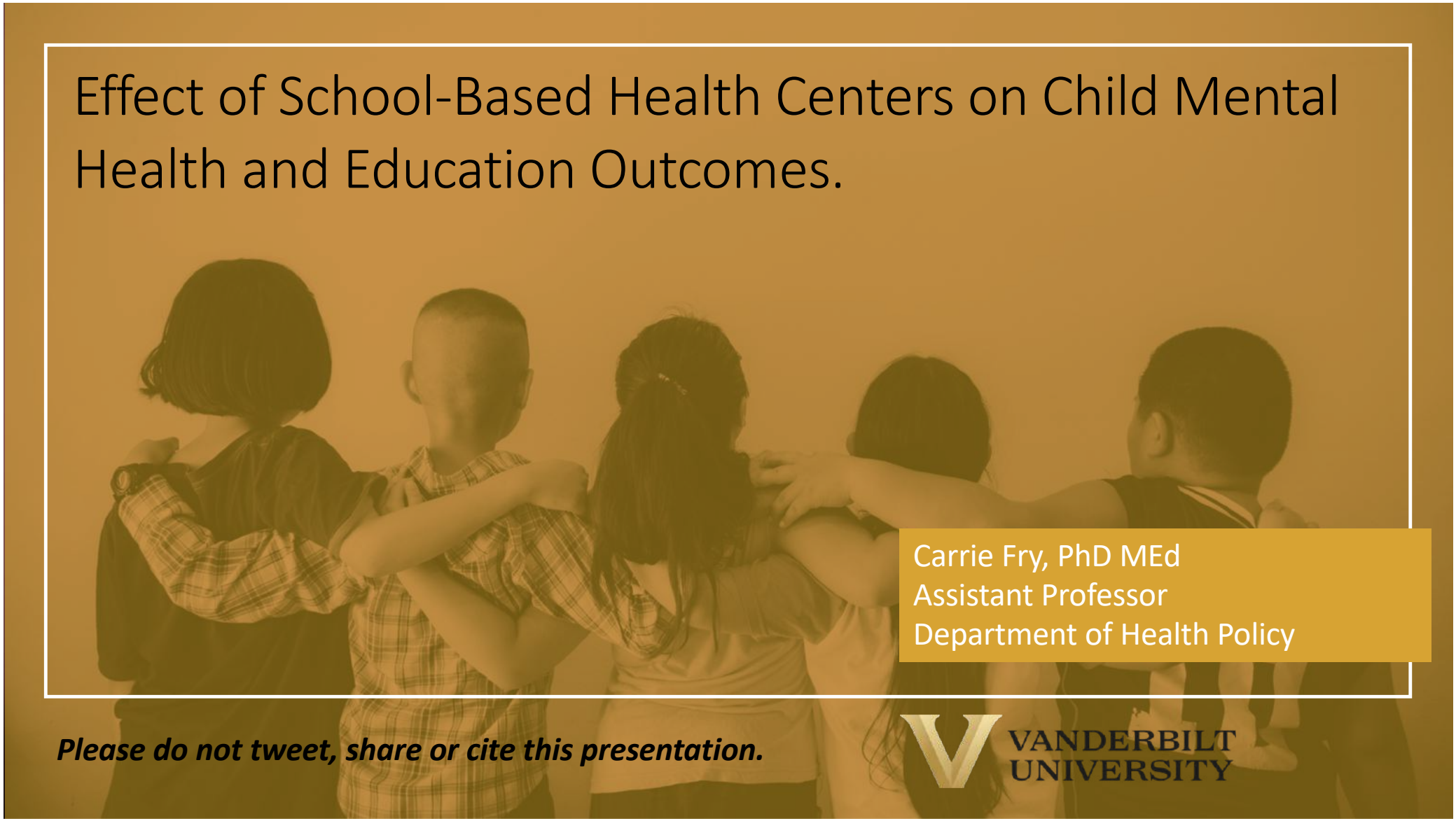
Effect of School-Based Health Centers on Child Mental Health and Education Outcomes.



Carrie Fry, PhD MEd
Assistant Professor
Department of Health Policy

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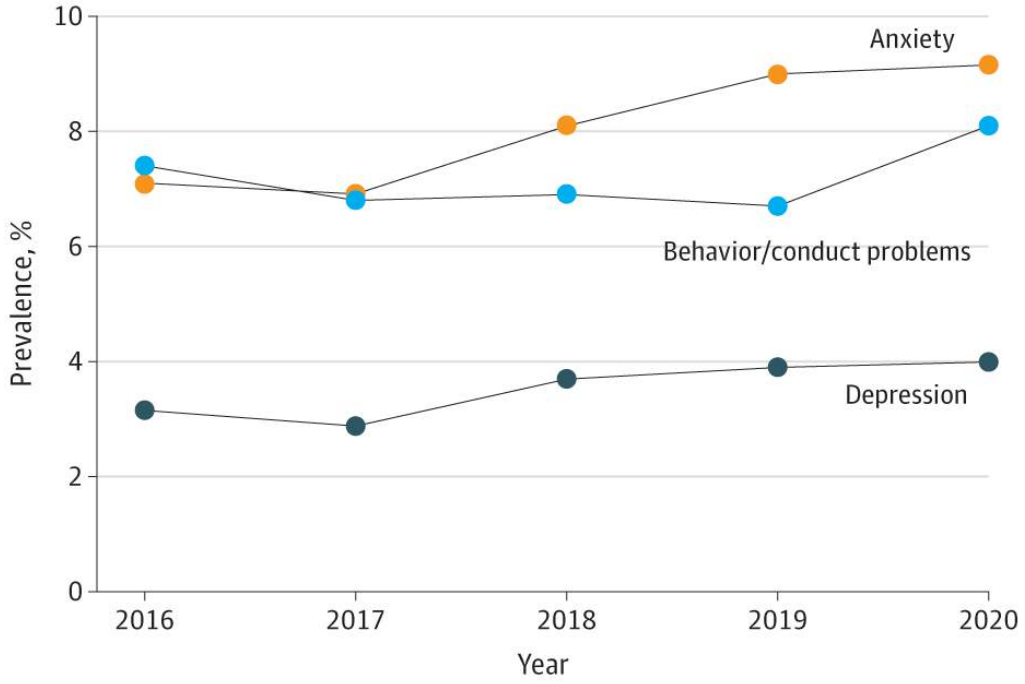
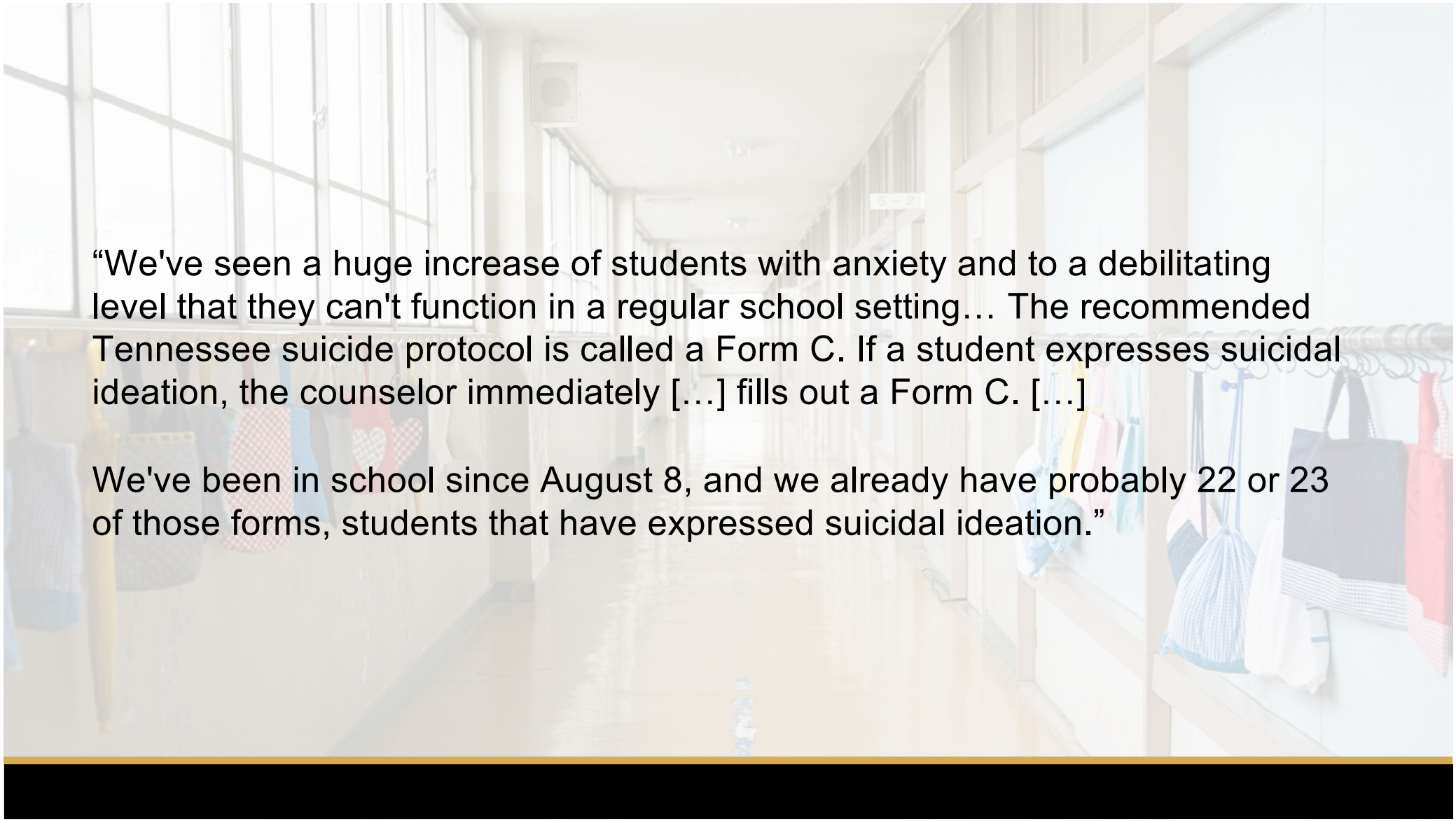
VANDERBILT UNIVERSITY

Children's mental health needs are rising



Since 2016, rates of diagnosed anxiety, behavioral and conduct problems, and depression have increased by more than 20%

The COVID-19 pandemic exacerbated children's mental health needs.



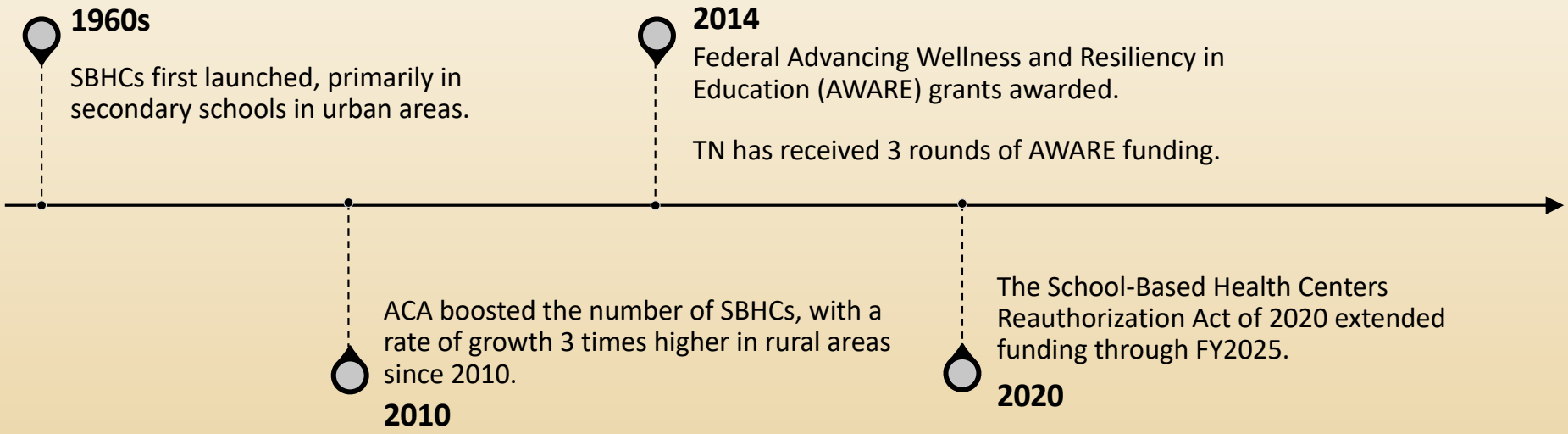
“We've seen a huge increase of students with anxiety and to a debilitating level that they can't function in a regular school setting… The recommended Tennessee suicide protocol is called a Form C. If a student expresses suicidal ideation, the counselor immediately […] fills out a Form C. […]

We've been in school since August 8, and we already have probably 22 or 23 of those forms, students that have expressed suicidal ideation.”

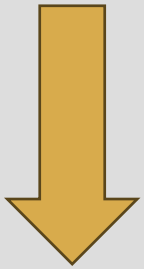
Schools are on the “front line” in identifying and responding to children’s mental health needs

- Faculty and staff are firsthand observers of children’s mental health care needs
- SBHCs often serve as a “medical home” for rural, economically disadvantaged, and historically underserved children
- Interaction between mental health and education outcomes

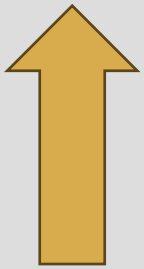
Federal funding to address needs via school-based health centers (SBHCs)



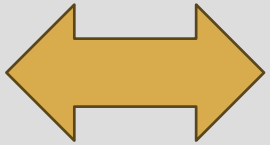
Research on the effects of SBHCs on child health and education outcomes is mixed.



Dropout rates
Teen birth rates
Development of chronic health problems



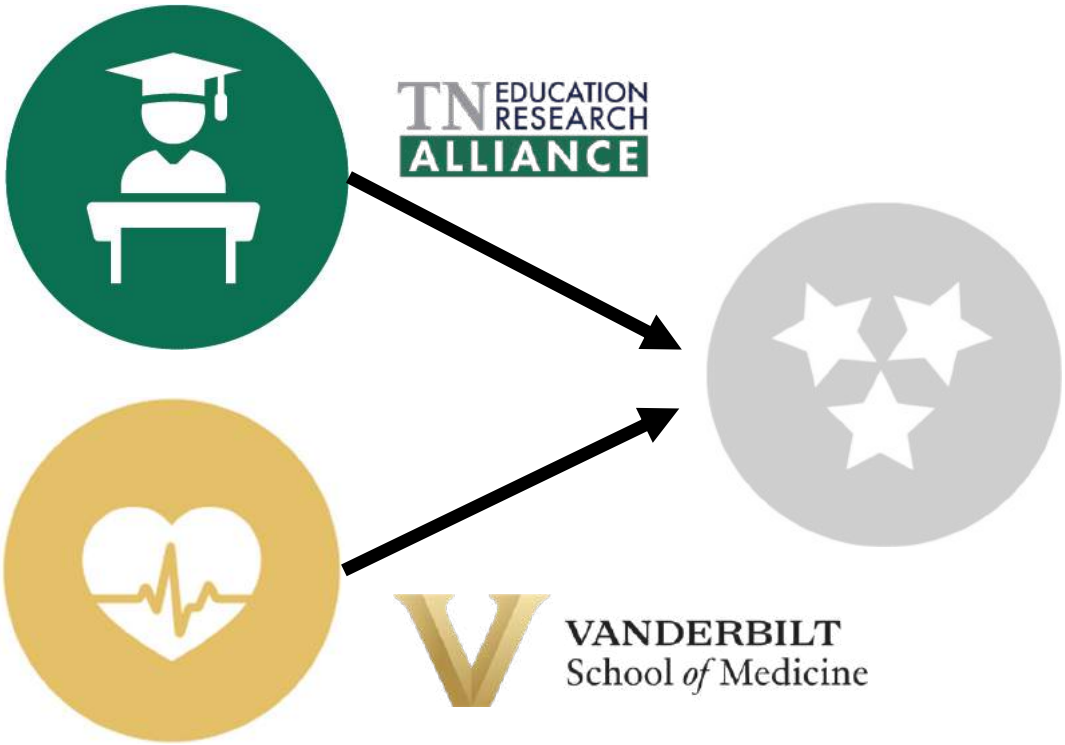
Test scores
Regular source of medical care



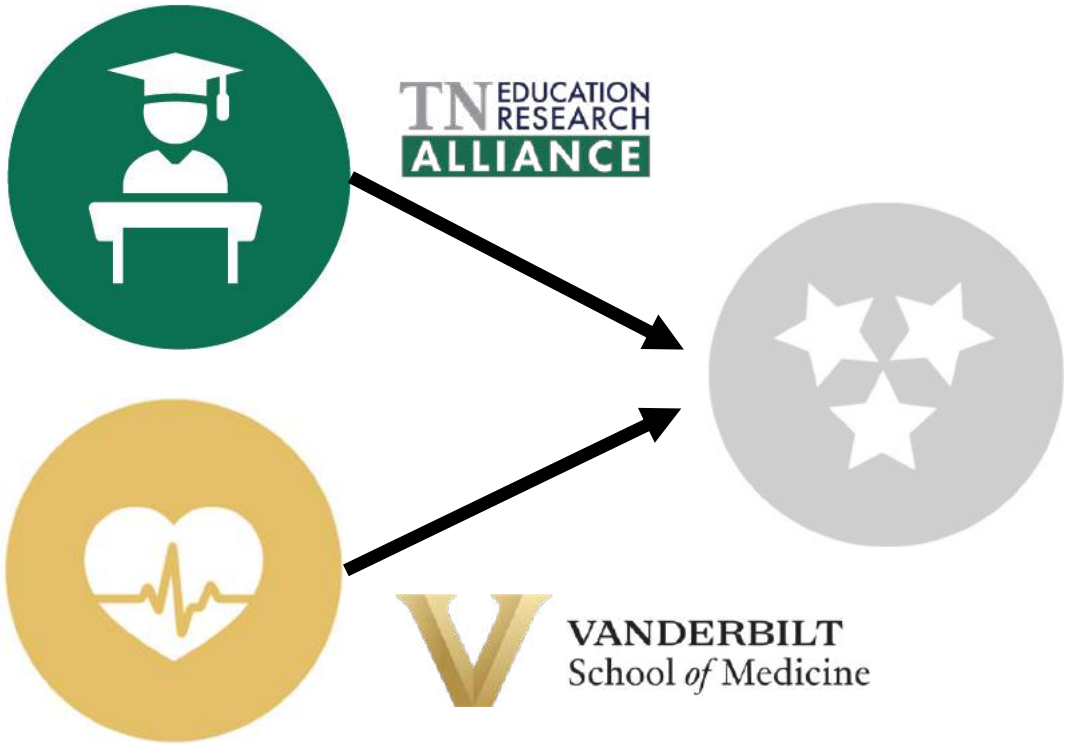
High school completion
School attendance
Self-reported mental health

In this work, we assess how SBHCs affect children's health and education outcomes.

Longitudinally-linked health and education data from 2006-2019 for TN children.



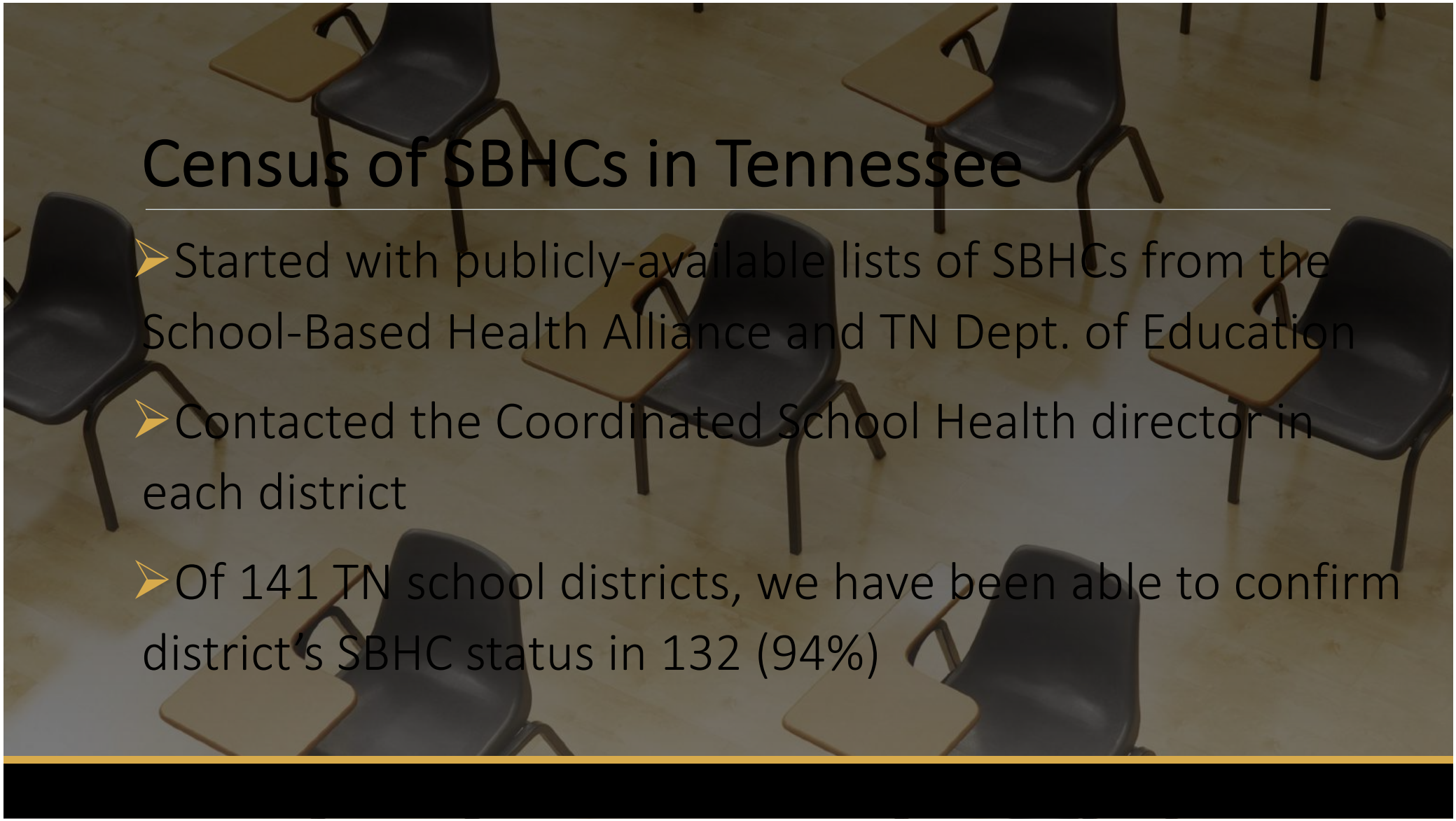
Longitudinally-linked health and education data from 2006-2019 for TN children.



OUTCOMES

- **Chronic absenteeism**
- Standardized test scores
- Disciplinary infractions
- Grade progression

- **Prevalence of mental health conditions**
- Prevalence of suicidal thoughts and behaviors
- Prevalence of physical health conditions
- Healthcare utilization



Census of SBHCs in Tennessee

- Started with publicly-available lists of SBHCs from the School-Based Health Alliance and TN Dept. of Education
- Contacted the Coordinated School Health director in each district
- Of 141 TN school districts, we have been able to confirm district's SBHC status in 132 (94%)

SBHCS IN TENNESSEE

54 (current) SBHCs confirmed;

- 23 started in 2020 or later
- 16 previous SBHCs have closed

MIXED-METHODS RESEARCH APPROACH

Methods: Interviews with SBHC and school district staff, site visits, and quasi-experimental analyses of children's health and education outcomes

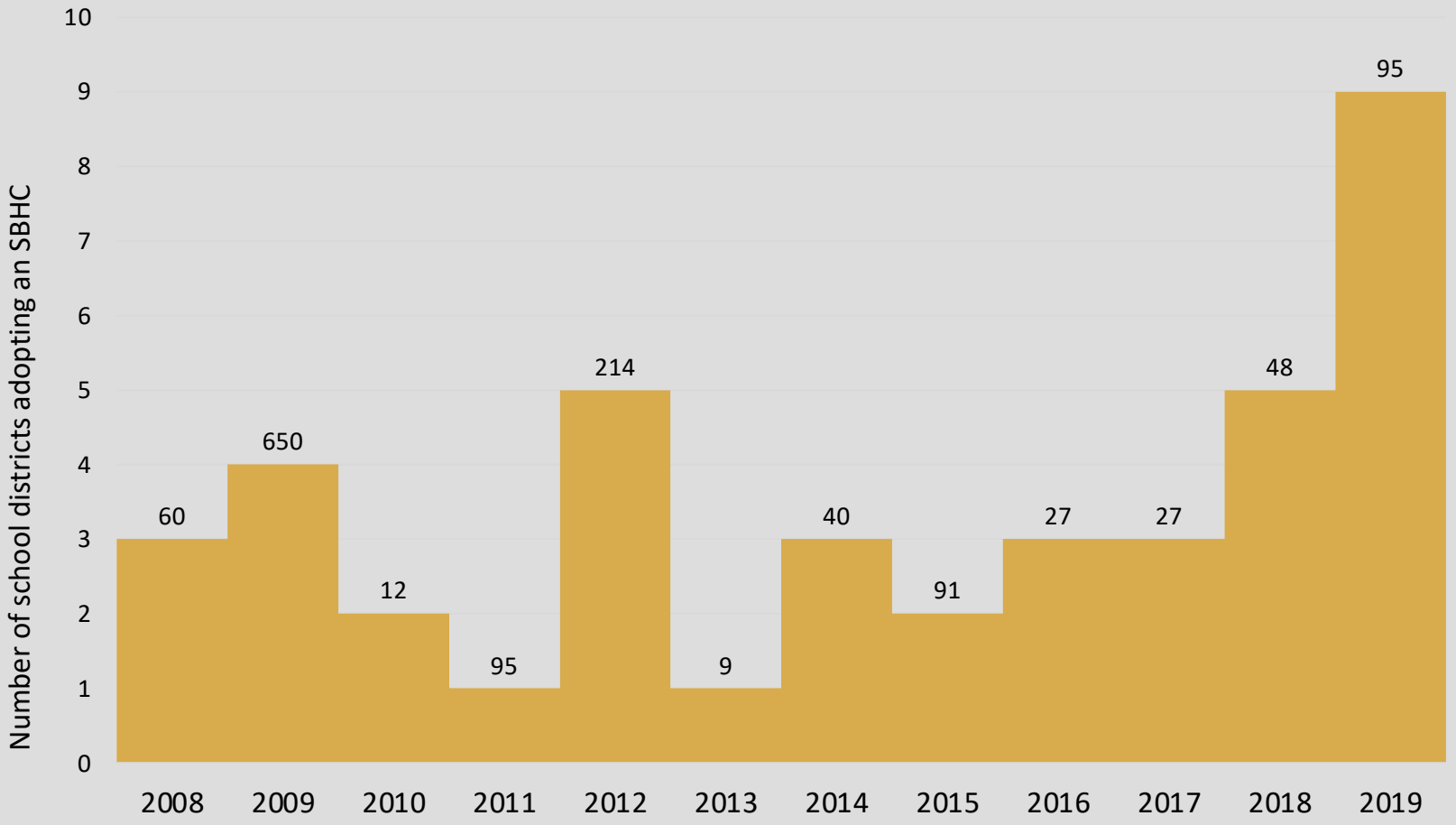
QUALITATIVE COMPONENT

- Construct a full, updated census of SBHCs in Tennessee for interviews and site visits
- Purposively sample and conduct interviews and site visits in school districts without SBHCs
- Document mental health services infrastructure and funding sources

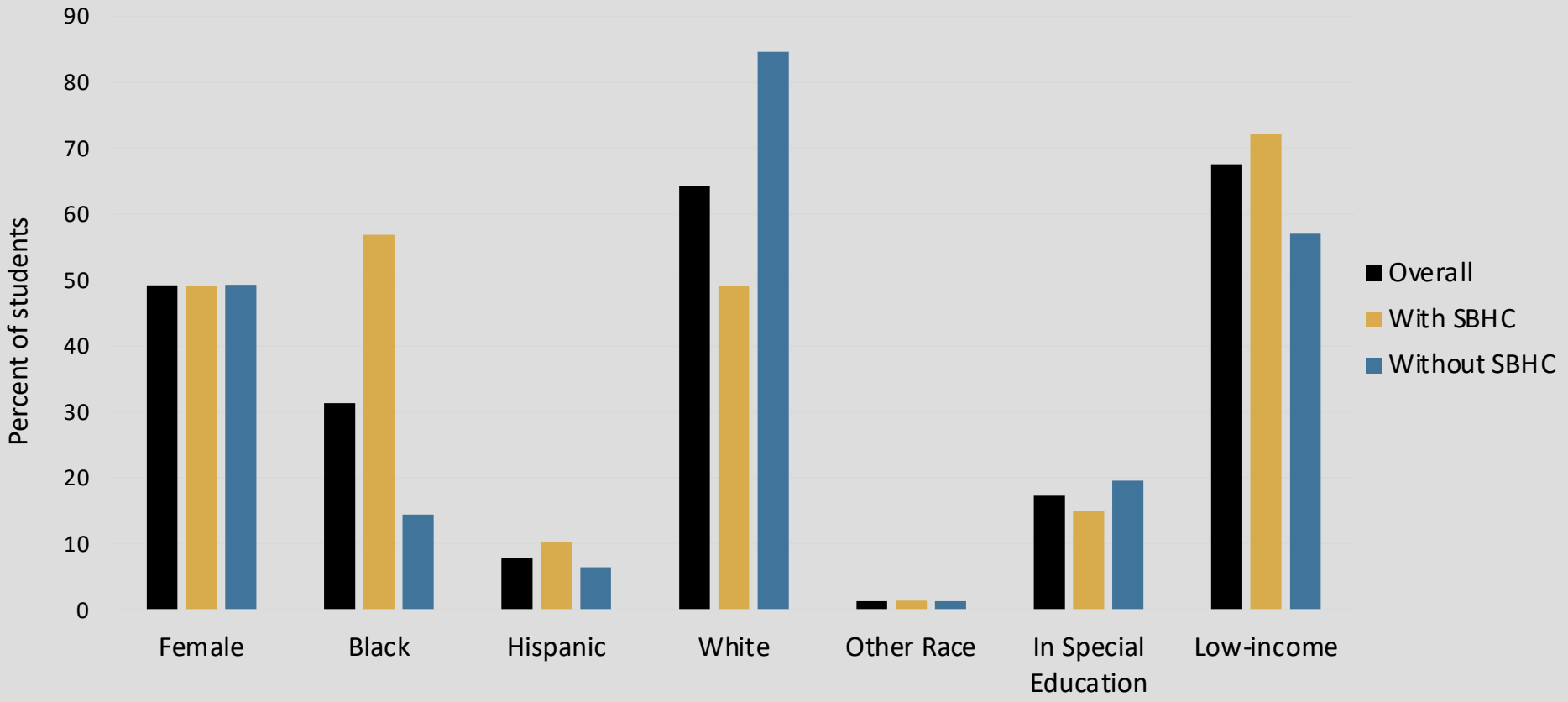
QUANTITATIVE COMPONENT

- Use variation in SBHC roll out over time to estimate changes in children's outcomes before and after their establishment
  - Callaway-Sant'Anna approach to staggered treatment adoption in DID
  - Doubly-robust via IPTW
  - Not-yet-treated comparison group
  - Wild, cluster bootstrap standard errors

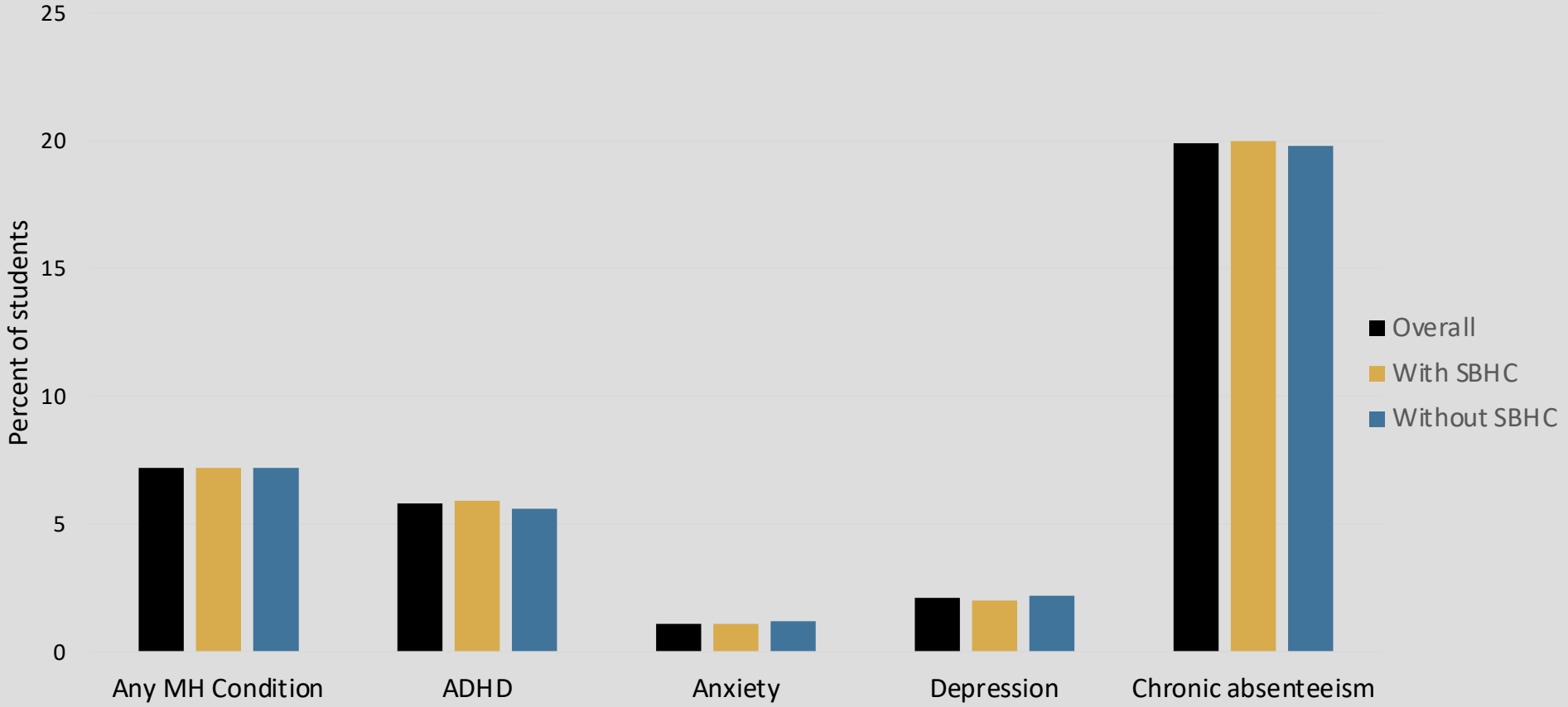
Number of districts and schools in Tennessee adopting SBHCs over time



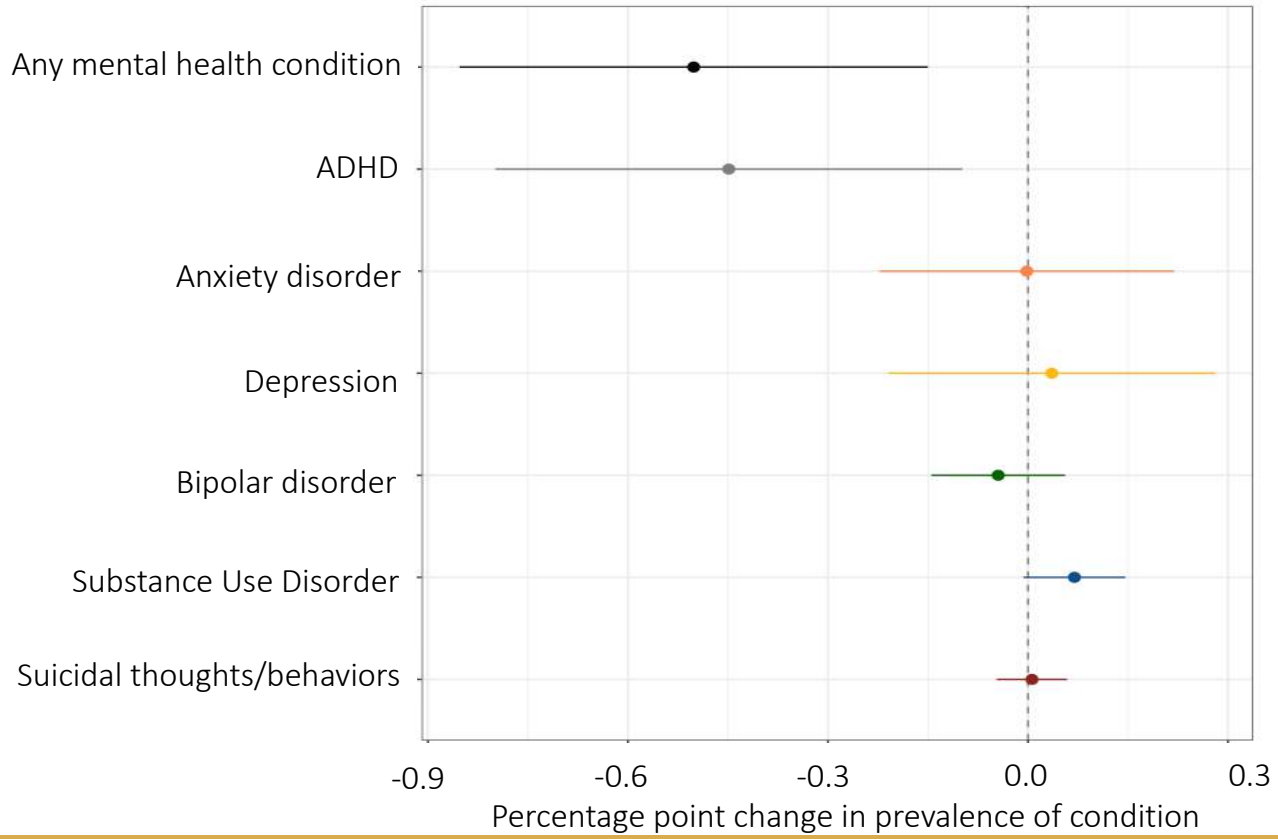
Students in districts with an SBHC are more likely to be low-income and non-white compared to students in a TN district without an SBHC in 2007.



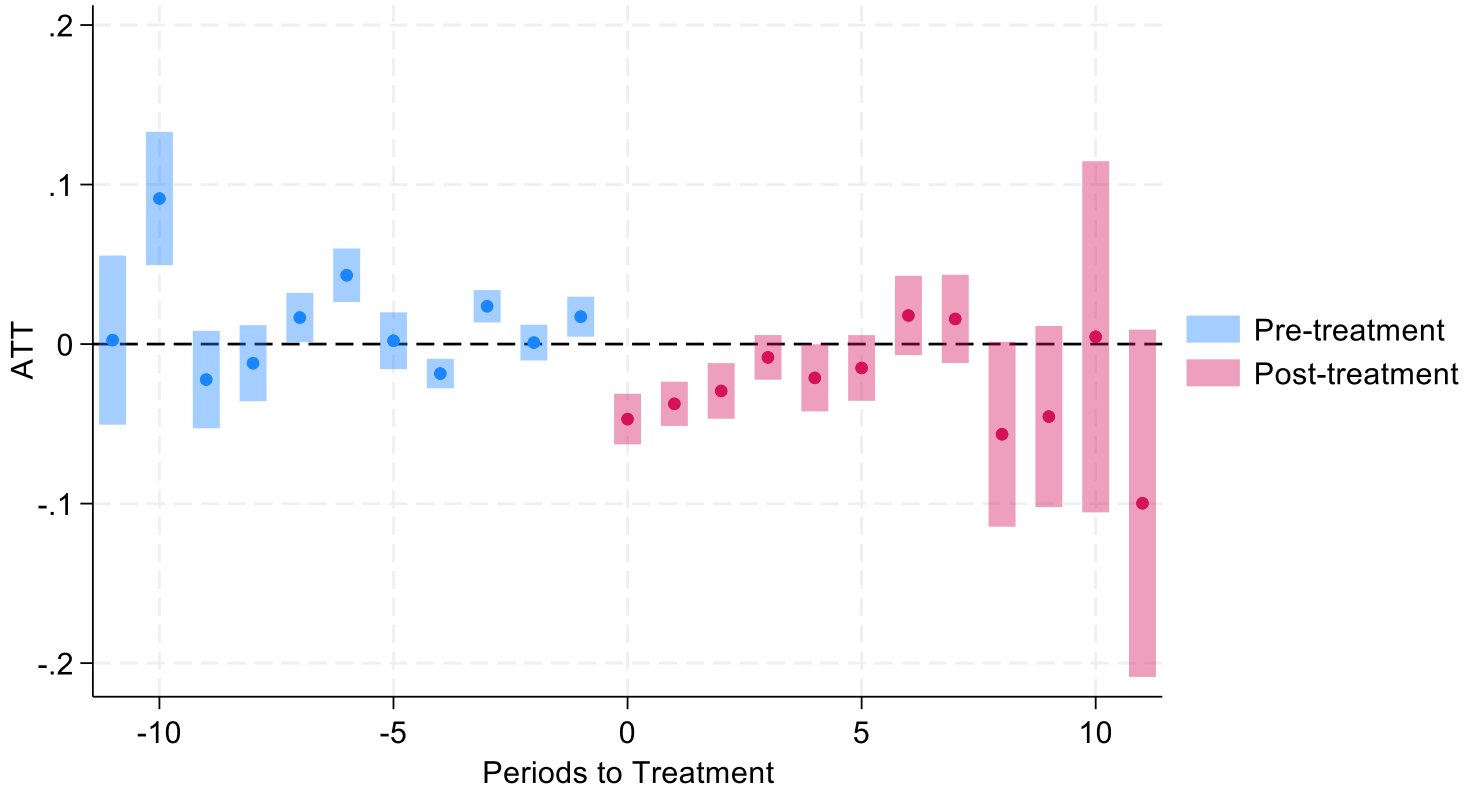
Rates of mental health conditions and chronic absenteeism are similar in districts with and without an SBHC in 2007.



The adoption of an SBHC in a school district is associated with a **0.5 percentage point reduction** in the rate of diagnosed mental health conditions compared to districts without an SBHC.



The adoption of an SBHC in a school district is associated with a **reduction in the rate of chronic absences by 2.4 percentage points** compared to school districts without an SBHC.†



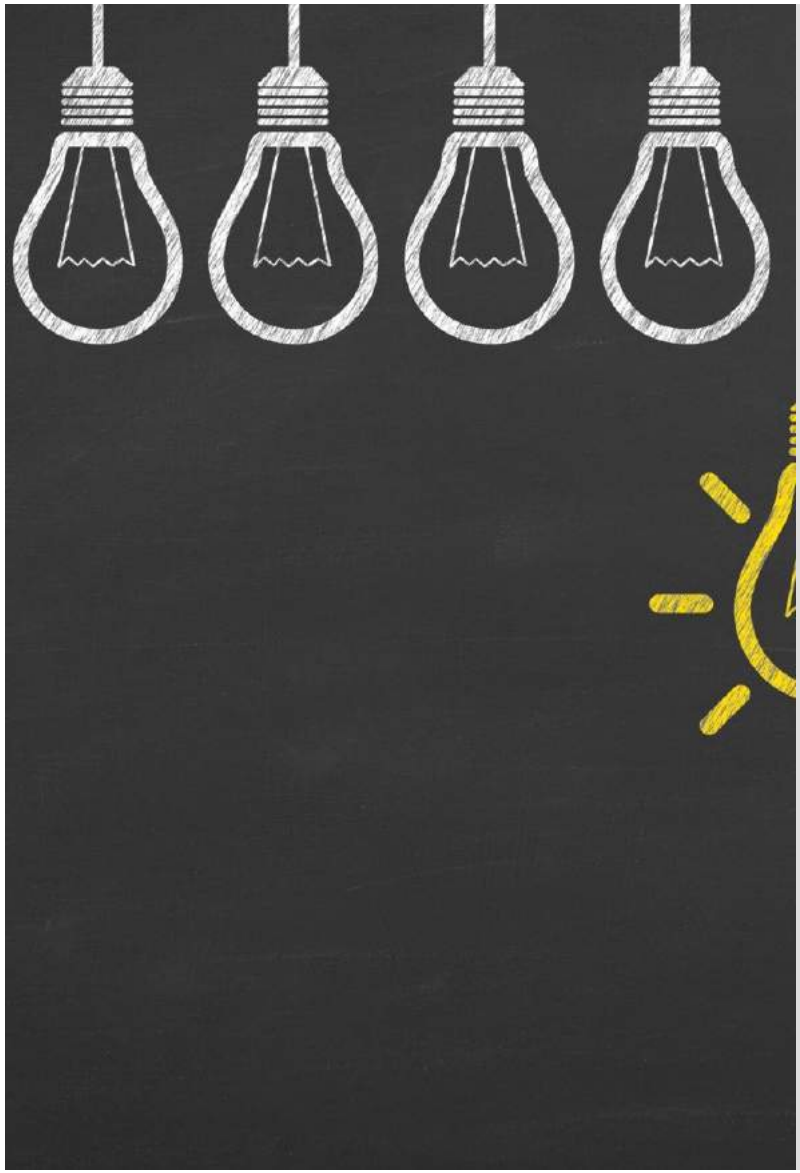
† Does not meet equal pre-treatment trends assumption.

SBHC is measured at the district level

Prevalence is measured via claims data

Untestable causal assumptions of DID

Limitations



Future work

- Interviews suggest the importance of documenting SBHC types, funding and service models, and operation dynamics over time
- Alternative strategies to construct comparison groups of school districts without SBHCs
- Link additional years of health and education data

Acknowledgements

Co-authors: Mason Shero, Melinda Buntin, Carolyn Heinrich

Research-practice partners: TN Dept. of Education, TN Dept. of Health, TennCare, TN Dept. of Mental Health and Substance Abuse Services

Funding: National Institute on Mental Health (1R01MH132686); this work does not reflect the views of the NIH or our research-practice partners

For more on this work, please visit our website!