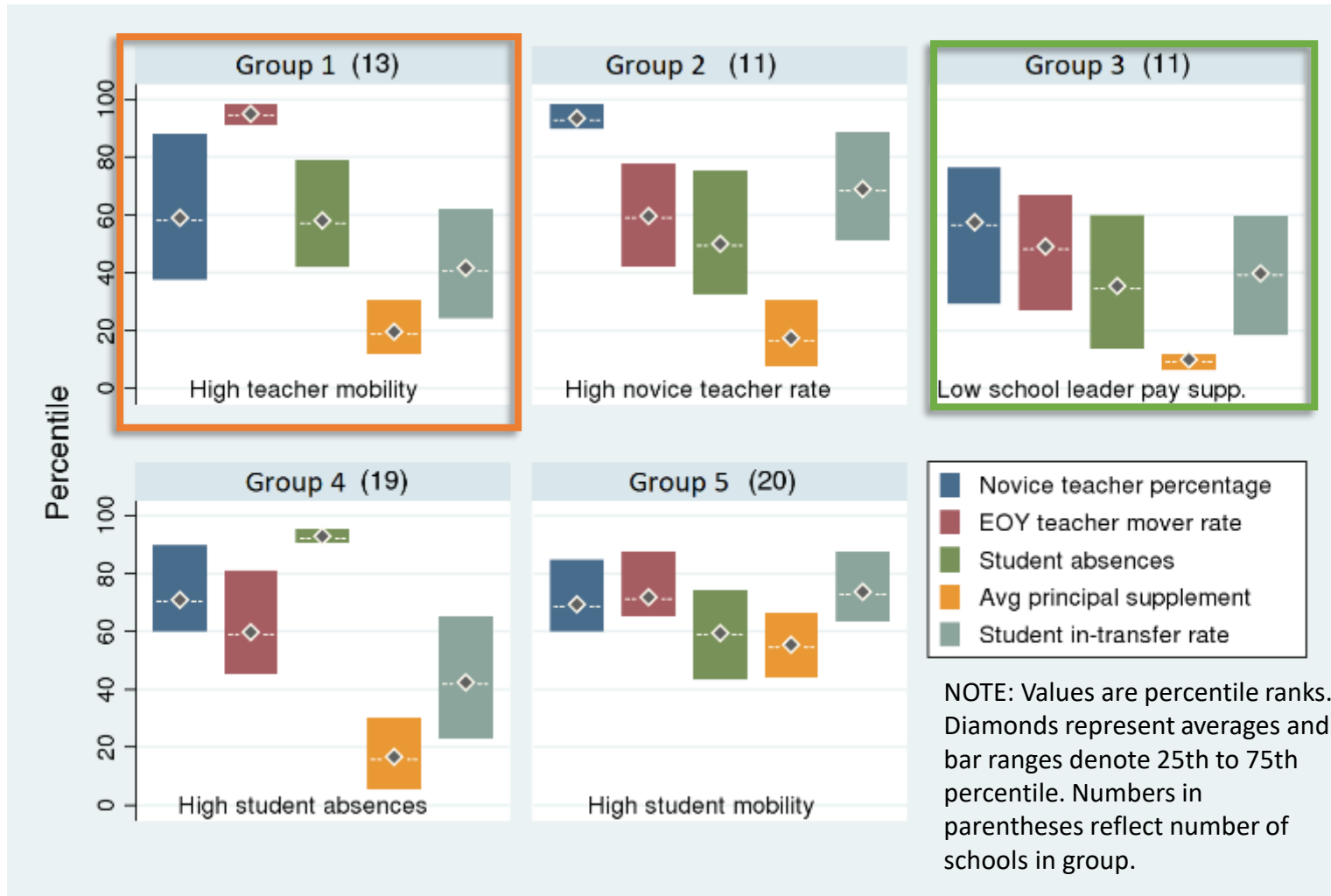
- ☐ Dosage (amount of coaching received)
- ☐ Fidelity of implementation (extent to which DST services in school aligned with theory of action)

Reducing teacher turnover in NCT high schools would have resulted in gains in high school proficiency. Student chronic absenteeism in NCT middle schools led to smaller student achievement gains.

Fewer barriers → Larger gains

- Teacher turnover
 - Students in schools where less than 15% of teachers turn over between school years gain nearly 2% of a standard deviation more than students in average low-performing schools
- Student chronic absenteeism
 - Students in schools where fewer than 6% of students are chronically absent gained about 3% of a standard deviation more than students in average low-performing schools
- Principal turnover
 - Keeping a principal for at least 3 years is associated with nearly a 2% increase in student test score gains in low-performing schools

How did barriers to improvement affect achievement growth under NCT?



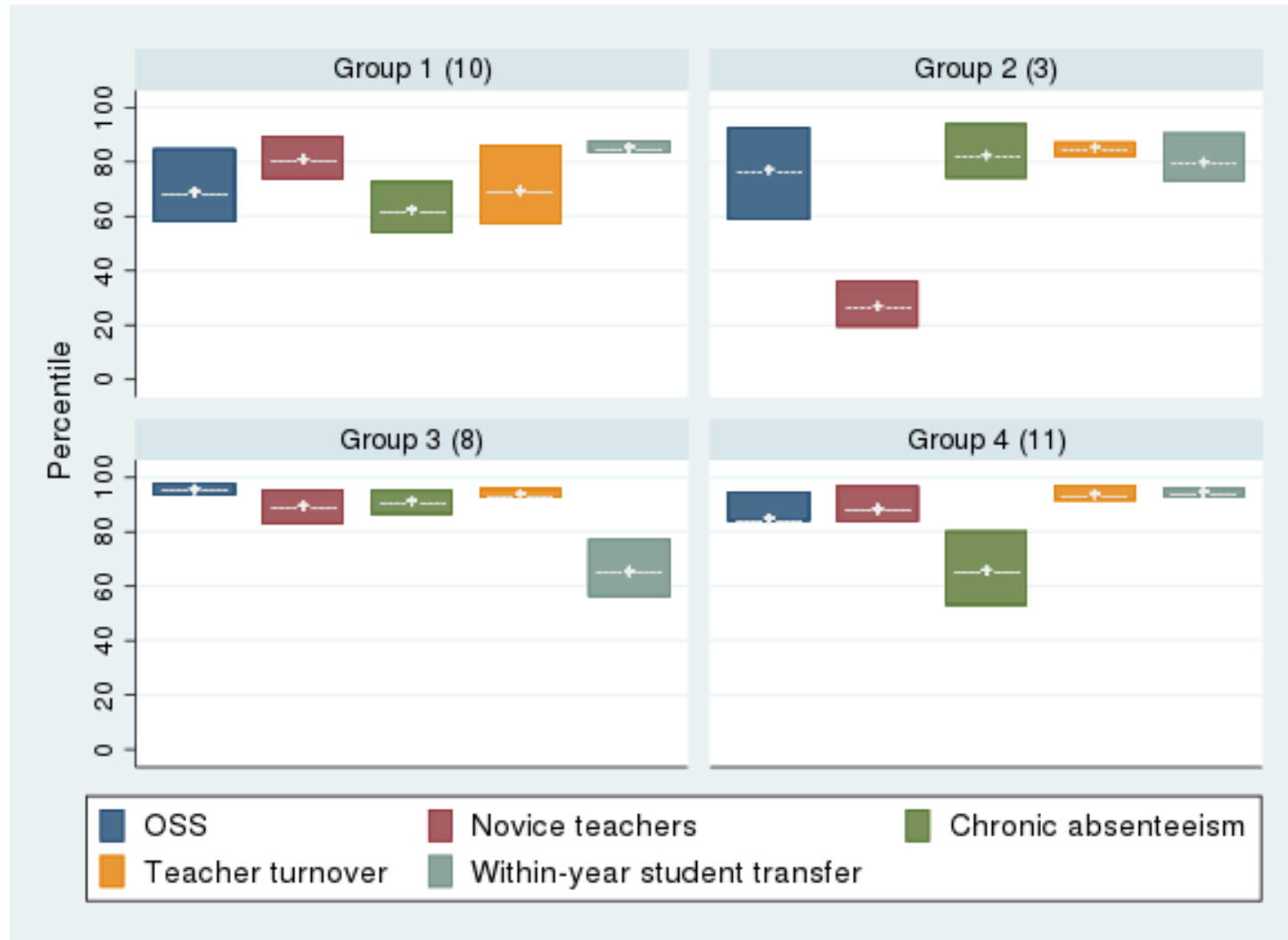
Highest growth:
Fewest
underlying
challenges



Lowest growth:
High teacher
mobility



Looking ahead: *Level 3 ESS schools*



Level 3 schools have

- *Very high teacher turnover, and*
- *Multiple barriers to success, including*
 - *High rates of novice teachers*
 - *High rates of chronic absenteeism*
 - *High out-of-school suspension rates*
 - *High within-year student transfer rates*

NOTE: Values are percentile ranks. Diamonds represent averages and bar ranges denote 25th to 75th percentile. Numbers in parentheses reflect number of schools in group.

Summary of Findings: Preliminary Outcomes

- From 2015-16 to 2016-17, NCT schools increased proficiency rates by 4.91 percentage points, comparison schools increased by 6.67 points, and all regular schools in the state increased by 2.81 points.
- NCT schools in 2016 made student achievement growth similar to the comparison schools and in 2017 made significantly less progress.
- In 2016, NCT principals were more likely to turn over and in 2017, NCT teachers were more likely to turn over than those in the comparison schools.

Summary of Findings: Barriers to Improvement

- NCT schools lost 45 percent of their principals in 2015-16, which is associated with decreased student achievement and increased teacher turnover.
- On average, NCT schools lost 1/3 of their teachers each year, which has negative effects on student achievement.
- Within-year teacher turnover appears to have suppressed student achievement growth in NCT high schools.
- Chronic student absenteeism appears to have suppressed student achievement growth in NCT middle schools.
- NCT schools with the highest teacher turnover experienced the lowest achievement growth.
- All Level 3 schools served by ESS in spring 2018 have very high teacher turnover and other barriers to improvement, including high chronic absenteeism and more novice teachers.

Implications for Legislation, Policy, & Practice

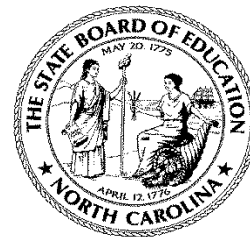
1. Underlying barriers to improving NC's lowest performing schools
 - **What is the Department's role in addressing barriers to improvement (e.g., teacher/principal turnover, chronic absenteeism) in the state's lowest performing schools?**
2. State supports for improving low-performing schools
 - **How should state supports in the lowest performing schools be modified to address barriers to improvement?**
3. Disruption of status quo?
 - **How should ongoing routines and practices in the lowest performing schools be disrupted (e.g., mandated principal/teacher turnover, state guidelines for districts, threat of state takeover) for rapid, sustained improvement in outcomes?**
4. Low-performing schools targeted under ESSA
 - **Which schools should be targeted for services?**
 - **How many schools can be effectively improved given available resources?**

Supplemental Slides

VANDERBILT



Peabody College



EDUCATION POLICY
INITIATIVE *at* CAROLINA

Evaluation of NC Turnaround (NCT)

- Institute for Education Sciences State Partnership Grant (1 of 3 funded nationally)
- Partners and Leads
 - State Board of Education (Audrey Martin-McCoy & Betsy West) and Department of Public Instruction (Nancy Barbour)
 - Vanderbilt University (Gary Henry)
 - University of North Carolina at Chapel Hill (Julie Marks)
 - RAND Corporation (Rebecca Herman)
- IES required focus on turnaround, teacher evaluation or standards & assessment
- Five-year implementation and impact study (2015-2020)

Evaluation of Turning Around NC Lowest Performing Schools

Innovative features of NCT evaluation

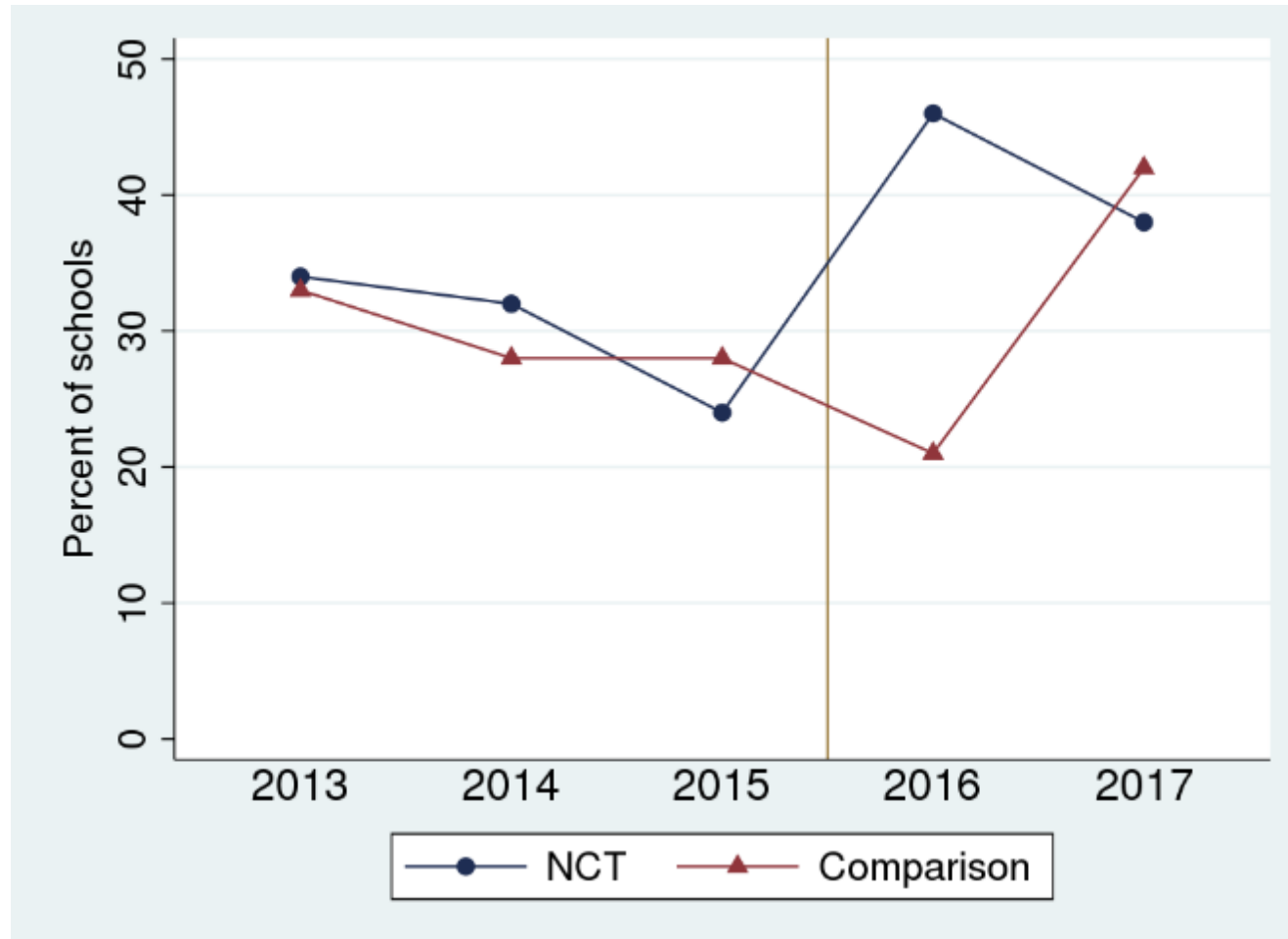
- Expert Teacher and Principal Advisory Committee – Principal & Teacher of the Year and others, all successful in low performing schools
 - Advice on interpretation of findings
 - Recommendations for improvement
- Provides detailed information on implementation in time for DPI to adjust if needed
- Compares practices in NCT Lowest Performing Schools to other low performing schools not receiving NCT
- Provides evidence about why some students succeed and others do not to inform adapting practices that make more students successful

Evaluation of Turning Around NC Lowest Performing Schools

Research questions

- What are the effects of NCT on intermediate and student outcomes?
- What are the effects of NCT on the outcomes of the lowest achieving students?
- What underlying processes appear to mediate or suppress overall effects and effects on the lowest achieving students?
- What is the quality of the implementation of transformation processes in NCT schools and are they implemented with fidelity?

Principal turnover

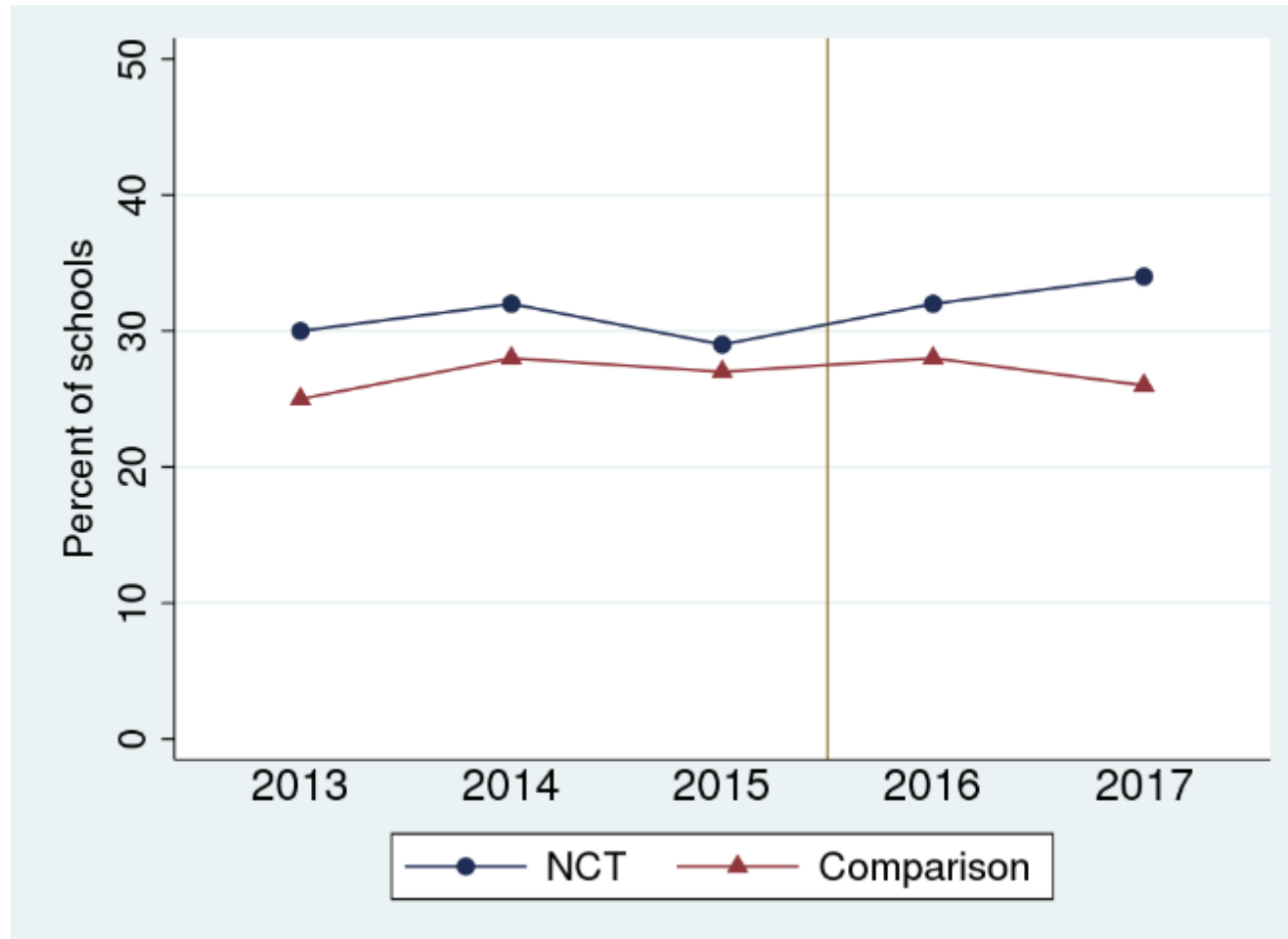


In 2015-16, 45% of NCT schools lost their principals, with nearly 13% of schools losing principals during the school year.

That same year, about 22% of comparison schools lost their principals, with 10% leaving during the school year.

NCT and comparison schools both lost about 40% of principals in 2016-17.

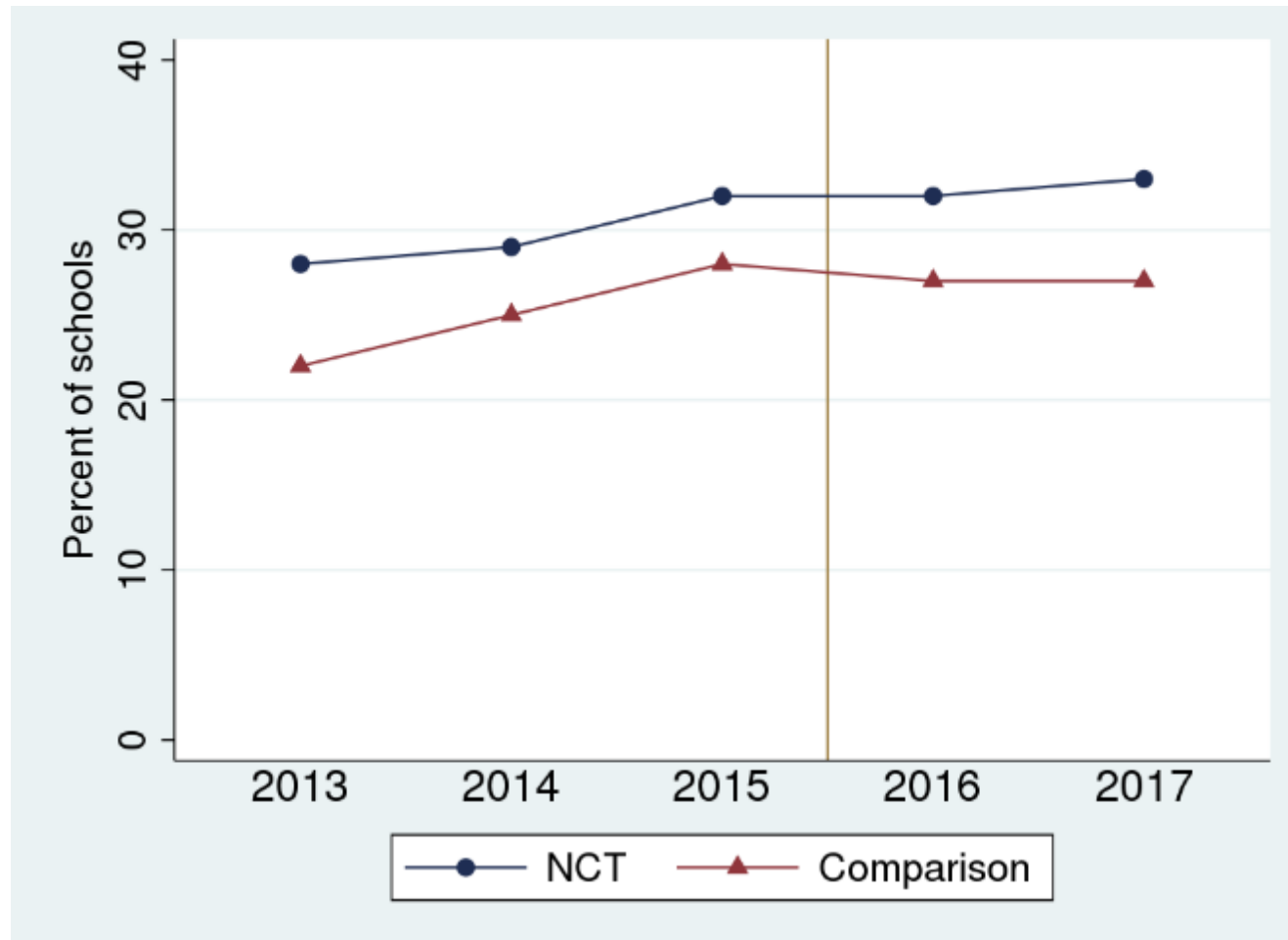
Teacher turnover



NCT schools lost 32% of teachers in 2015-16 and 34% in 2016-17. In both years, 8% of teachers turned over during the school year.

Comparison schools lost 28% and 26% of teachers in the 2015-16 and 2016-17 school years, respectively. In both years, 6% of teachers left during the school year.

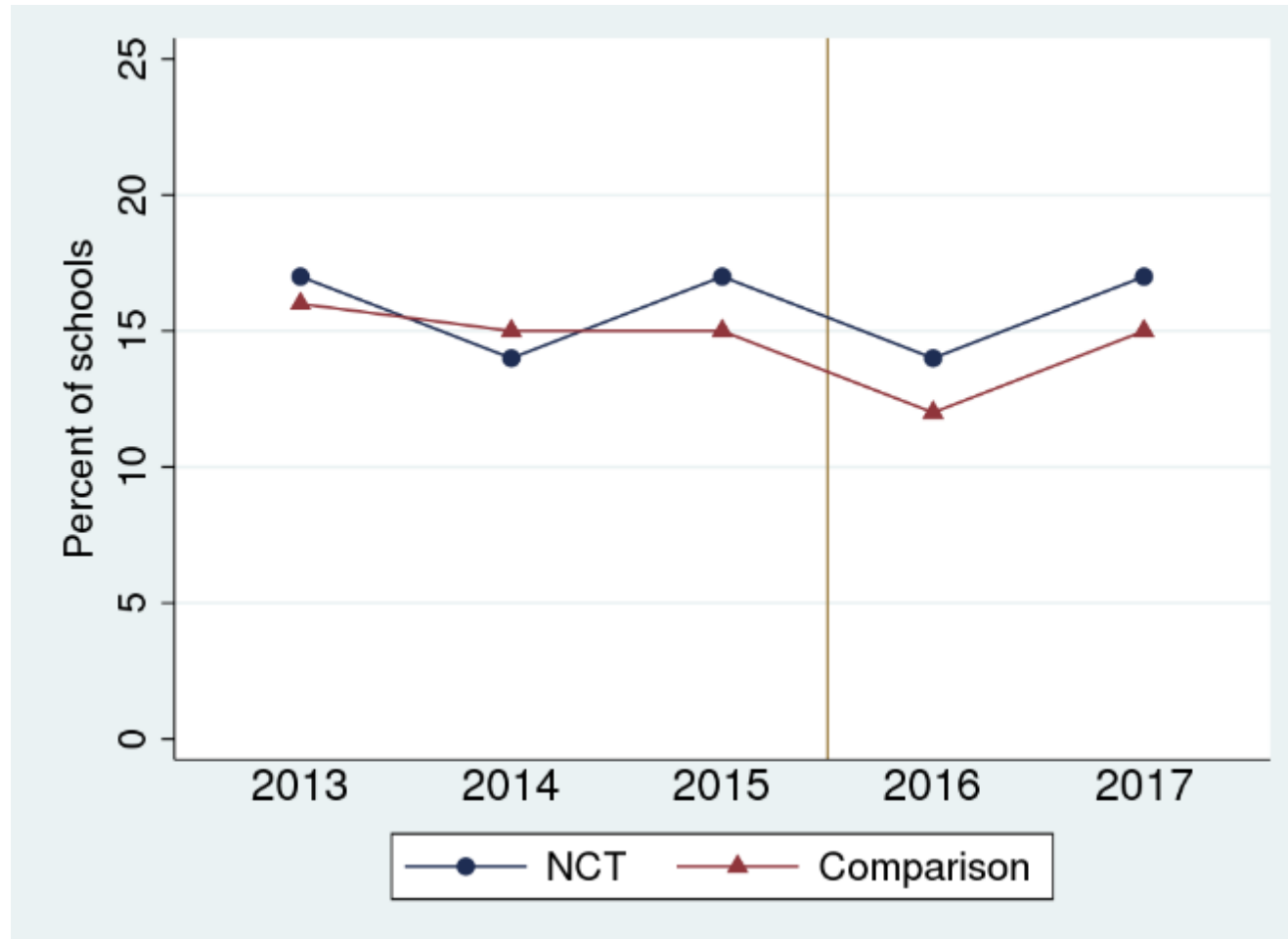
Novice teachers



More than 30% of teachers in NCT schools have 3 or fewer years of experience.

Roughly 27% of teachers in comparison schools are novices.

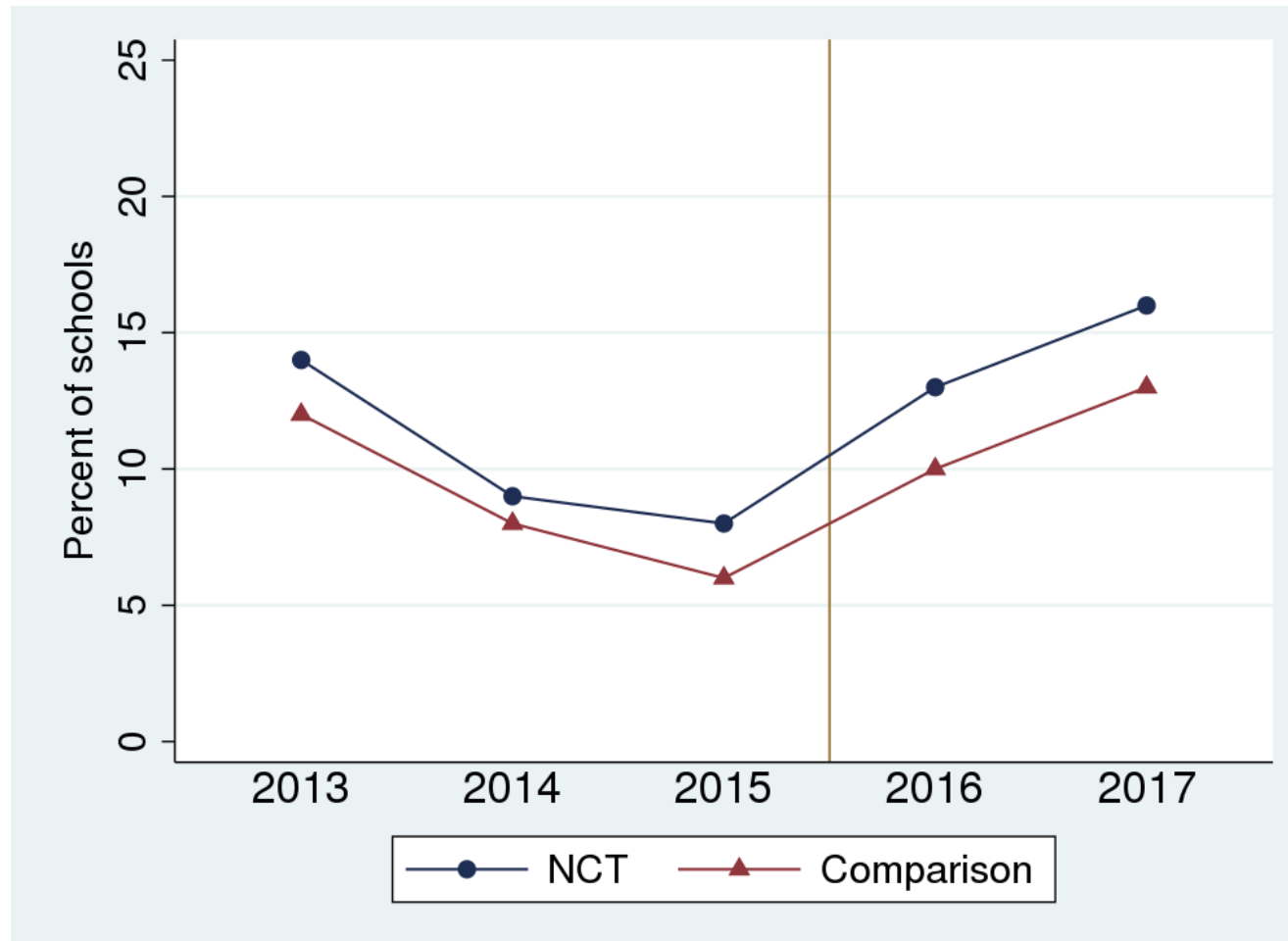
Student mobility



In NCT schools, 14-17% of the student body transfers in each year, either at the beginning of the year or during the year. About 8% transfer in after the school year has already begun.

Comparison schools also experience high rates of student transfer, although they tend to be slightly lower than NCT schools.

Chronic absenteeism

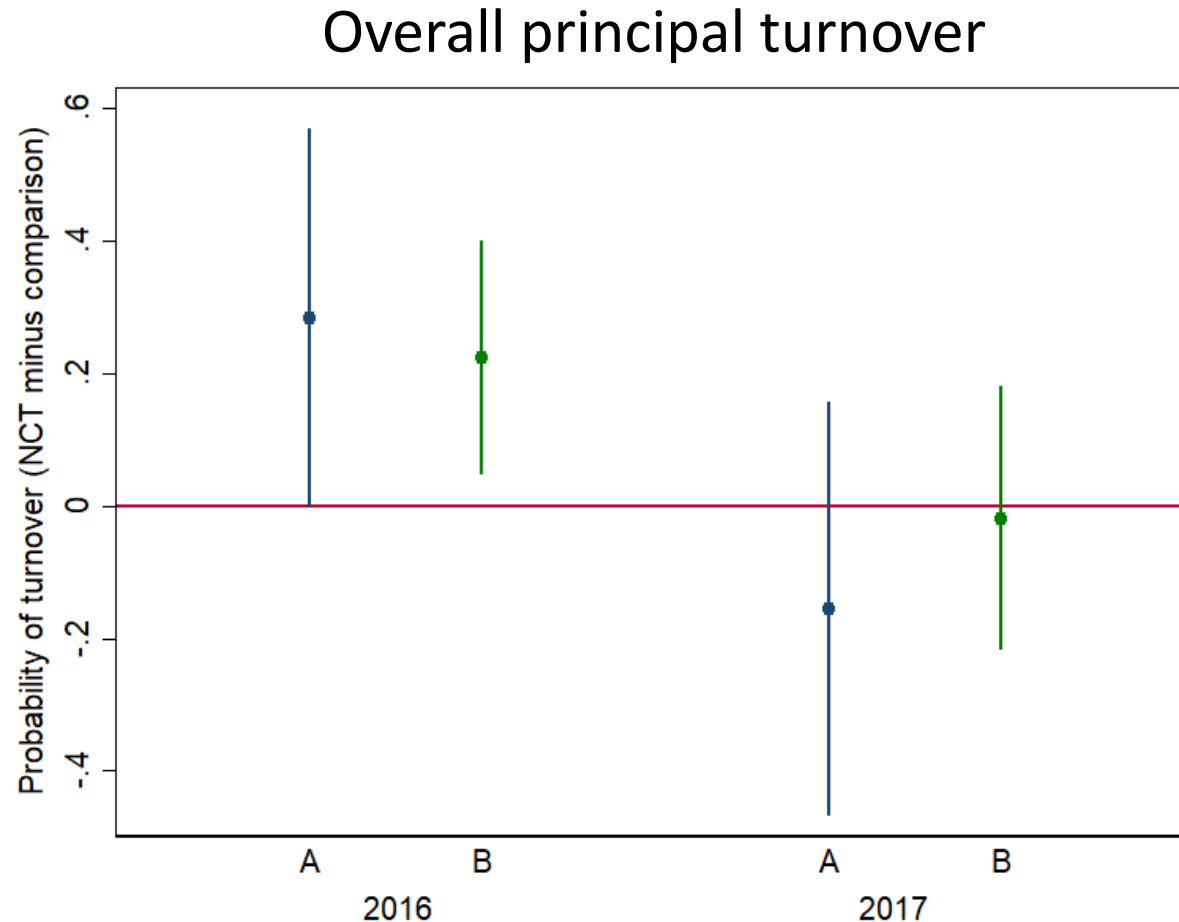


On average, 10 to 15% of students in NCT schools are chronically absent in any given year. During the 2015-16 and 2016-17 school years, NCT schools experienced above average levels of chronic absenteeism, at 13% and 16%, respectively.

In comparison schools, 6% to 12% of students are chronically absent. These schools also experienced higher levels of chronic absenteeism in 2015-16 and 2016-17.

Preliminary outcomes

Principal turnover

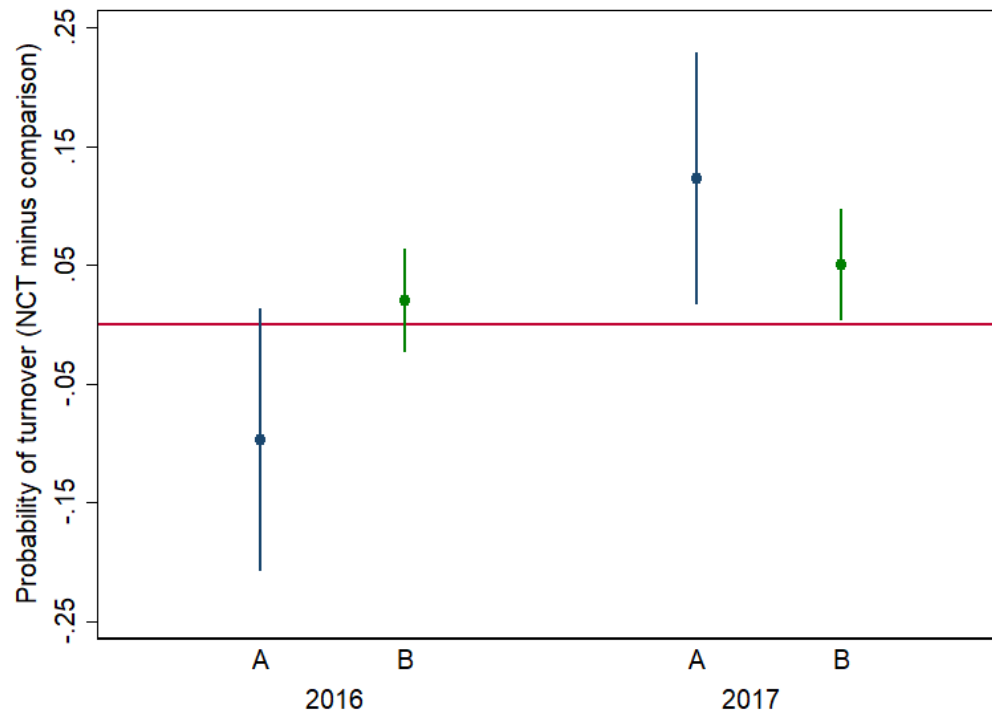


Principals in NCT schools were more likely to turn over in 2015-16 than comparison school principals.

Preliminary outcomes

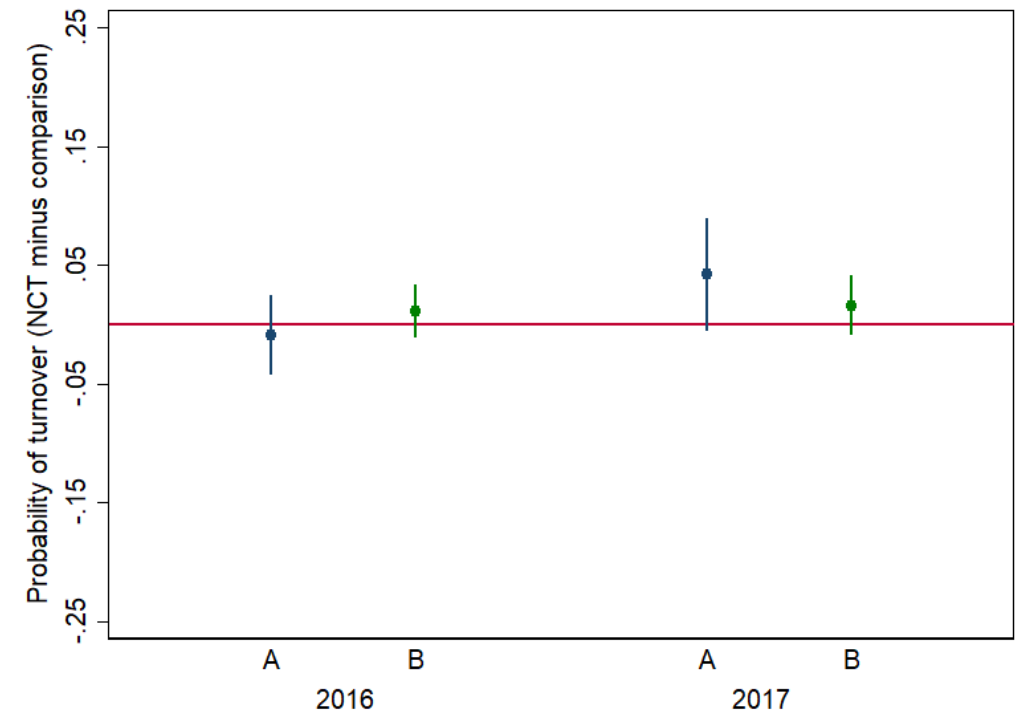
Teacher turnover

Overall teacher turnover



Teachers in NCT schools were more likely to turn over in 2017 than teachers in comparison schools.

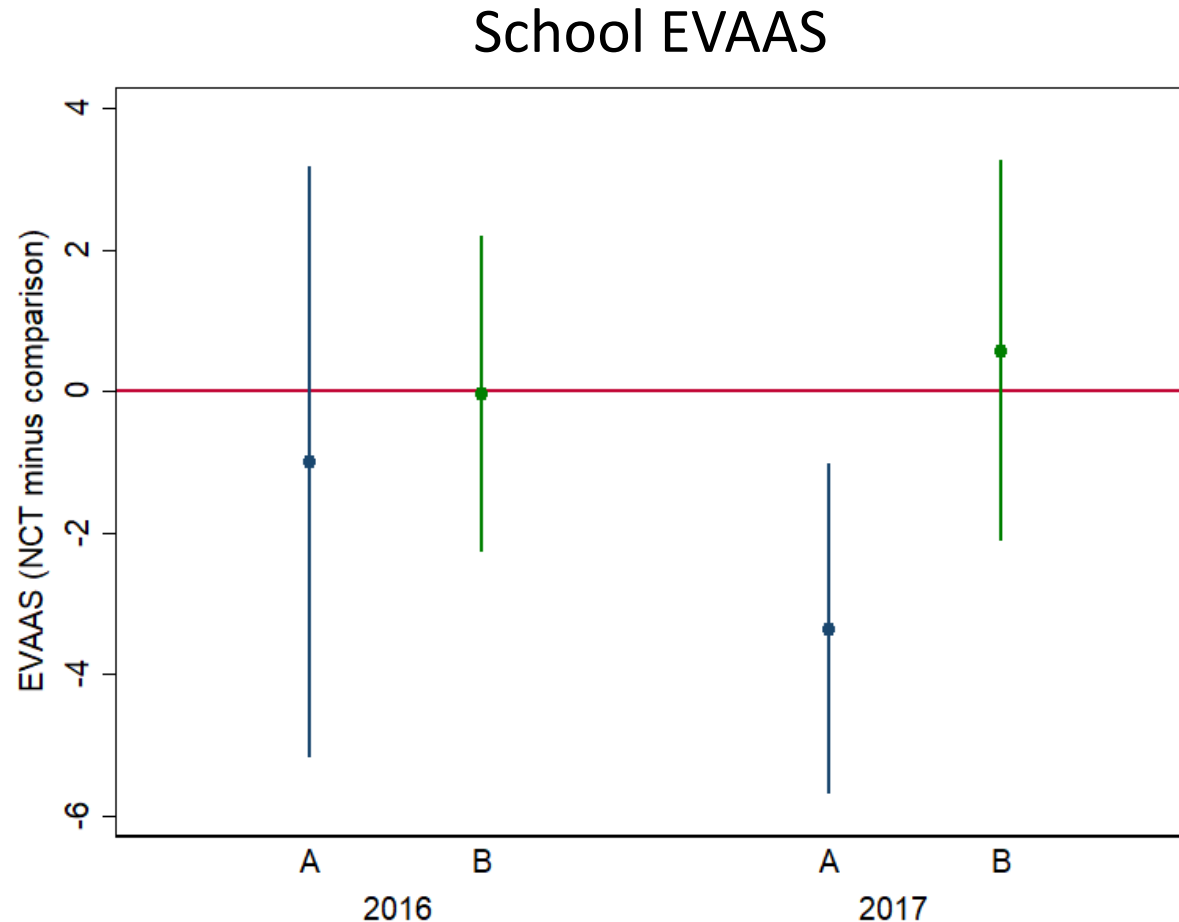
Within-year teacher turnover



One approach found that teachers in NCT schools were more likely to turn over during the 2016-17 school year.

Preliminary outcomes

School value added

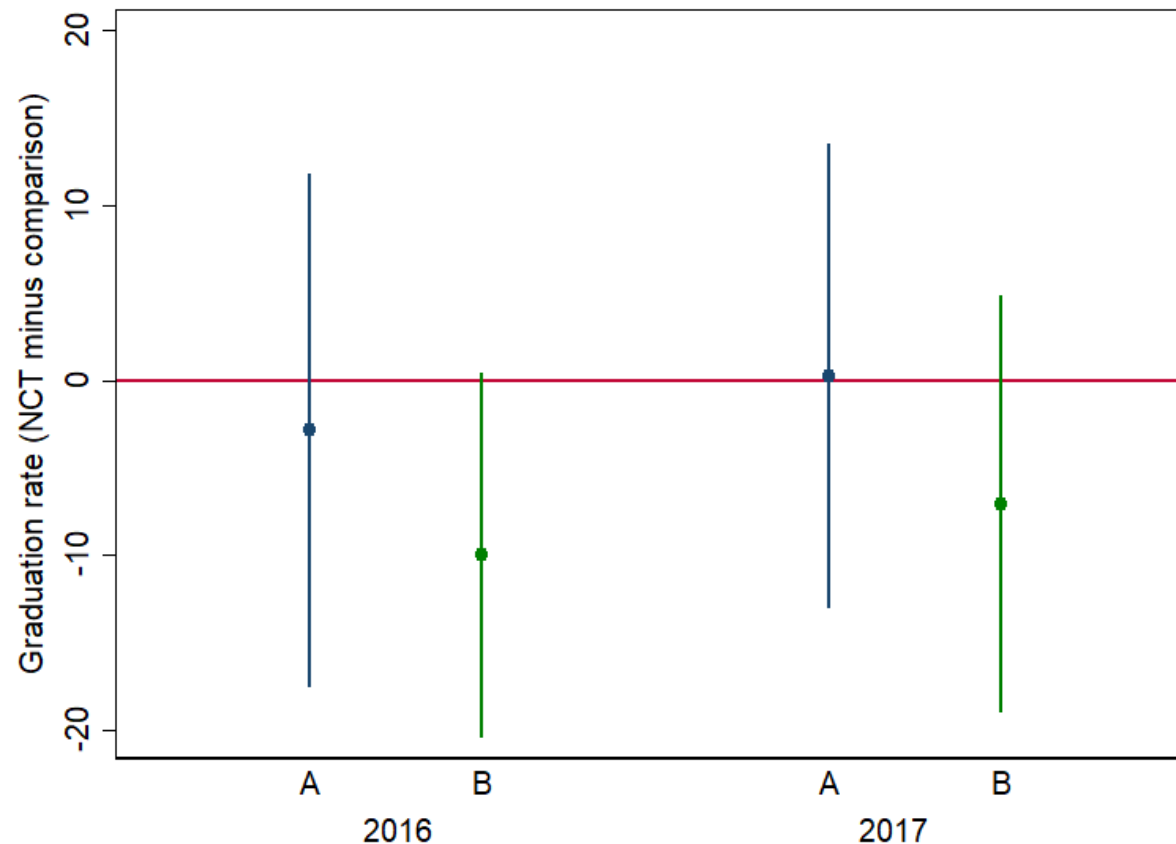


One approach found NCT schools had significantly lower growth than comparison schools in 2017.

Preliminary outcomes

Graduation rate

4-year cohort graduation rate



There are no significant difference between NCT and comparison schools on change in graduation rate in 2016 or 2017. Descriptively, graduation rates in NCT schools appeared to dip relative to comparison schools.

Fidelity of Implementation (FOI) measures

Goals of FOI Measures

- Capture all of the components of the theory of action
- Provide measures of the implementation of major program components
- Apply to both treatment and comparison schools

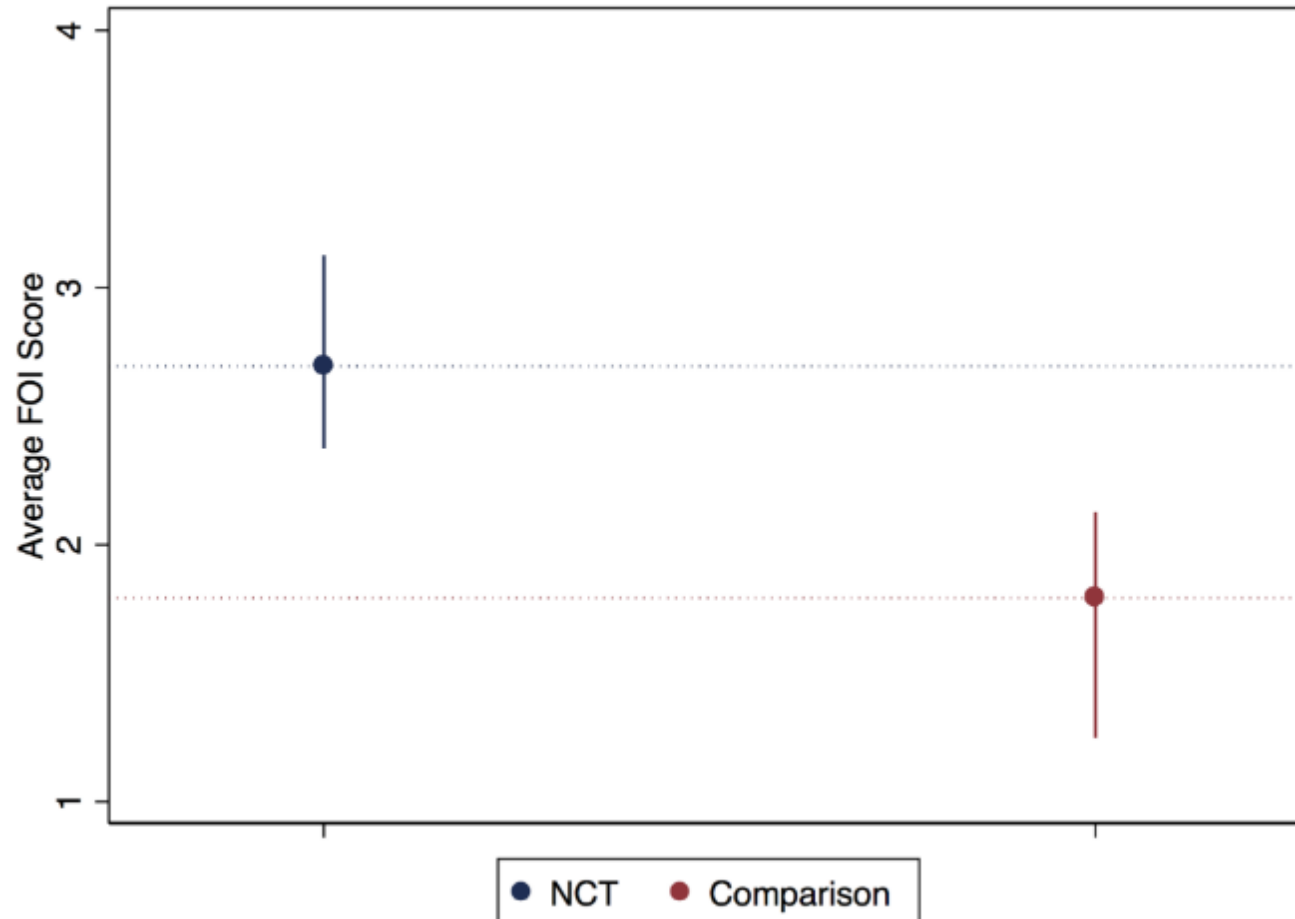
Eight Indices based on the Theory of Action

1. Comprehensive Needs Assessment (CNA)/Needs Assessment (NA) Administered
2. CNA/NA Unpacked
3. School Improvement Plan (SIP) Feedback
4. Tailoring of School Transformation Coaching
5. Intensity of School Transformation Coaching
6. School Leadership Professional Development
7. Tailoring of Instructional Coaching
8. Intensity of Instructional Coaching

Rating Levels

- **Lacking:** The activity was not implemented
- **Emerging:** The activity was implemented to a minimal acceptable degree
- **Embedded:** The activity was adequately implemented
- **Leading:** The activity was implemented as designed and intended by the program

Overall Fidelity of Implementation



Higher levels of implementation occurred in NCT schools than in comparison schools, though there was variation in the extent to which services were received across both groups.

NOTE: Filled circles represent averages and vertical lines denote the 25th to 75th percentiles.