How Tennessee Schools are Working to Improve Children's Mental Health

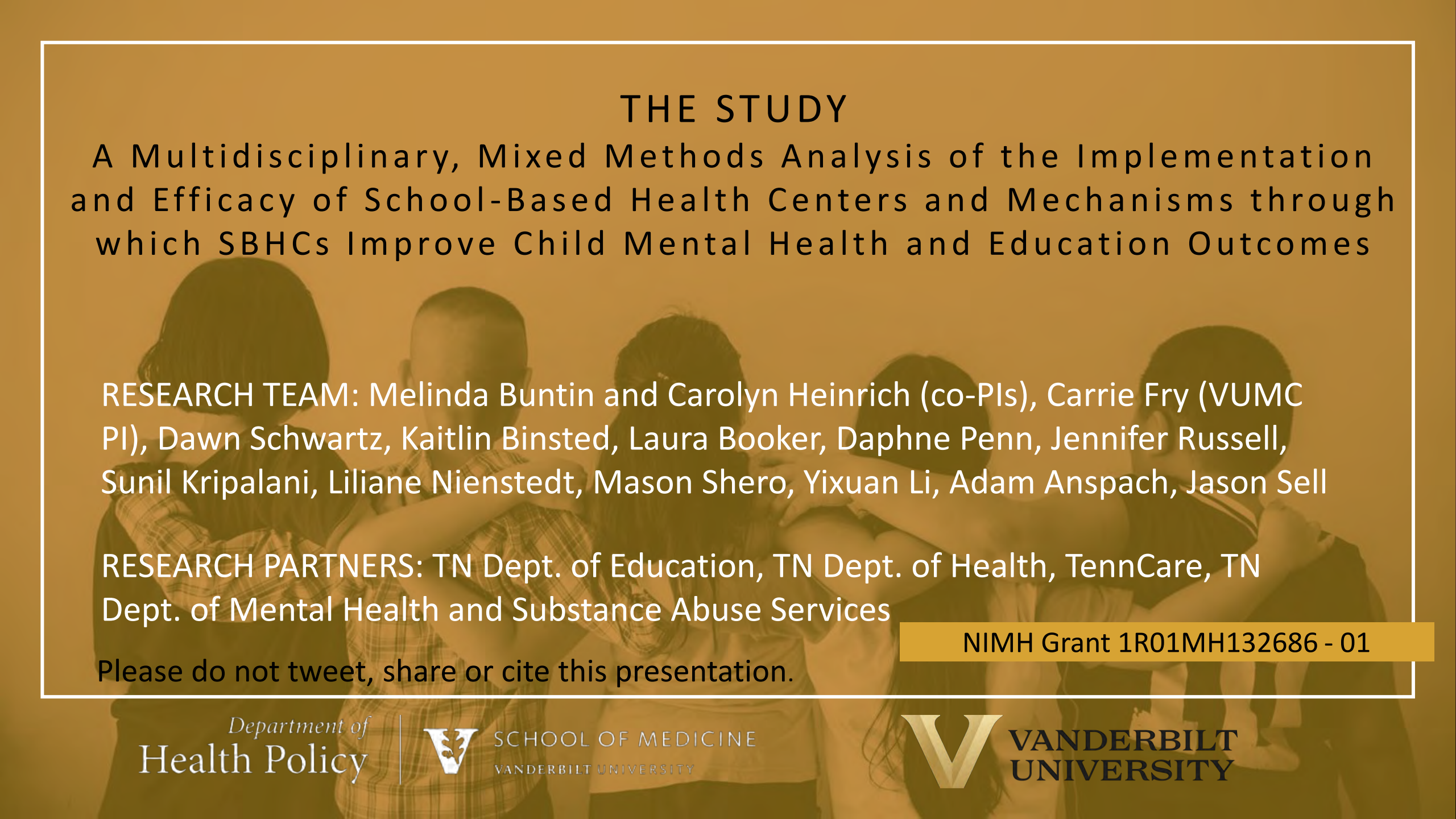
PRELIMINARY FINDINGS FROM A STATEWIDE RESEARCH STUDY FUNDED BY THE NATIONAL INSTITUTES OF MENTAL HEALTH

2024 COORDINATED SCHOOL HEALTH (CSH) INSTITUTE

https://mentalhealthresearchtnschools.com/

THE STUDY

A Multidisciplinary, Mixed Methods Analysis of the Implementation and Efficacy of School-Based Health Centers and Mechanisms through which SBHCs Improve Child Mental Health and Education Outcomes



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Department of Health Policy | SCHOOL OF MEDICINE VANDERBILT UNIVERSITY

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Study aims

We aim to fill gaps in our understanding of the effectiveness of school-based or school-linked health interventions, with a focus on mental health:		
Limited research on their effects on children's *mental health* outcomes	Few studies use data over time (before and after interventions).	Little in-depth investigation of different types of interventions and how they improve children's health.

How we are advancing knowledge *with your participation*:		
Examine the prevalence of mental health conditions in low-income, school-aged children over time.	Rigorously assess how these interventions affect children's health and education outcomes over time.	Examine the implementation and effects of varying types of interventions.

How we are conducting the research

Analyzing qualitative and quantitative data to understand mechanisms through which school-based or linked health interventions (and Advancing Wellness and Resiliency in Education - AWARE grants) improve children's health and education outcomes

QUALITATIVE COMPONENT

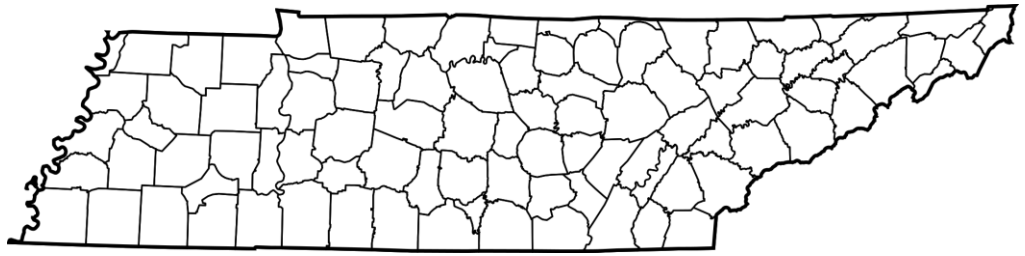
- Conducting interviews and site visits in school districts with and without SBHCs/SLHCs and AWARE grants
- Documenting mental health services infrastructure (funding, personnel, programs, services) and who is using it
- Qualitative analysis of interview data and quantitative coding for empirical analysis

QUANTITATIVE COMPONENT

- Using child-level health and education data and variation in implementation of interventions over time to estimate changes in outcomes before and after their rollout
- Examine variation in effectiveness of interventions by length of exposure to services, types of services and how they are delivered, and by subgroups of children served

TN EDUCATION RESEARCH ALLIANCE

The data we are using
(currently available)



Deidentified, child-level longitudinal health and education data linked from 2006-2019 in TN

Linkage process uses SSN or VUMC Health Policy vital statistics algorithm as needed

EDUCATION DATA
- Demographics
- Student achievement
- Attendance
- Mobility
- Disciplinary incidents

HEALTH DATA
- Vital statistics
- Family structure
- Health outcomes
- Health service utilization

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Qualitative Data Collection Status

SBHC/SLHC Census

Identified SBHCs/SLHCs in 55 school districts, but we are still confirming their status through interviews

Interviews

Starting with districts that have a SBHC/SLHC and/or AWARE grant

Completed interviews with 24 districts, 2 more currently scheduled

Site Visits

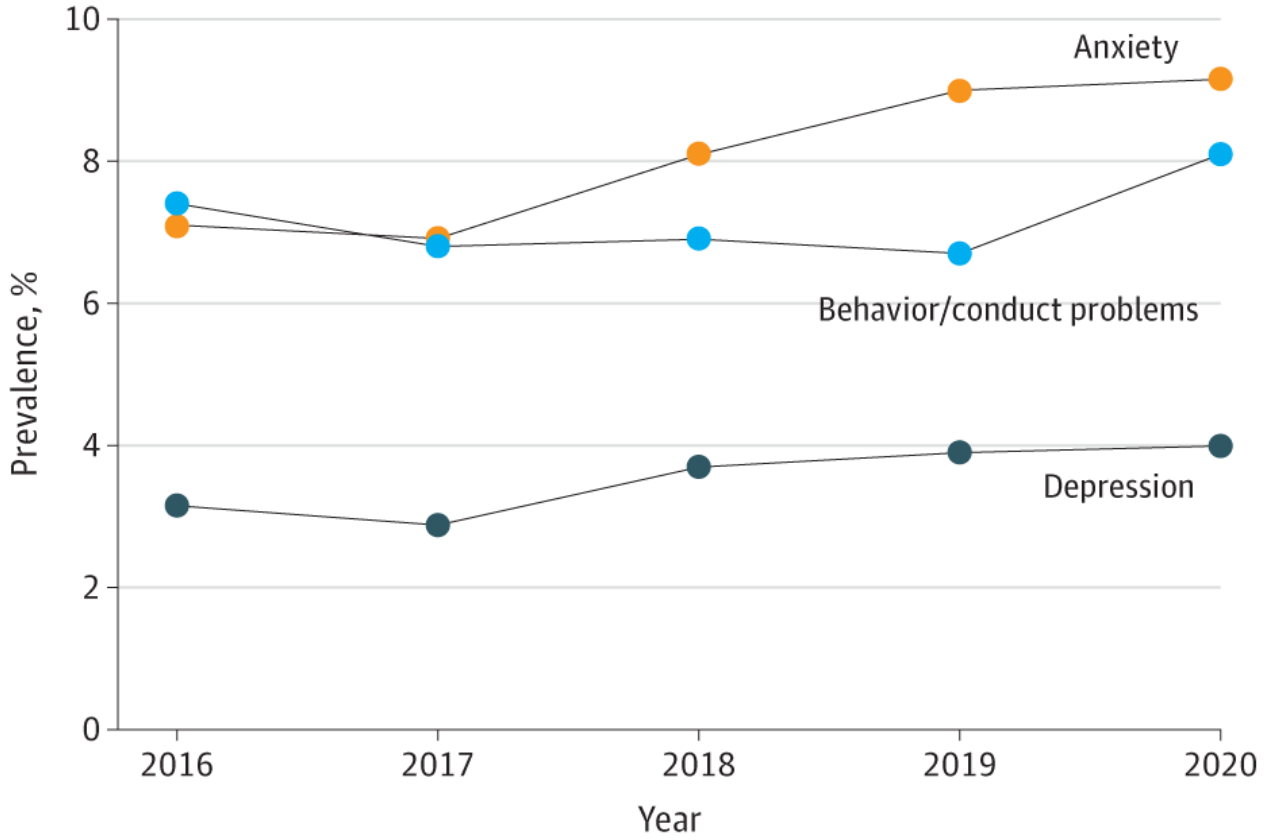
Completed 4 site visits

Additional site visits in the spring

SBHC/SLHC AND AWARE GRANT LOCATIONS

- 10 AWARE grants in 3 rounds
- 55 (current) SBHCs confirmed
  - 21 started in 2020 or later
  - identified 14 SBHCs that are now closed

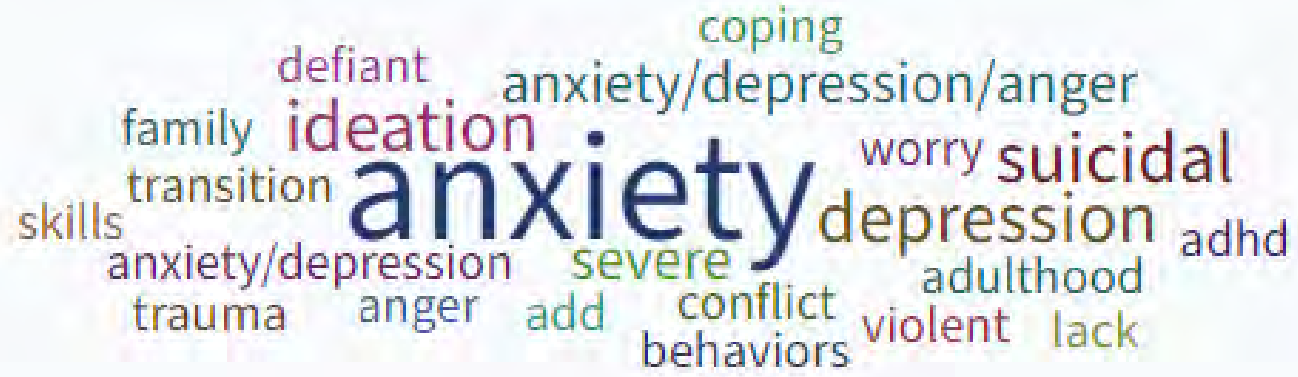
What motivated this research? Children's rising mental health needs



Since 2016, rates of diagnosed anxiety (+29%), behavioral and conduct problems (+21%), and depression (+27%) have increased nationally.

The prevalence of depression and anxiety symptoms among children doubled during the COVID-19 pandemic.

What is the most urgent or common mental/behavioral health condition you are seeing among school-aged children?



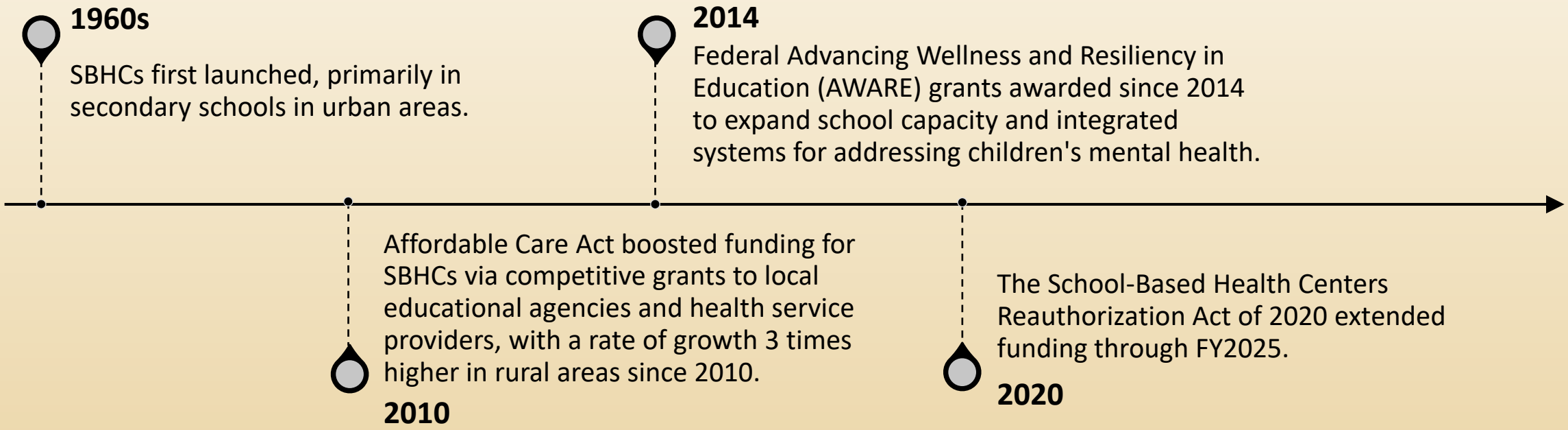
Results from the poll run during the CSHI session

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

- Children with unmet mental health needs are more likely to experience disciplinary problems, chronic absences, high school dropout, and poorer health/functioning as adults.
- Schools are frequently firsthand observers of children’s mental health care needs, and SBHCs often serve as a “medical home” for rural, economically disadvantaged, and historically underserved children.
- From a September 2023 CSHD interview:

  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 initiates this process and fills out a Form C. And we have seen those just drastically increase. 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.

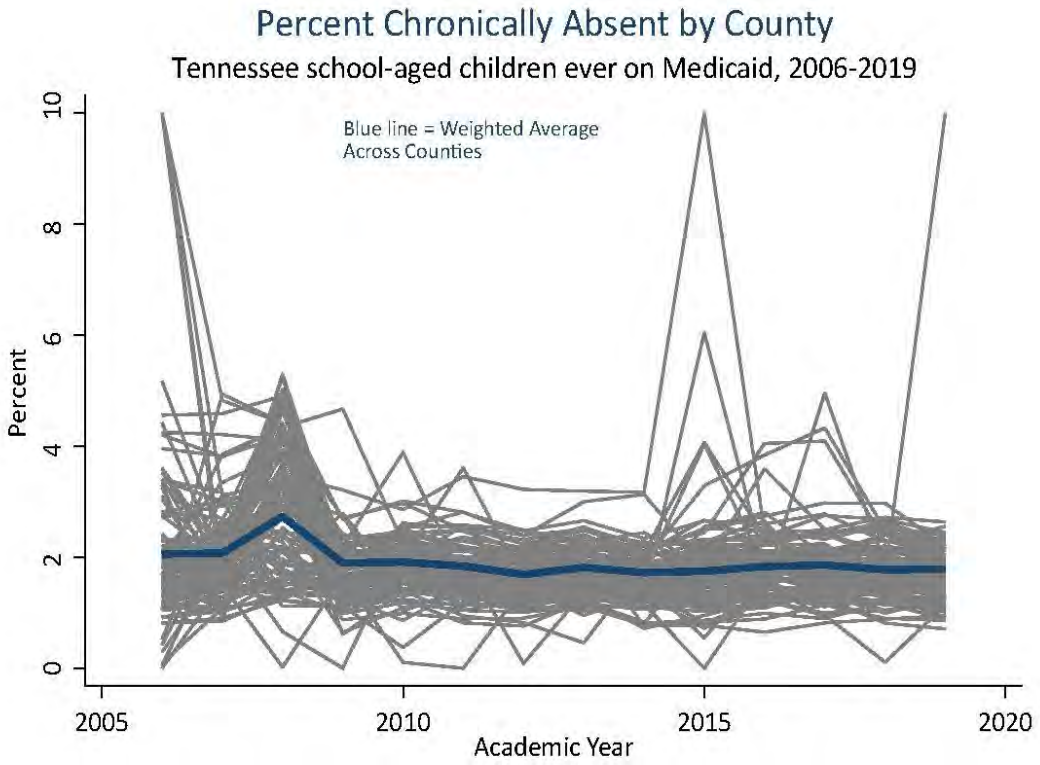
Role of federal funding in addressing children's mental health needs

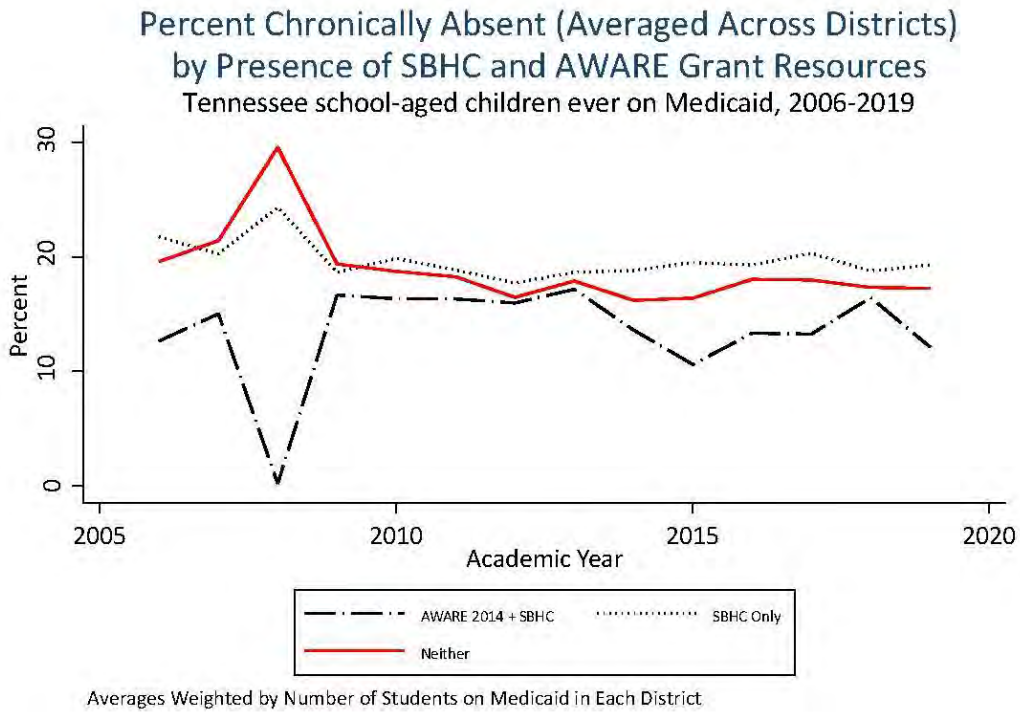


What do rates of mental health conditions among school-aged children look like in Tennessee?

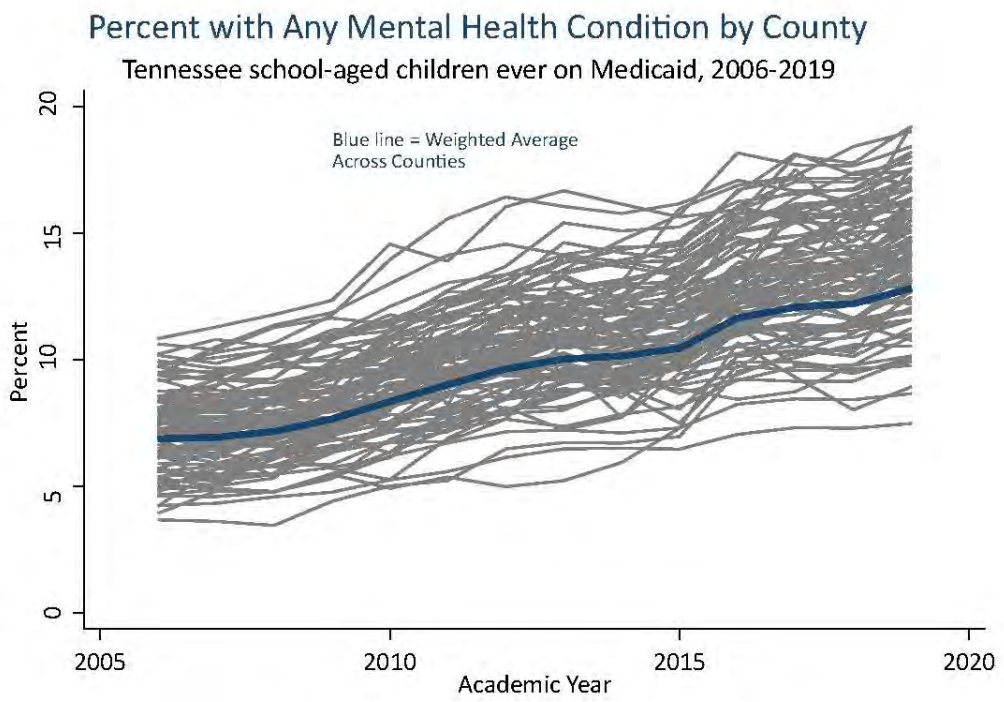
WE DRAW ON A MEDICAID SAMPLE THAT (OVER TIME) INCLUDES NEARLY 70% OF SCHOOL-AGED CHILDREN IN TENNESSEE.

The rate of chronic absence among Tennessee children (Medicaid enrollees) averaged about 19% between 2006 and 2019.

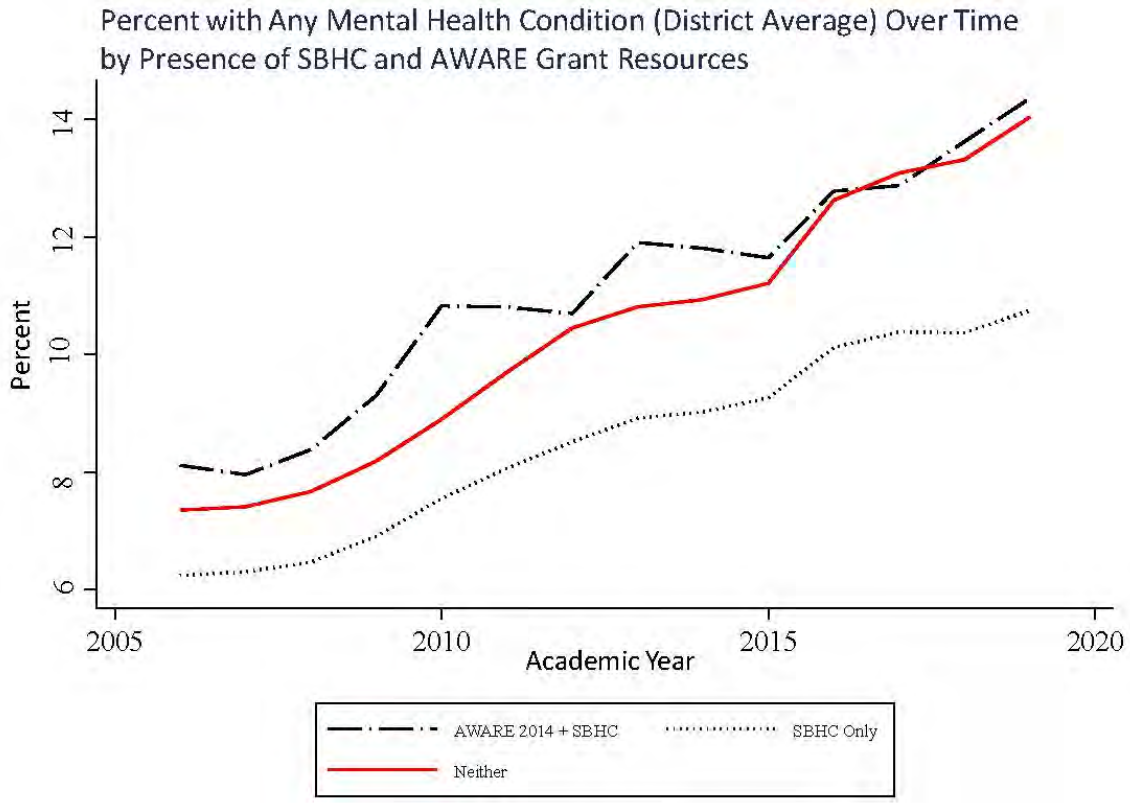




Rates of mental health conditions among Tennessee children (Medicaid enrollees) nearly doubled between 2006 and 2019.

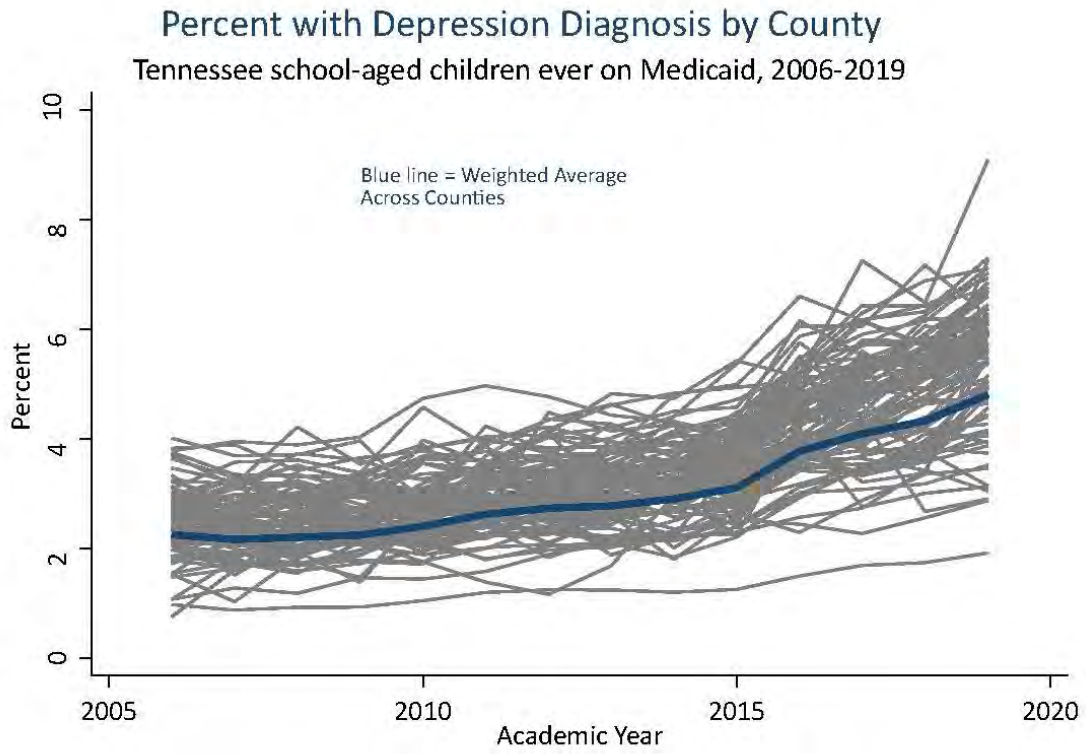


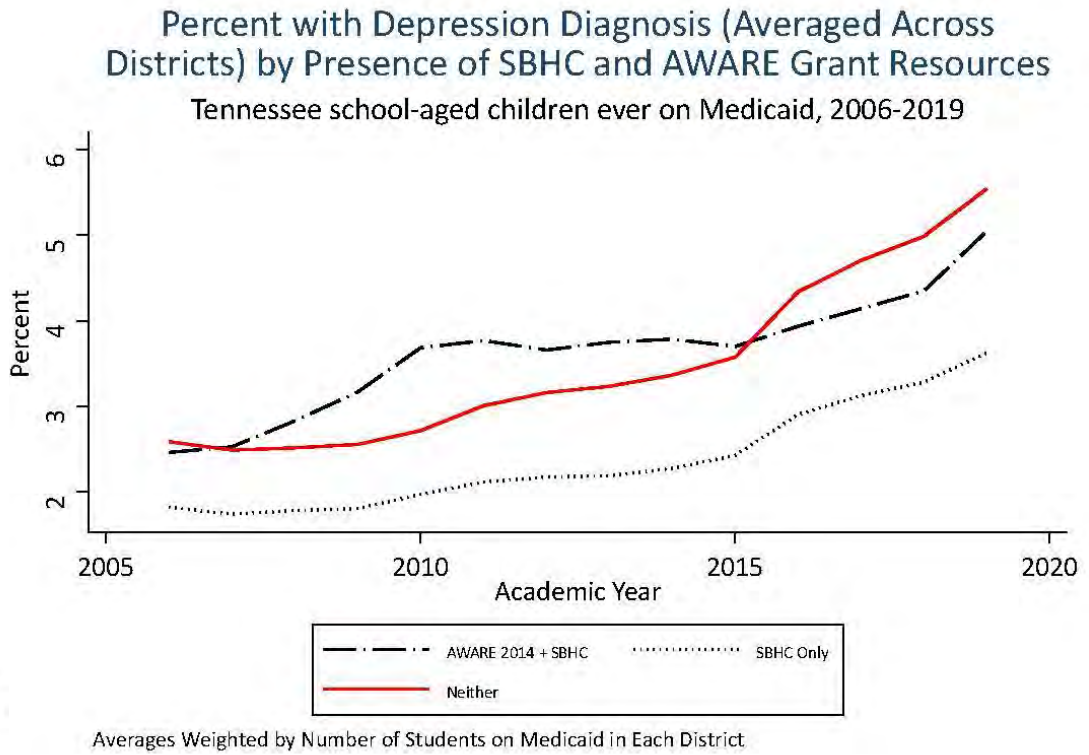
Mental health conditions included: ADHD, anxiety, depression, bipolar disorder, self-harm, suicide ideation or attempt



School average over study period=10.2%

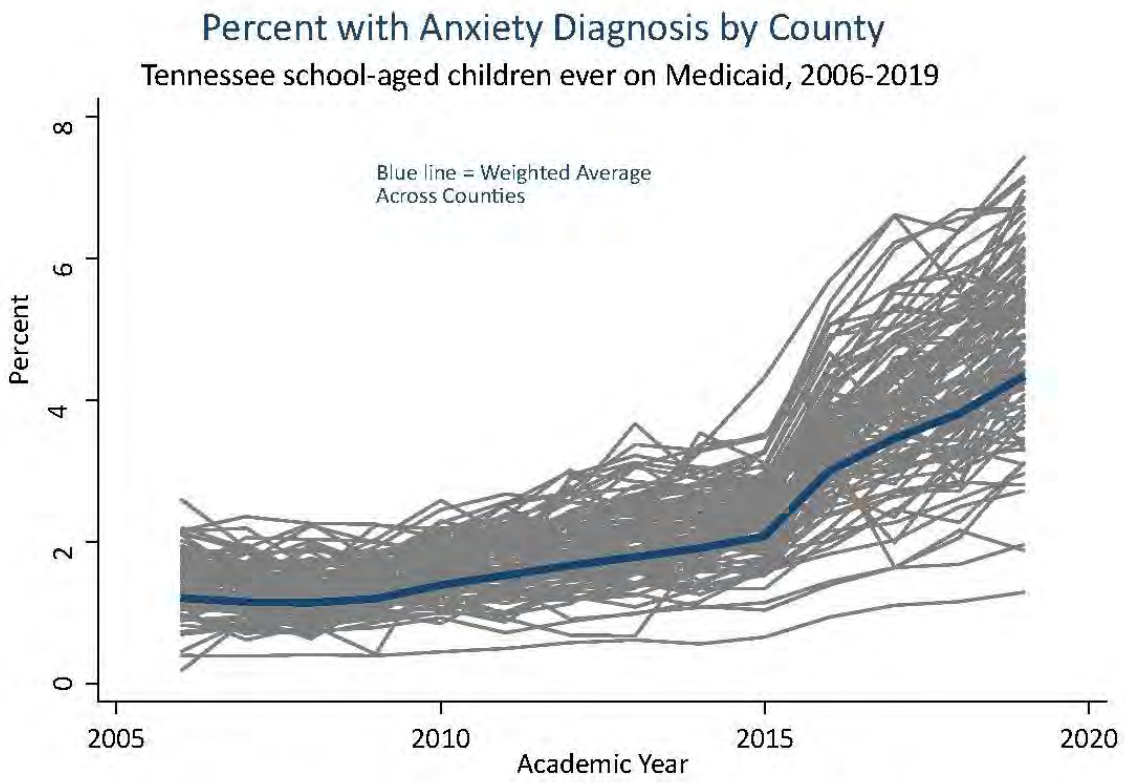
Rates of depression diagnosis increased from about 2% to more than 4% among school-aged Medicaid enrollees between 2006 and 2019.

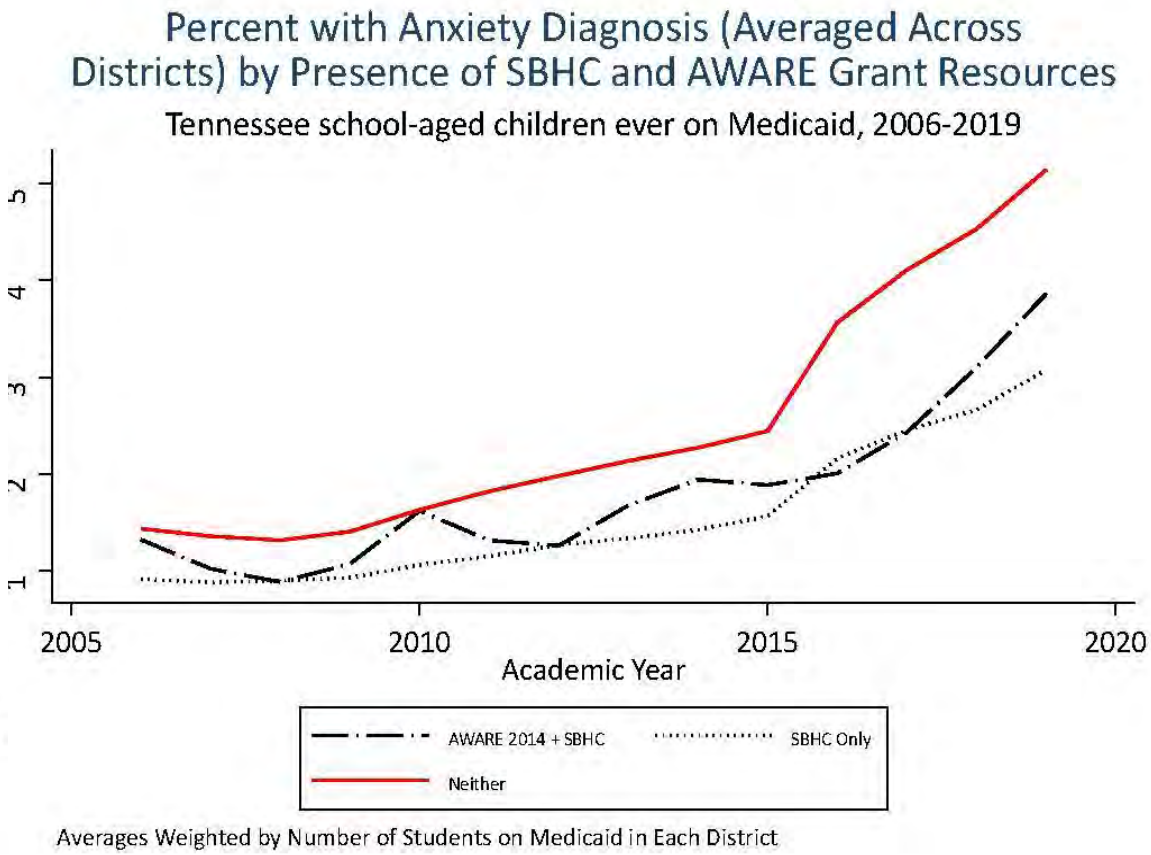




School average over study period=3.1%

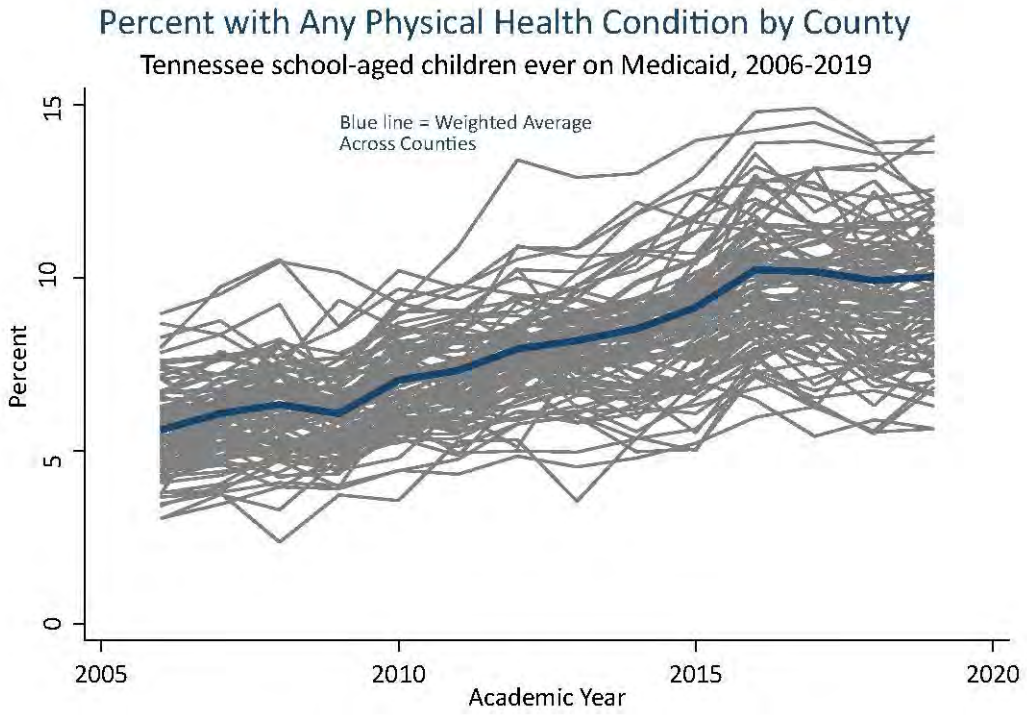
Rates of diagnosed anxiety among school-aged Medicaid enrollees in Tennessee more than doubled between 2006 and 2019.



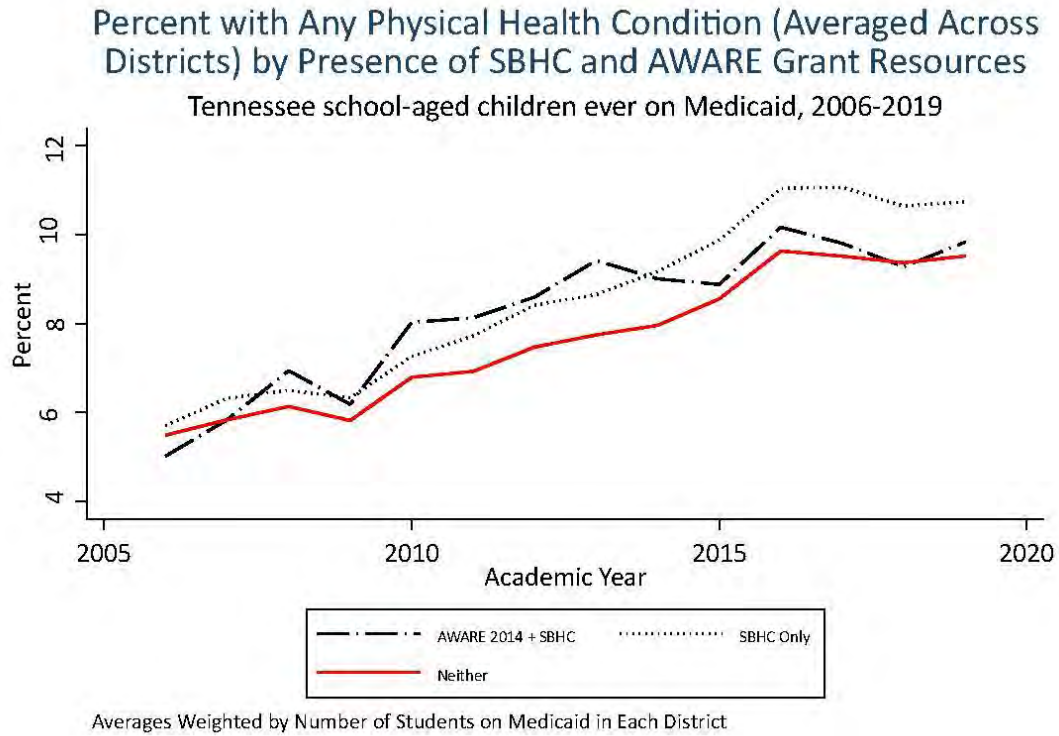


School average over study period=2.2%

Diagnoses of physical health conditions were also trending higher among school-aged Medicaid enrollees in Tennessee from 2006 to 2019.



Health conditions included asthma, diabetes, obesity, and eczema



School average over study period=8.2%

Children's health and education outcomes we are examining

Education Outcomes

- Absence rates, *chronic absence rates*
- Rates of disciplinary actions (by year):
  - disciplinary incidents
  - in-school suspensions, out-of-school suspensions, expulsions
  - alternative school placements
- Standardized test scores

Health outcomes

- *Depression, anxiety,* bipolar disorder, schizophrenia
- *Self-harm, suicidal ideation/attempts*
- Conduct disorder, oppositional defiant disorder, *ADHD*
- Substance use disorder

Physical health outcomes (e.g., obesity, asthma)

- Health services utilization

What outcomes listed (or not listed) are of most interest to you?

Early study findings

FROM INTERVIEWS WITH CSH AND OTHER SCHOOL STAFF

Insights from interviews on school district infrastructure for mental health services delivery – *Do these resonate with your experiences?*

- Interviews conducted to date across Tennessee suggest that school staff draw on a range of grant funding sources to offer and expand mental/behavioral health services
  - Examples of valuable supports include Resilient School Communities, Stronger Connections, and Communities in Schools grants, Family Resource Centers, and ESSER (COVID relief) funds
  - Many grants are small, time-limited, and narrow in scope of use
  - Partnerships with hospitals, nonprofits and other community-based organizations leverage other services and staff support
- School districts with and without SBHCs/SLHCs use a patchwork of funding and a web of community relationships to develop infrastructure for identifying and serving children's health needs
  - Service capacities expand (and sometimes contract) over time
  - Infusion of funding may present the first opportunity to identify and serve children's mental health needs

Quotes from interviews on school districts' use of Title I and IV funds

A *coordinated school health director (CSHD) in a rural area* described their use of Title I funding for temporary shelter for homeless students: "Yeah, there is no shelter. That's a huge, huge need. In [name redacted] County, there is nothing, and we've actually used Title I monies to put students up short term. …Last year, a student … was living in a tent… We put her in a Super 8 motel for I want to say probably six weeks. But during that time, the Student Advocate with the high school worked with her, got her established with the Job Corps, we helped her. And she's doing really well. Anytime that we've got a family living in a car… I mean, there, there's just nothing here."

Another *CSHD in a rural Appalachian area* stated that Title I funds help to pay for the licensed mental health therapist and social workers that work across their county to provide mental and behavioral health services to students in their school district. She added that Title I also pays for family engagement activities.

From a *Southwest TN school district*: "We now have our nurses are funded through… Title I, funding two nurses now. I'd asked for years and years, but now I have two nurses funded through Title I funding, federal funding. And then I have some through special ed funding (IDEA), general purpose, and then I fund two nurses off the coordinated school health budget. We have a parent engagement coordinator paid through Title I funds. She runs a family resource center and has a food pantry. We have a homeless liaison funded with money under Title I… like for instance, if we have a homeless child that needs their immunizations, or needs a school physical, they paid for that… our volume of homeless kids has just exploded."

From a *CSHD in Northeast TN*: "We use Title IV funding for one of the mental health therapists, and the other one of the therapists was funded by ESSER, but that goes way next year. We used to have two in Title IV, but the cost of therapists went from 30[K] apiece to now 51K apiece. I'm automatically going to lose that other therapist next year."

In a *Western TN school district*, Title IV funds provide support for a Family Community Involvement Coordinator.

Case profiles of Tennessee school districts with innovative practices and exemplary efforts to expand mental and behavioral health supports

WE HOPE TO FEATURE YOUR CSH/SCHOOL DISTRICT EFFORTS IN FUTURE CASE PROFILES!

DISTRICT CASE PROFILE

Background

: Region 4

Large, Urban District
222 schools

57% Economically Disadvantaged*
* Parent/Guardian does not have a high-school degree or the student is eligible for free and reduced meals.

HEALTH & MENTAL HEALTH SERVICES OVERVIEW

- Established in **2009**, the District had 4 school-based health centers, and now has 2 SBHCs, plus a mental health clinic.

INNOVATIONS IN PROGRAMMING & SERVICES

- **Expansive infrastructure for health/mental health services**
  - **School-based health centers**
    - Full primary care services at various locations year-round and outside of school hours for all students, families and community members.
    - Referrals and/or telehealth for mental/behavioral health, dental, and other specialized care. Provider has several clinic locations for various types of services located throughout the city.
    - If uninsured, a sliding scale payment system is used.
  - **Mental health center** and large staff of mental health professionals serving in schools year-round.
  - **Family Wellness Centers**
    - Educational supports, counseling, mental health/SEL supports, psychiatric services, etc. for students, families, and staff (open year-round and have evening hours)
  - **Family Resource Centers** to support social health (i.e., job opportunities, provide food, etc.)
- **Collaboration between health/mental health staff and other school personnel**
  - Mental health staff are assigned to schools in SEL teams (includes counselors, social workers, behavior specialists, etc.) to develop relationships and reduce barriers to engaging in mental health
  - SBHC staff collaborate with school counselors and staff to target and refer students for services and other administrative tasks.

Major Developments

- 3 Family Wellness Centers opened in 2022.
  - 2 additional future sites planned.
- FQHC transitioned in 2020 from Wellchild to Christ Community Health Center.

HEALTH & MENTAL HEALTH SERVICES STAFFING & COMMUNITY PARTNERSHIPS

COMMUNITY PARTNERS

- Federally qualified health center, Christ Community Health Center.
- Partnership with Wellchild for vision and some mobile health screenings.

DISTRICT CASE PROFILE

Background

: Region 3

Small, Rural District
13 schools

28% Economically Disadvantaged*
* Parent/Guardian does not have a high-school degree or the student is eligible for free and reduced meals.

HEALTH & MENTAL HEALTH SERVICES OVERVIEW

- Contracted with a nonprofit mental/behavioral health provider from **2019-2022** for school-based therapy. The District now employs 5 school-based therapists.

INNOVATIONS IN PROGRAMMING & SERVICES

- Used the AWARE grant to establish all procedures and policies to introduce school-based mental health therapists in the District.
  - Trained 800+ staff in Mental Health First Aid and have ongoing staff education on mental health, including for DBT, trauma informed CBT, and EMDR
- School-based therapists and social workers meet weekly to coordinate wraparound supports for children's mental/behavioral health and social service needs.
- Family Resource Center directed and staffed by three social workers.
- Established a Youth Advisory Board to build youth skills and understanding of mental health that also allows the student themselves to make referrals.

Major Developments

- A 2014-19 AWARE grant helped build mental/behavioral health services in the district, which are now sustained and strengthened with district funding.

HEALTH & MENTAL HEALTH SERVICES STAFFING & COMMUNITY PARTNERSHIPS

5 school-based therapists
(1 licensed social worker, 2 licensed professional counselors, and 2 with master's degrees, one (via Centerstone) serves as a mental health liaison)

- **1 medical director**
- **1 coordinated school health director**
- **1 Family Resource Center director** (social worker)

COMMUNITY PARTNERS

- Partners from supporting agencies serve on an Advisory Council.
- Supporting agencies include:
  Centerstone, County health department, UT Extension, Substance Abuse Prevention Coalition, 4-H, Tennessee Suicide Prevention Network

DISTRICT CASE PROFILE

Background

: Region 2

Mid-sized, Rural District
12 schools

36% Economically Disadvantaged*
* Parent/Guardian does not have a high-school degree or the student is eligible for free and reduced meals.

HEALTH & MENTAL HEALTH SERVICES OVERVIEW

- Opened a SBHC in every school starting in 2000. Nurses in each school also offer telehealth appointments in schools with school-based care providers or with providers at a partner community clinic.

INNOVATIONS IN PROGRAMMING & SERVICES

- Collaborative, team-oriented structure of school-based health providers and community partners.
- Vaccine for Children program offers vaccinations as needed at each school.
- SBHC program that allows children to receive well-child checks, diagnostic testing and be prescribed medication without leaving school, which are billed to insurance. SBHCs also serve school staff and their families.
- Established a Medical Fund to help pay medical bills for qualifying families.
- Grant funding has allowed the District to hire in-house therapists for behavioral health services for all students regardless of insurance status.
- Monthly CSH newsletter.

Major Developments

- Two grants have enabled the District to hire social workers and offer behavioral health care to all students regardles of insurance status.

HEALTH & MENTAL HEALTH SERVICES STAFFING & COMMUNITY PARTNERSHIPS

5 contracted, masters-level therapists
(through Volunteer Behavioral Health and Centerstone)

2 school-based behavioral health liaisons

6 full-time, masters-level therapists
(employed by the District)

12 registered nurses
1 nurse practitioner
(Based in the schools)

4 floating/ part-time nurses
(2 RN's and 2 LPN's rotate between clinics.)

OTHER STAFF

One director of coordinated school health, 1 school health administrator, 1 behavioral health coordinator, 1 family resource center director.

COMMUNITY PARTNERS

- Chota Community Health Center
- Volunteer Behavioral Health
- Centerstone

DISTRICT CASE PROFILE

Background

: Region 1

Small, Rural District
6 schools
- 4 Elementary
- Pre-K Learning Center

33% Economically Disadvantaged*
* Parent/Guardian does not have a high-school degree or the student is eligible for free and reduced meals.

HEALTH & MENTAL HEALTH SERVICES OVERVIEW

- In **2012**, the District implemented school-linked health services, and in **2022**, added telehealth options.

INNOVATIONS IN PROGRAMMING & SERVICES

- Partnering with area university and nonprofit health provider on a Resilient Schools Communities pilot.
- Created "reset spaces" at the middle and high schools first, then elementary schools, to support student mental health and reduce absences.
  - Massage chair, exercise equipment, white board, calming materials, and telehealth access.
  - Students check in/out with counselors to use space to monitor, track student needs.
- Providing behavioral health training for **all** staff on restorative practices, trauma-informed practices, ACEs, Building Strong Brains (including bus drivers, cafeteria workers, etc.); now have a designated trauma-informed school.

HEALTH & MENTAL HEALTH SERVICES STAFFING & COMMUNITY PARTNERSHIPS

4 student advocates (with Human Development training)

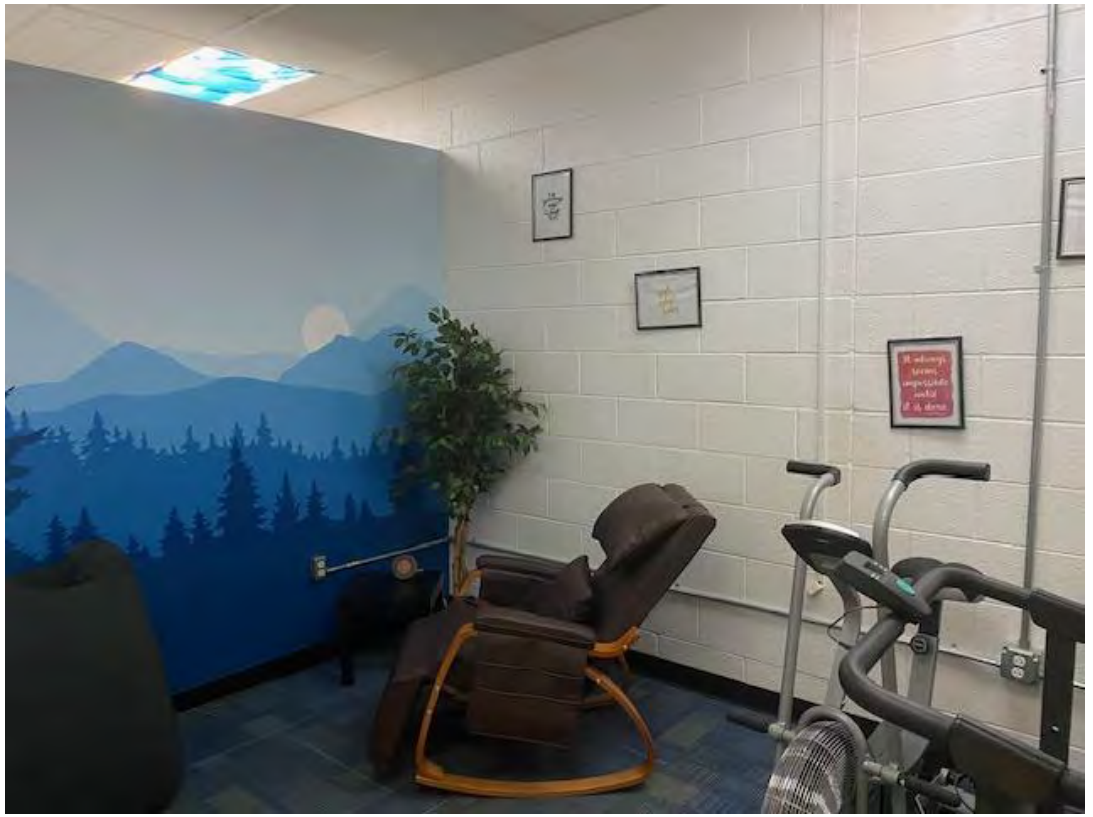
2 clinicians (Contracted through nonprofit mental health providers)

3 licensed professional counselors (LPC) for behavioral health (1 through Ballad Health and 1 through Frontier Health)

1 dedicated graduation coach

COMMUNITY PARTNERS

- 2 nonprofit mental health providers (Frontier Health and Ballad Health)
- University partner (ETSU)
- County health department
- Community anti-drug coalition
- Ayers Foundation



DISTRICT CASE PROFILE

Background

: Region 2

Mid-sized, Rural District
17 schools
- 1 virtual school

25% Economically Disadvantaged*
* Parent/Guardian does not have a high-school degree or the student is eligible for free and reduced meals.

HEALTH & MENTAL HEALTH SERVICES OVERVIEW

- In **2008**, the District implemented school-linked health services and telehealth.

INNOVATIONS IN PROGRAMMING & SERVICES

- Strengthening staffing and system support for student mental health through federal grants.
- Expanding recruitment and incentives for credentialing/ licensure with local higher education partners.
- Developing trauma-informed schools with systemwide trainings, with parent education and training via Family Resource Centers.
- Instituting a research-driven school health assessment and performance evaluation system (SHAPE).
  - During intake, mental health specialists at each school identify gaps, develop action plans, and use assessments to comprehensively screen for and serve student needs.

Major Developments

- Awarded 5-year, $9.5M federal School-Based Mental Health Services (SBMH) grant in 2023 to expand to a school-based health center.

HEALTH & MENTAL HEALTH SERVICES STAFFING & COMMUNITY PARTNERSHIPS

- 1.5 counselors per elementary
- 3 counselors per secondary school
- 6 social workers (hired with federal funding)
- 1 mental health specialist
- 8 school psychologists
- 1 director of school-based mental health

OTHER STAFF

Two coordinated school health staff, 1 SBMH grant director, behavior assistants, 2 career coaches, 2 college access coaches and a learning support specialist.

COMMUNITY PARTNERS

- 2 nonprofit mental health providers (Centerstone, McNabb Center)
- Expansions have included 3 universities, United Way, a pediatrics practice, and 4 local nonprofits.

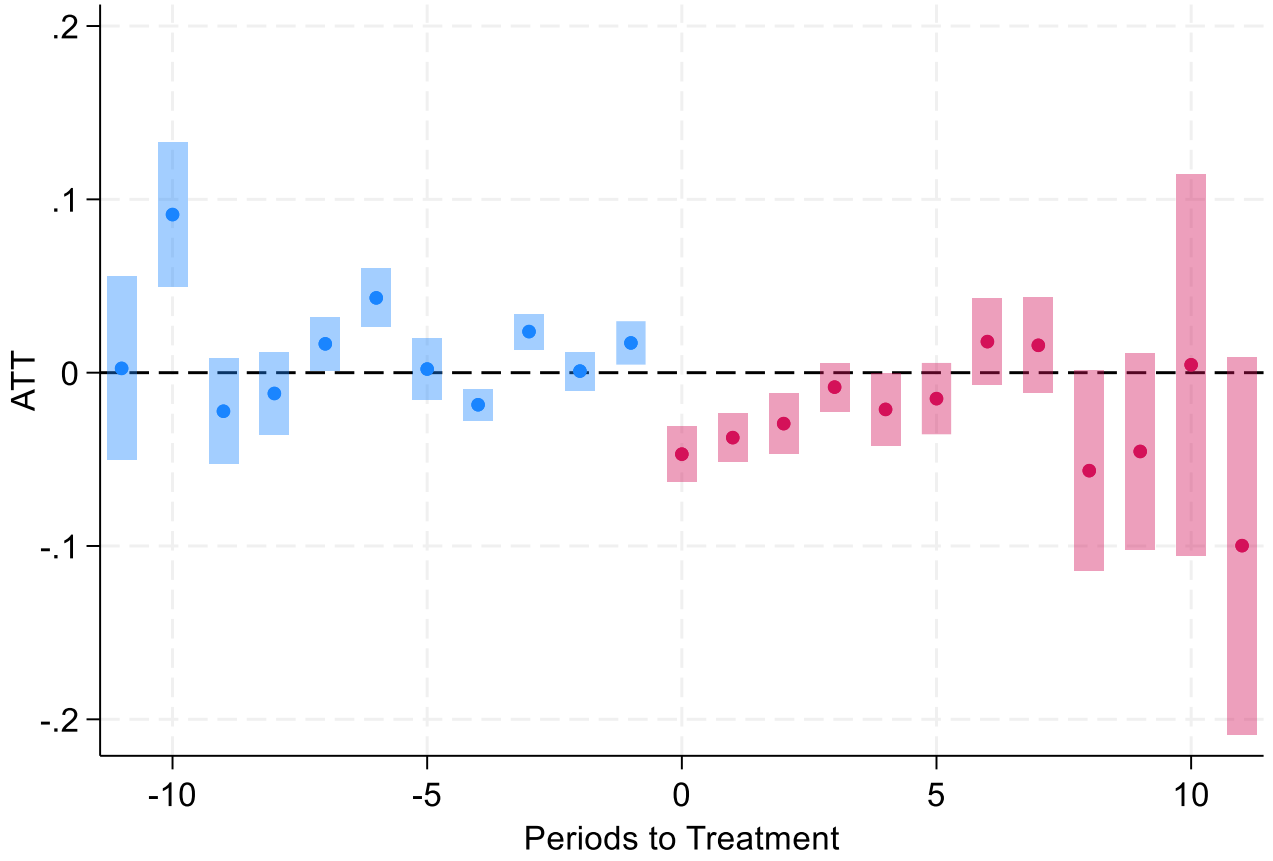
Preliminary quantitative analysis of intervention effects at the school level

- Our data collection on the timing of SBHC/SLHC and AWARE grant introduction (and exit) allows for analysis of how diagnoses of children's mental health conditions and education outcomes change as interventions are rolled out
- Our current analysis covers the period 2006-2019 and is a "black box" analysis
- In future analyses, we will use data collected in interviews to examine how effects differ by length of exposure to services, types of services and how they are delivered, and by subgroups of children served

Outcome	Baseline average	Effect of SBHC	Interpretation
Chronic absence	19.1%	-2.4*	Schools with SBHCs/SLHCs and/or AWARE grants saw a decrease of 2.4 percentage points (or a **12.5% reduction**) in the rate of chronic absenteeism after their introduction, compared to schools without these resources.
Diagnoses			
Mental health conditions	6.8%	-0.4*	Schools with SBHCs/SLHCs and/or AWARE grants saw a decrease of 0.6 percentage points (or a **5.9% reduction**) in the rate of diagnosed mental health conditions after their introduction, compared to schools without these resources.
ADHD	4.3%	-0.7*	Schools with SBHCs/SLHCs and/or AWARE grants saw a decrease of 0.7 percentage points (or a **5.3% reduction**) in the rate of diagnosed ADHD after their introduction, compared to schools without these resources.
Physical health conditions	6.6%	-1.8*	Schools with SBHCs/SLHCs and/or AWARE grants had a decrease of 1.8 percentage points (or a **27.3% reduction**) in the rate of diagnosed physical health conditions after their introduction, compared to schools without these resources.
Asthma	4.7%	-0.6*	Schools with SBHCs/SLHCs and/or AWARE grants had a decrease of 0.6 percentage points (or a **12.6% reduction**) in the rate of diagnosed asthma after their introduction, compared to schools without these resources.

*Statistically significant at $\alpha<0.05$.

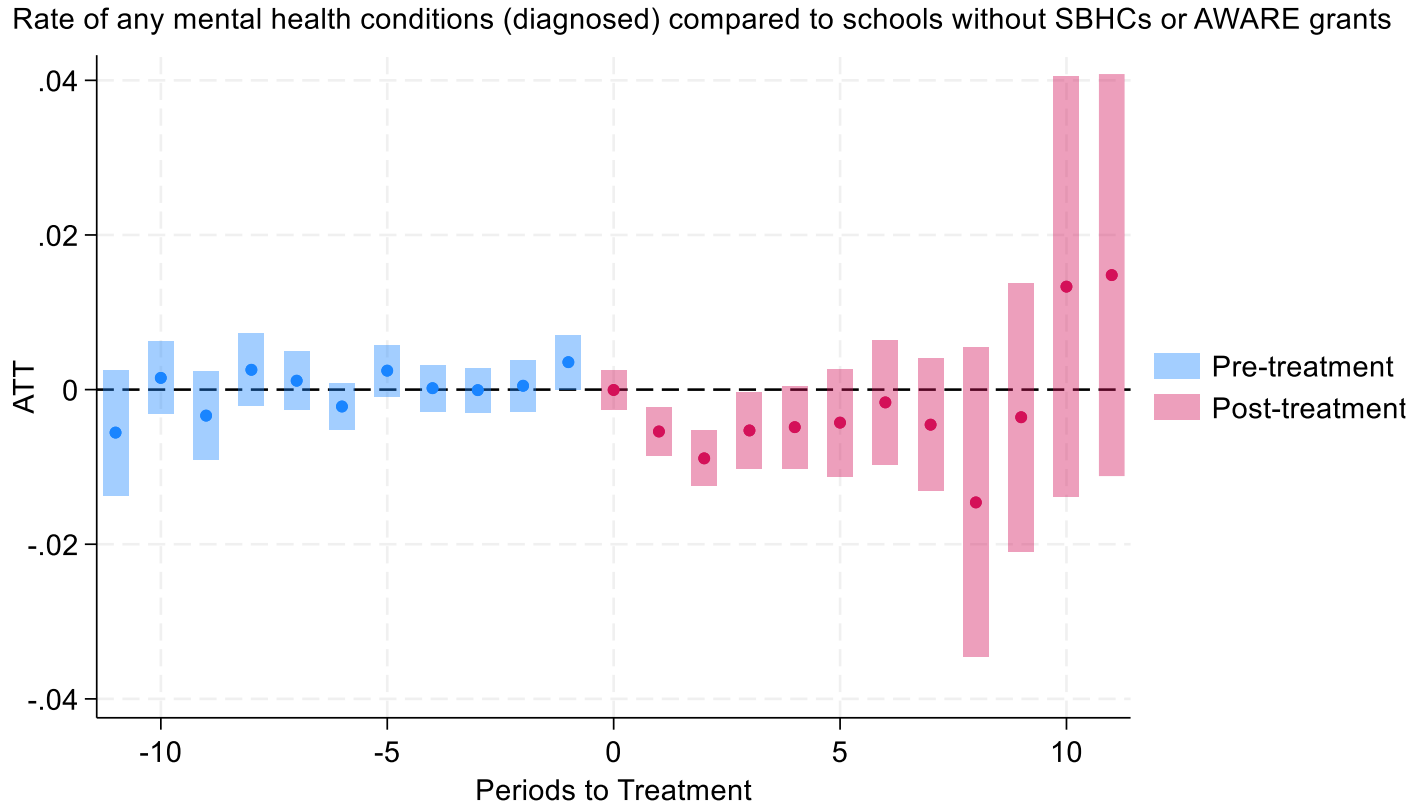
Schools with SBHCs/SLHCs and/or AWARE grants saw a decrease of 2.4 percentage points (or a 12.5% reduction) in the rate of chronic absenteeism after their introduction, compared to schools without these resources.



ATT: Average treatment effect for the group of schools treated at time g, in academic year t.

Statistically significant at $\alpha<0.05$;
Preliminary results - not for public dissemination.

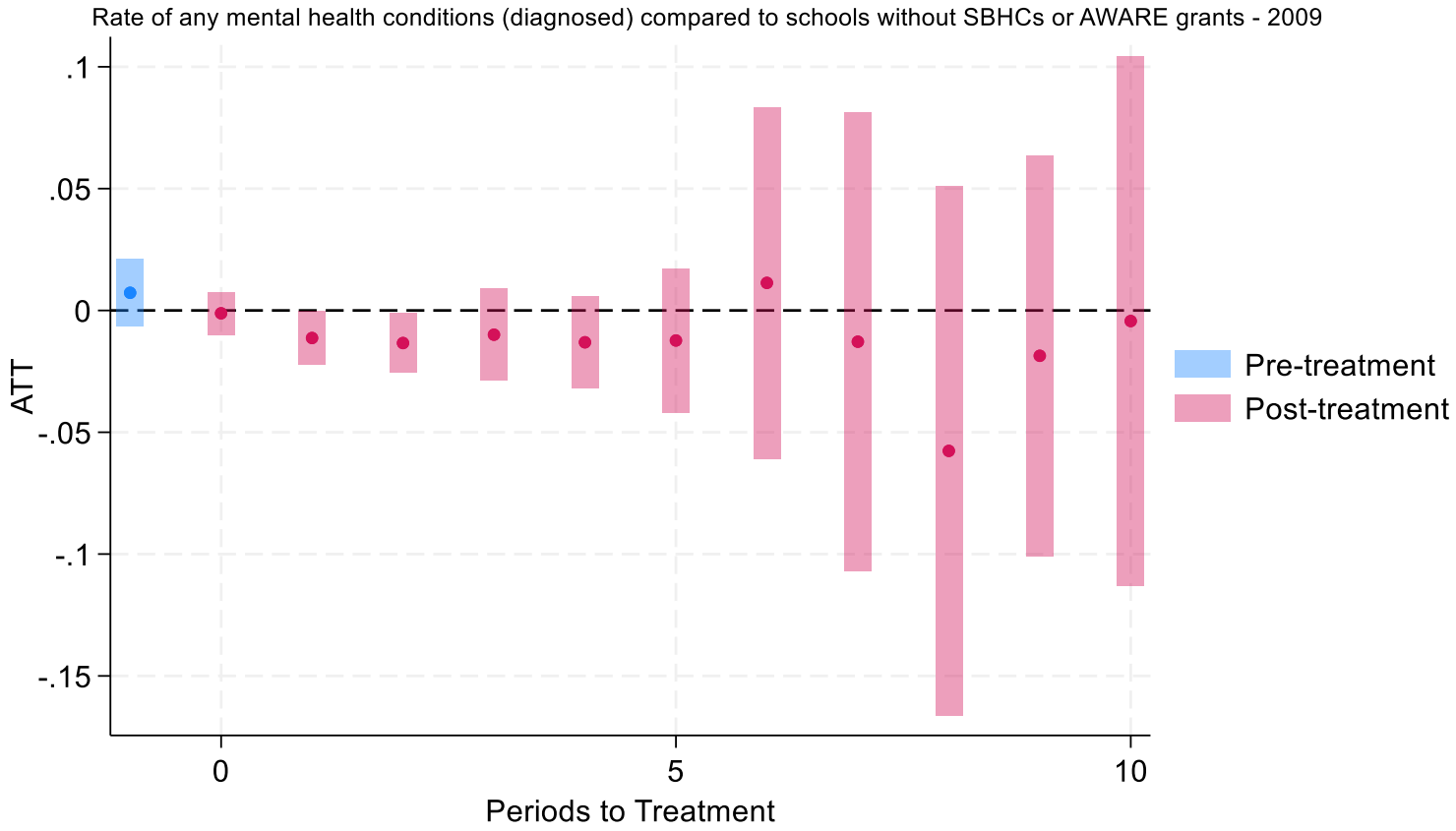
Schools with SBHCs/SLHCs and/or AWARE grants saw a decrease of 0.4 percentage points (or a 5.9% reduction) in the rate of diagnosed MH conditions after their introduction, compared to schools without these resources.



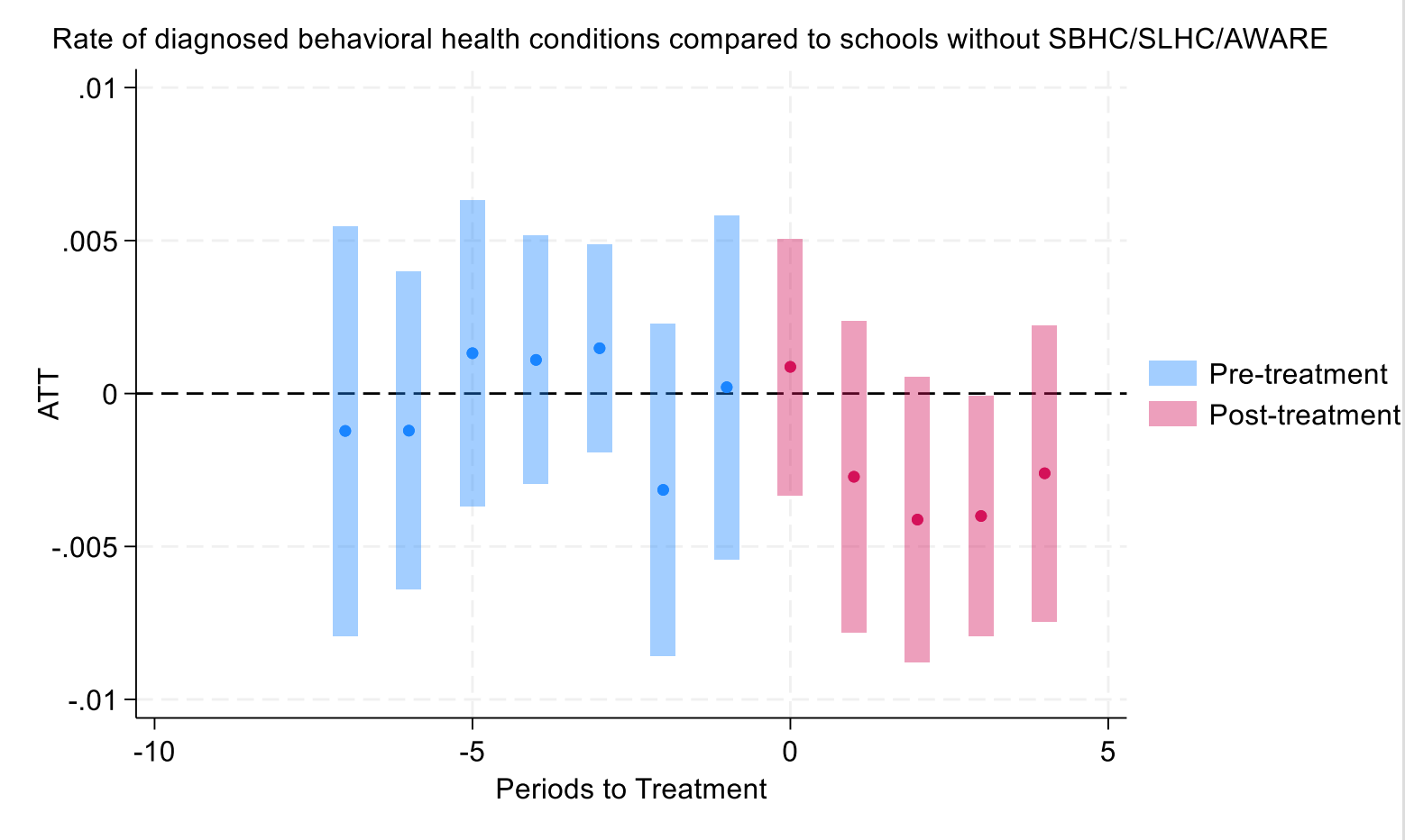
ATT: Average treatment effect for the group of schools treated at time g, in academic year t.

*Statistically significant at $\alpha<0.05$

Mental health conditions include ADHD, depression, anxiety, bipolar disorder, self-harm, suicide ideation or attempt



Results from an urban school district that reduced diagnosed mental health conditions by 20% from their baseline rate, as well as specifically depression by 36%, anxiety by more than 90%, and ADHD by 16%, with multiple SBHCs and a full-service mental health center (open year-round to students, families, and community members.



Results from an urban school district that strengthened SLHC services starting in 2013 and reduced diagnosed behavioral health conditions by 21% from their baseline rate.

Partners include: Helen Ross McNabb Center, Mental Health Cooperative, CenterStone, Erlanger Behavioral, Johnson Mental Health, Agate Youth Behavioral Health, Valley Mental Health Center

Because of your support:

- We are breaking new ground in our understanding of how school districts are meeting children's growing mental/behavioral health needs, both with *and without* SBHCs/SLHCs and AWARE grants
- We have information to share on innovative approaches and practices to serving children's mental/behavioral health needs
- We can help to inform state and national policies and initiatives to increase support of your work

Questions and discussion

We thank our research partners: TN Dept. of Education, TN Dept. of Health, TennCare, TN Dept. of Mental Health & Substance Abuse Services