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ON THE SCIENCE OF DISSEMINATION
AND IMPLEMENTATION IN HEALTH

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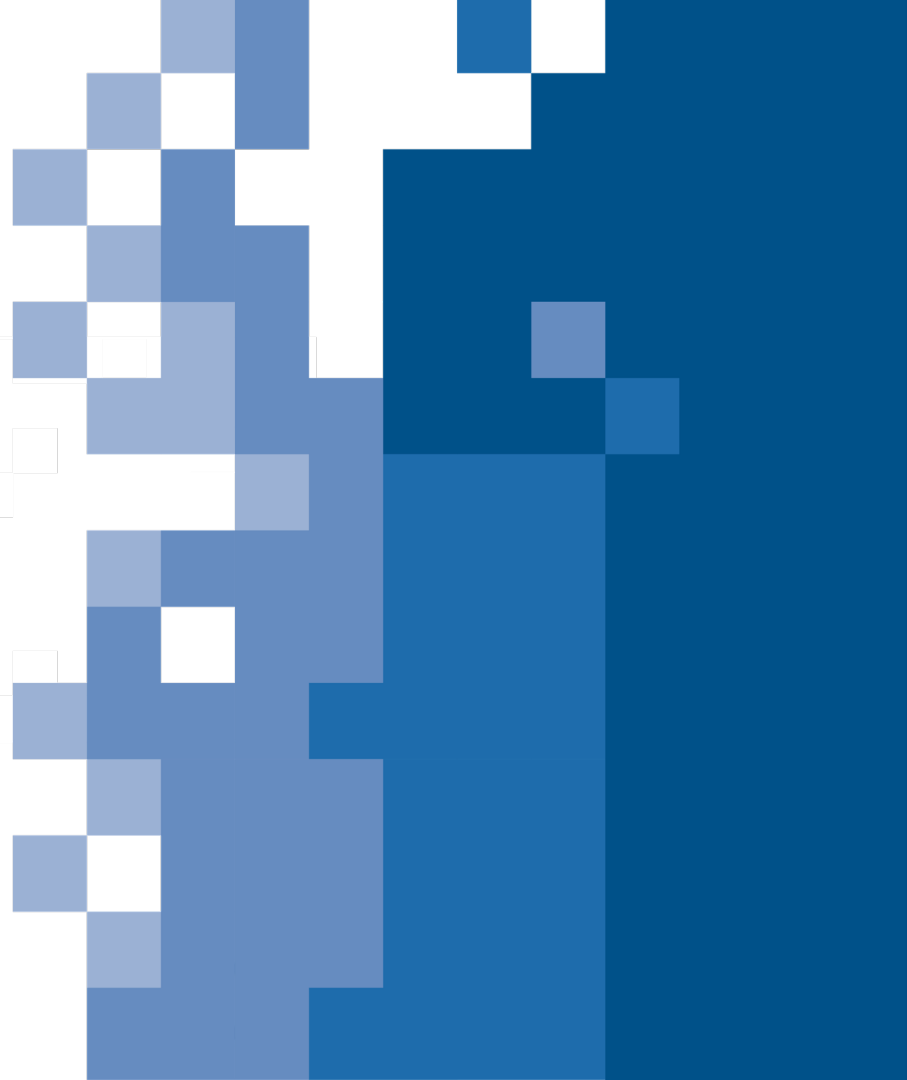


Using implementation science (IS) frameworks and strategies to support implementation of health and wellness-related policies in Chicago Public Schools: The Healthy CPS Network Specialist strategy

Jamie F. Chriqui, PhD, MHS (X: @jfchriqui)
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Policy, Practice and Prevention
Research Center



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Presentation Overview

- Background on CPS, Healthy CPS, Network Specialist Initiative
- Methods
 - Study questions
 - Study design and data sources
 - Analytic methods
- Findings
 - Implementation Outcomes
 - School-level Impacts
- Implications for D&I Research

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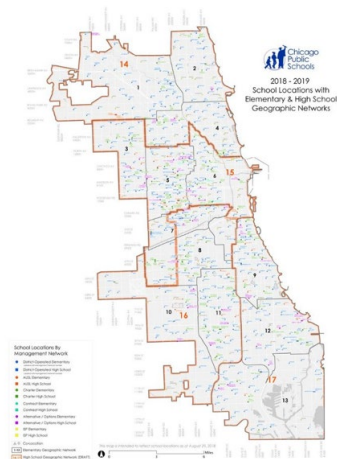


Background and Methods

Background on CPS and Healthy CPS

Chicago Public Schools

- 4th largest public school district
- ~330k students
- Divided into geographic networks



Healthy CPS

- Initiative of CPS Office of Student Health and Wellness (OSHW)
 - Improve compliance with >50 federal, state, and district health & wellness policies
- 4 badge areas (37 criterion, each covering different policy requirements)
 - Health Leadership (10)
 - Health Instruction (8)
 - Healthy Environments (11)
 - Health Services (8)
- Must achieve 90%/area to achieve badge

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Sample Healthy CPS Policy Criterion



HEALTH LEADERSHIP

The Health Leadership Badge measures whether staff are applying the health and wellness of all students.

MENTAL HEALTH

- All staff has completed the Suicide Prevention and Awareness Training by October 15, 2022.
District OSHW Training Reference Sheet
Charter OSHW Training Reference Sheet

MEDICAID DESIGNEE


- The principal has nominated a Medicaid Designee who assists families with acquiring health insurance and accessing healthy food through the state (SNAP/LINK) program by collaborating with their assigned Benefit Coordinator.
Medicaid Designee Nomination Form
Medicaid Designee Role Description SY22-23

EMERGENCY MANAGEMENT PLAN

- The school's Emergency Management Plan includes medical emergencies and is submitted via the Office of Safety and Security.

CHRONIC CONDITIONS

- All school staff completed the SY23 Chronic Conditions Train (SafeSchools Online Training) by December 31, 2022.
- The school has a non-nurse staff member trained annually as Diabetes Delegated Care Aide (Diabetes DCA) to assist students with daily diabetes management.
- The school has a non-nurse staff member trained annually as Seizure Delegate Care Aide (Seizure DCA) to assist students with seizure management.



HEALTH INSTRUCTION

PHYSICAL EDUCATION

NOTES: Who is responsible for this requirement? What support or resources are needed?


- All high school students are scheduled in a physical education course each semester in every grade level (9-12), unless granted an individual student exemption as outlined by the Physical Education Individual Student Exemption Request Form.
- All students in elementary and middle school engage in a course of physical education for a minimum of 3 days per 5-day week for a minimum of 120 minutes per week.
The Office of Teaching and Learning will provide more information about SY22-23 ISB receiving clarified guidance from ISBE.

NUTRITION EDUCATION

- All schools and campuses serving grades PreK-8 integrate evidence-based nutrition education into the curriculum in all grade levels included therein.
- High Schools serving grades 9-12 integrate evidence-based nutrition education into the curriculum of at least two high school courses required for graduation.
Nutrition Education Guidance

HEALTH EDUCATION

- The CPS Health Education Curriculum is implemented in grades PreK-12. The CPS Health Education Curriculum is skills-based which means that it focuses on supporting the development of health-related skills through socio-ecological and sociocultural approaches.
Health Education Scope and Sequence
Health Education Units
Questions? Email the Office of Teaching and Learning Health and Physical Education Department at PhysicalEducation@cps.edu



HEALTHY ENVIRONMENTS

The Healthy Environments Badge measures whether schools support the health and wellness of students.

CHRONIC CONDITIONS

NOTES: Who is responsible for this requirement? What support or resources are needed?

- Students with asthma, diabetes, allergies, or seizures are allowed to carry and self-administer any necessary medication as ordered by a healthcare provider.

ALLERGIES

- All school personnel know the unlocked location of the District-issued EpiPens* at the school.

PHYSICAL ACTIVITY


- The school provides opportunities for physical activity during the school day to all students and PE.

*All schools must provide all student minutes is inclusive of the required supervised, unstructured physical activity minutes.

High Schools (9-12) are encouraged opportunities for physical activity (PE) before, during, and after school.

K-5 Physical Activity Guidance
Physical Activity Intranet

- Teachers do not withhold physical activity from students.
Alternatives to withholding PA as per [Recess Intranet Page](#)



HEALTH SERVICES

The Health Services Badge measures whether schools are providing students access to health care services that impact learning.

STUDENT MEDICAL INFORMATION

NOTES: Who is responsible for this requirement? What support or resources are needed?

- The Student Medical Information (SMI) form is distributed to all students and parents at the beginning of each school year.
English SMI Form
Spanish SMI Form

MEDICAL COMPLIANCE

- My school achieves 90% medical compliance by October 15.

SCREENINGS / EXAMS

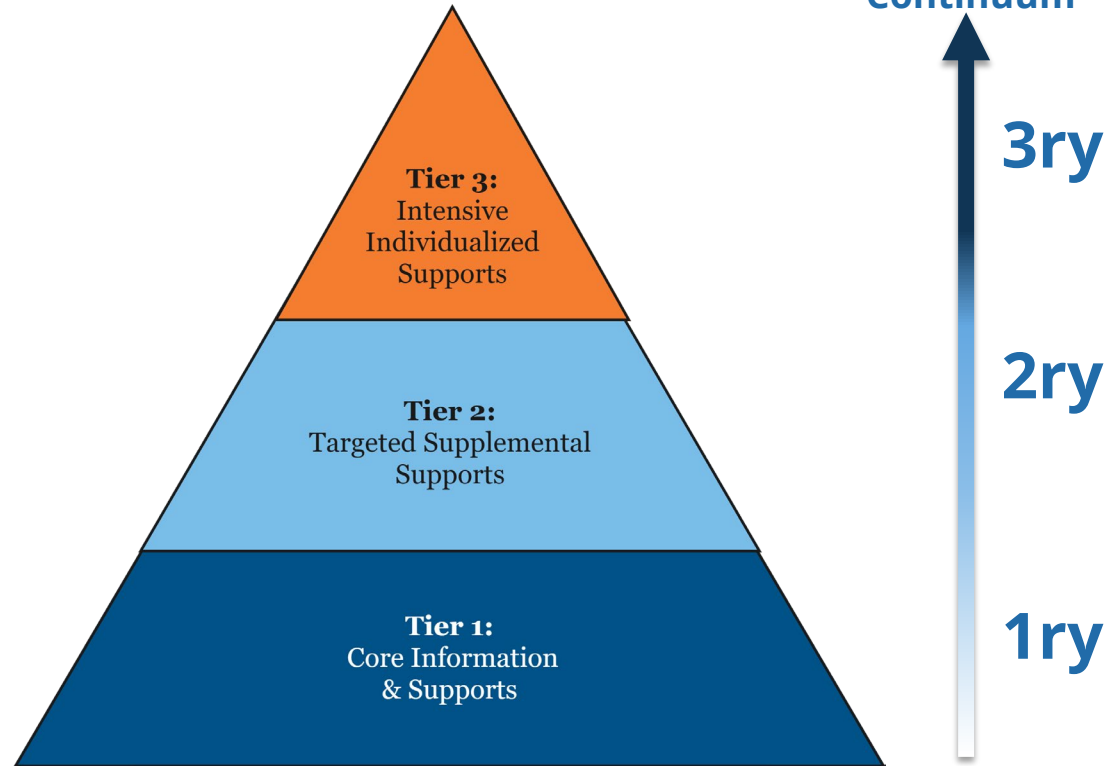
- My school participates in the CPS Vision Exam program.
- My school participates in vision screenings for students in the required grades (PreK, K, 2, B, new to the district, IEP).
- My school participates in hearing screenings for students in the required grades (PreK, K, 1, 2, 3, new to the district, IEP).

SEXUAL HEALTH SERVICES

- My school makes condoms freely available to students in grades 5-12.
Condom Availability Toolkit
- My school makes menstrual hygiene products available, at no cost to students, in at least one bathroom in the school building. Schools can email custodalservices@cps.edu to refill products.

Healthy CPS Network Specialist Implementation Strategy

- The Specialist strategy is a **multi-component implementation strategy**
- 1 Specialist embedded within 1 **geographic network** to provide tiered levels of TA (akin to prevention continuum) to schools in the Network to support Healthy CPS implementation
- **Akin to a “patient navigator”** but for schools

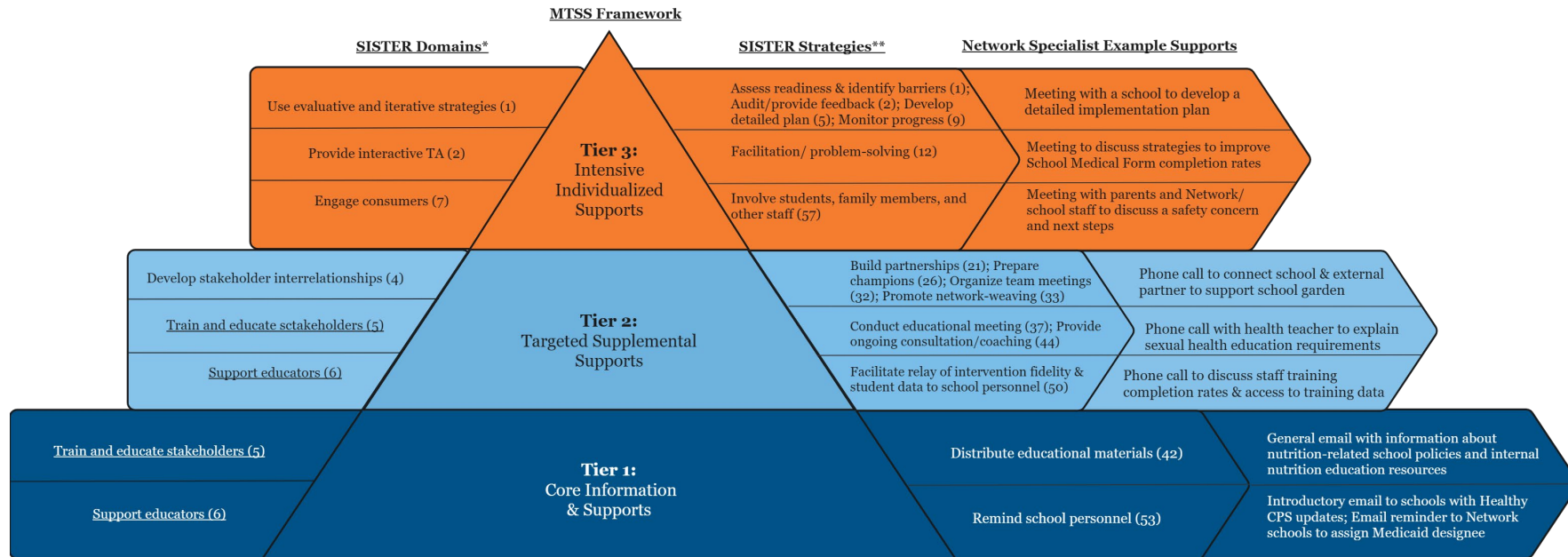


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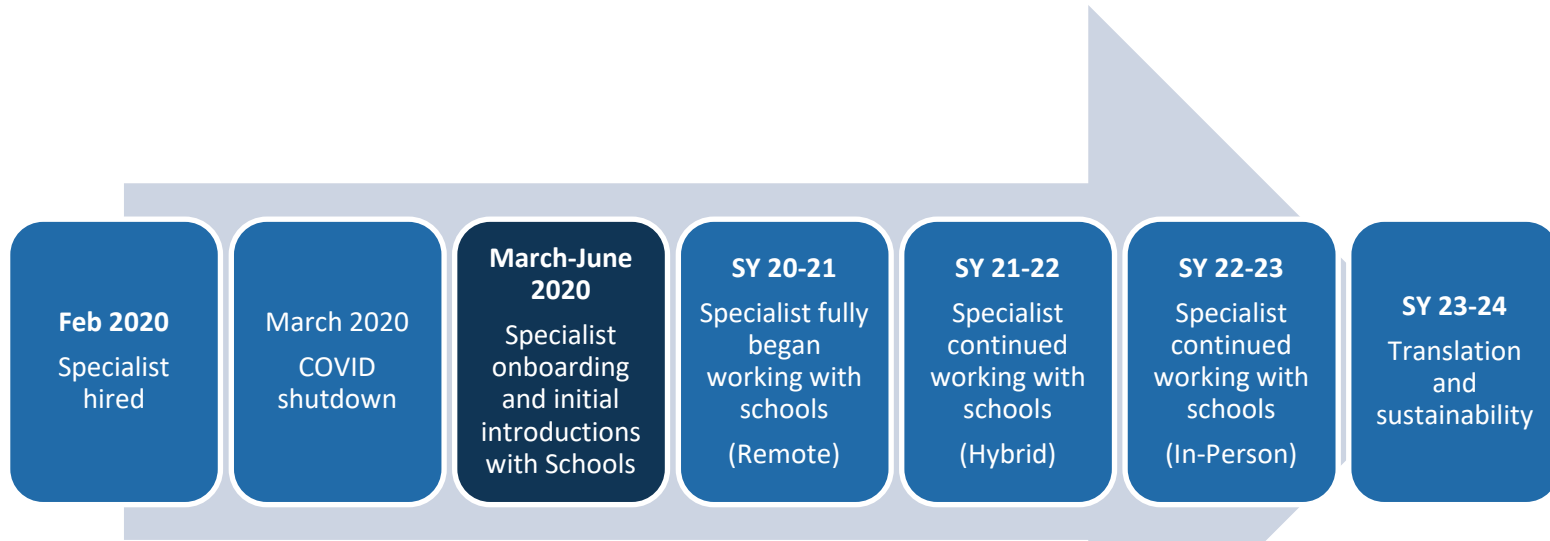
Healthy CPS Network Specialist: A Multi-Component Implementation Strategy



*Underlined SISTER domains indicate the domains that contain strategies that span tiers. Domains are organized by least intensive to most intensive tier of support - not by overall prevalence of SISTER domains and strategies within the activity-based time tracking log data.

**SISTER strategies listed above are abbreviated and the numbers included in parentheses represent the original numbering of the SISTER strategies. Original adapted SISTER strategies can be found in Cook et al. (2019).

Network Specialist Initiative Timeline



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Key Study Questions

1. What are the key **implementation outcomes** (Proctor et al., 2011) associated with implementing the Healthy CPS Network Specialist Initiative?
 - Reach, acceptability, appropriateness, feasibility, sustainability, cost
2. What has been the **impact on Healthy CPS outcomes** of the Initiative?
3. What is the **cost-effectiveness** of the Initiative?

Network Specialist Implementation Strategy Methods and Data Sources (Informed by K2A, SISTER/ERIC, Proctor)

Formative Work to Develop the Healthy CPS Network Specialist Position

Formative Interviews & Discussions:

Partners & Stakeholders, OSHW Healthy CPS Team Leads, TA Providers, & Wellness Teams

Materials Review:

Wellness Team Literature & Healthy CPS Documents & Processes

Network Specialist Onboarding

Implementation Tool Development:

Implementation Guide, Activity-Based Time Tracking Log, & Tool Development

Embedding Network Specialist within the Networks/Schools

Healthy CPS Network Specialist Implementation Using SISTER Strategies via MTSS to Improve School Health and Wellness Policy Implementation

SISTER Implementation Strategy Domains to Provide Tiered Supports via MTSS:

Support Educators (Tier 1&2); Train and Educate School-level Stakeholders (Tier 1&2); Develop Stakeholder Relationships (Tier 2); Use Evaluative and Iterative Strategies (Tier 3); Provide Interactive Assistance (Tier 3); Engage Consumers (Tier 3)

Implementation Activities: Reviewing Healthy CPS checklists, Developing action plans, Reminding schools about important deadlines; Problem-solving school health challenges; Connecting schools to targeted internal & external partners & opportunities

Ongoing data collection & tool development to support implementation

Data Sources: Interviews with Wellness Teams, Parents & Students, Network Chief, OSHW Leads, TA Providers, Principals & Wellness Champions; KIs & Activity-based tracking log entries; Healthy CPS Survey; Salary & Expenditure Data

Implementation Tools: Implementation Guide; One-pagers; Activity-based tracking log

Healthy CPS Network Specialist Tailored Implementation Strategy Outcome Measures (Proctor)

Reach/penetration: # of schools working directly with the Specialist; # of students indirectly reached; # wellness champions interacted with; # unique school stakeholders interacted with (TA log)

Acceptability: to stakeholders – within CPS at the district level, within the Network, and in the schools (KIs)

Appropriateness: Perceived fit/relevance, usefulness, practicality for working with schools (KIs)

Feasibility: Actual fit or utility (KIs)

Fidelity: Delivered as intended, adherence (TA log)

Implementation Cost: Per school and per student cost associated with the Network Specialist position (CPS data)

Sustainability: CPS intent to create additional Specialist positions

Healthy CPS Network Specialist Implementation Strategy Evaluation Methods and Effectiveness

School-level Effectiveness (Difference-in-Difference Analysis)

Improvement in Healthy CPS Achievement (SY 22-23) in comparison to other ES Networks

Cost Effectiveness Analysis

School-level CEA (Healthy CPS)

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Study Design, Data Sources, and Analytic Methods

- Study Design
 - Longitudinal, pre-post quasi-experimental design
 - Sociodemographically (and Healthy CPS score) matched comparison Network
- Data Sources
 - Healthy CPS Scores: annual survey + administrative data
 - Together with administrative data, yields an overall Healthy CPS achievement score (0-100) based on the percentage of criteria met across badges
 - Implementation outcomes: key informant interviews, meetings with CPS staff, activity-based time tracking log (Cidav et al, *Impl. Sci.*, 2020)
- Analytic Methods
 - Implementation outcomes: administrative data, qualitative, thematic analysis
 - Impact on Healthy CPS scores: Difference-in-difference analysis comparing baseline 2018-19 to 2022-23 scores
 - Cost-effectiveness: Specialist's school-specific costs/estimated DID impact

Key Findings

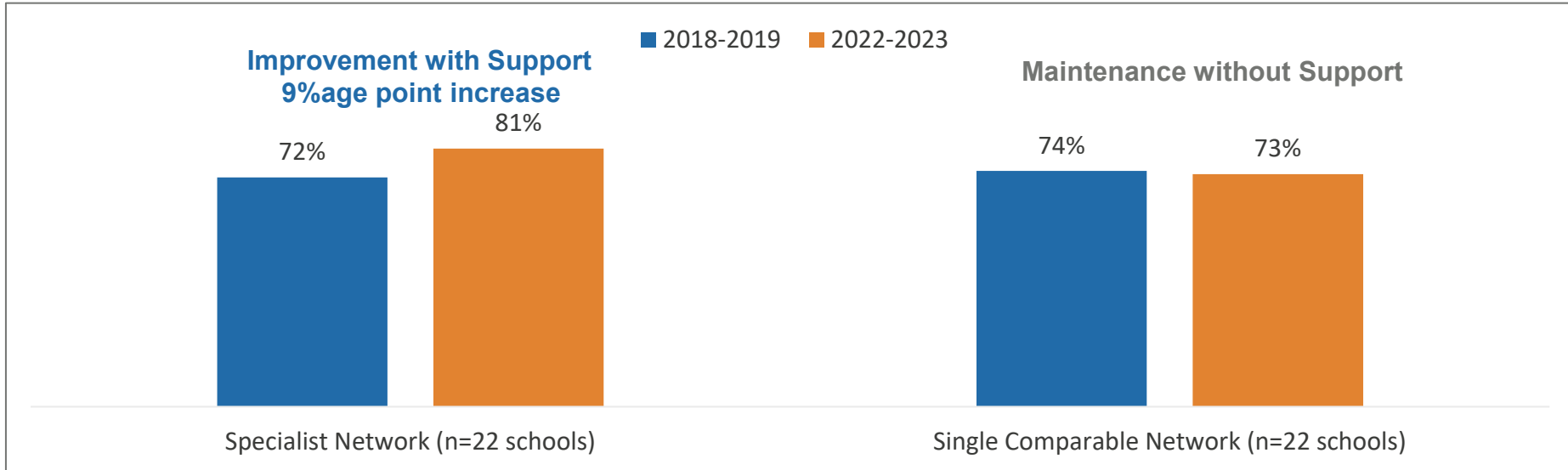
Specialist and Comparison Network Characteristics, SY22-23

Implementation Outcome: Reach

CHARACTERISTIC	Specialist Network	Comparison Network
Network		
Total number of schools	28	23
Number of schools served by Specialist	28	--
Number of students (PE, PK, K, and grades 1-8) served	8,434	12,856
Average number of students/school served	301	559
Student Race/Ethnicity (%)		
American Indian/Alaska Native	0.1	0.3
Asian	0.1	0.5
Black, Non-Hispanic	59.3	32.3
Hispanic	37.9	63.8
Native Hawaiian/Pacific Islander	0.0	0.2
White, Non-Hispanic	1.8	2.5
Multiple race	0.6	0.5
No race/ethnicity available	0.0	0.1
Other Student Characteristics (%)		
Limited English proficiency	18.7	35.9
Special Education	16.6	16.4
Free/Reduced Price Lunch Eligible Students	85.2	81.4

The Specialist Effect: Improvement in Healthy CPS Scores over Time (including during the Pandemic)

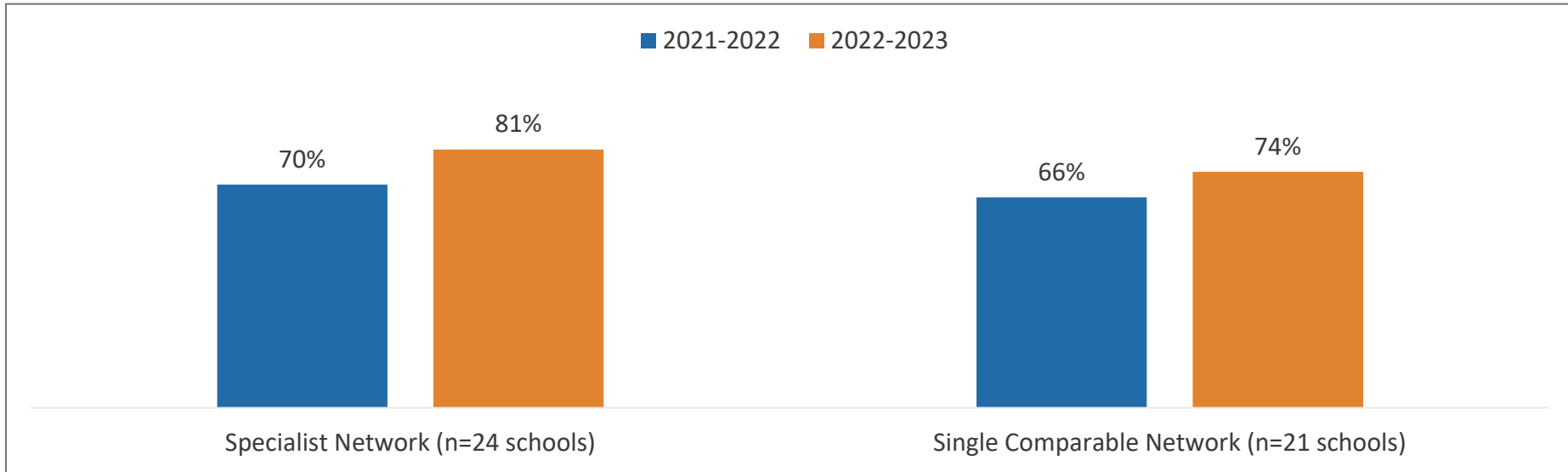
Based on Specialist Network Schools that Received Intervention in 22-23 and At Least One Other Year



Specialist Network's Healthy CPS score increased from before to after the pandemic; whereas, the single comparable network saw no statistically significant change over time. Specialist Network's change over time was significant at $p < .01$ while the comparable Network change was not significant. Specialist Network is significantly different than the comparable networks $*p < .05$.

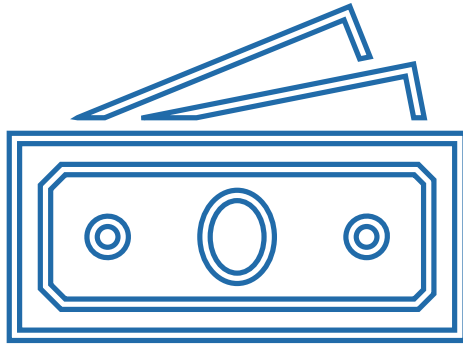
The Specialist Effect: Year-over-Year Improvement in Healthy CPS Scores when Schools were Back In-Person (2021-22 and 2022-23)

Based on Specialist Network Schools that Received Intervention in 22-23 and At Least One Other Year



Specialist Network's Healthy CPS score increased from SY 21-22 to 22-23 ($p < .001$). Scores also increased in the single comparable network ($p = .003$).

What is the cost and cost-effectiveness of the Network Specialist Initiative?



**Non-school time would be dedicated to the Network, district, and the research project.*

Average Annual Implementation Costs

- SY 20-21: \$3,779/school
- SY 21-22: \$4,020/school
- SY 22-23: \$3,808/school

Cost-Effectiveness

- To increase a school's Healthy CPS score by 1 percentage point it will cost \$287-\$308/school when considering only the time that the Specialist dedicated to schools* from SY20-21 to SY22-23
 - Non-COVID-related Issues: \$287/school
 - All issues (including COVID-related): \$308/school

Implementation Outcomes: Examples of Stakeholder Perspectives on the Network Specialist Position

Implementation Outcome	Quotes
Acceptability	“... I came at her with quite a few questions at first to see just like... where are you at in this process? And she really did a great job of backing up. So I was, I was pleasantly surprised...I know everyone's experiences are different. But I truly had a great experience working with... that Specialist.” -School Lead
Appropriateness	“...the Healthy CPS Specialist is definitely needed. They’re needed...to bridge the gap. Because there is a gap between what's expected, what needs to be obtained, and actually understanding how to do it ” - Network Specialist
Feasibility	“In TA meetings and in general, the Specialist was way more attuned to what her schools’ needs were ...even though in our office, we were all assigned TA schools...there's just a lot of work that has to go into building that relationship and because for us, that is one facet of our job...we just don't have the same amount of time...to be dedicating more time to building those relationships... it just was very apparent that the Specialist was having successful conversations and able to provide meaningful support to her schools because that is what she was focused on. ” –OSHW Lead A

Implementation Outcomes: Sustainability

Implementation Outcome	Action
Sustainability	<ul style="list-style-type: none">• CPS has obtained earmarked funding from Congress to support 2 additional Network Specialists for 3 years<ul style="list-style-type: none">• Specialist will provide support and resources to schools within the assigned network. The Network Specialist provides critical guidance, monitoring, and leadership in implementing the Healthy CPS Initiative and Whole School, Whole Community, and Whole Child (WSCC) Framework.• Action for Healthy Kids applying MTSS approach in their work with school districts nationwide in support of their school health and wellness programming and policy implementation.

Implications for D&I Research

- Partnership with CPS was essential in all aspects of the IS study (formulation, implementation, and evaluation)
 - Helped to build their capacity and infrastructure
 - TA tracking log, data analysis and evaluation, etc.
 - Also posed challenges:
 - Leadership and staff changes, changing priorities, wanting to change annual survey measures, etc.
- Using IS frameworks and strategies to support schools in health and wellness policy implementation is a cost-effective approach for "meeting them where they are at"
 - Specialist helps to identify "choke points" that serve as barriers to policy implementation and what strategies can best support Specialists in working with schools
 - Helping CPS think through what strategies are most effective for helping schools
 - Now considering moving towards a graduated approach for future Specialists based on School level of need
- Importance of mixed methods and multiple data sources to enable ongoing evaluation of implementation outcomes

Next Steps

- Finalizing analyses
- Working on student-level outcomes
 - Achievement, suspensions, attendance
 - Changes in cross-sectional attitudes/behaviors (YRBS sub-site surveys)
- CPS has received an earmark from Congress to fund additional Specialists
 - Hiring 2-3 more Specialists for the next year
 - Leveraging all of the tools and resources we created for this project

THANK YOU!

Jamie Chriqui, Sr. Associate Dean and Professor
University of Illinois Chicago, School of Public Health

Email: jchriqui@uic.edu

 @jfchriqui