School Behavioral Health Expansion Evaluation

A plan to evaluate the District of Columbia's efforts to expand access to school-based behavioral health

March 26, 2021

Child TRENDS

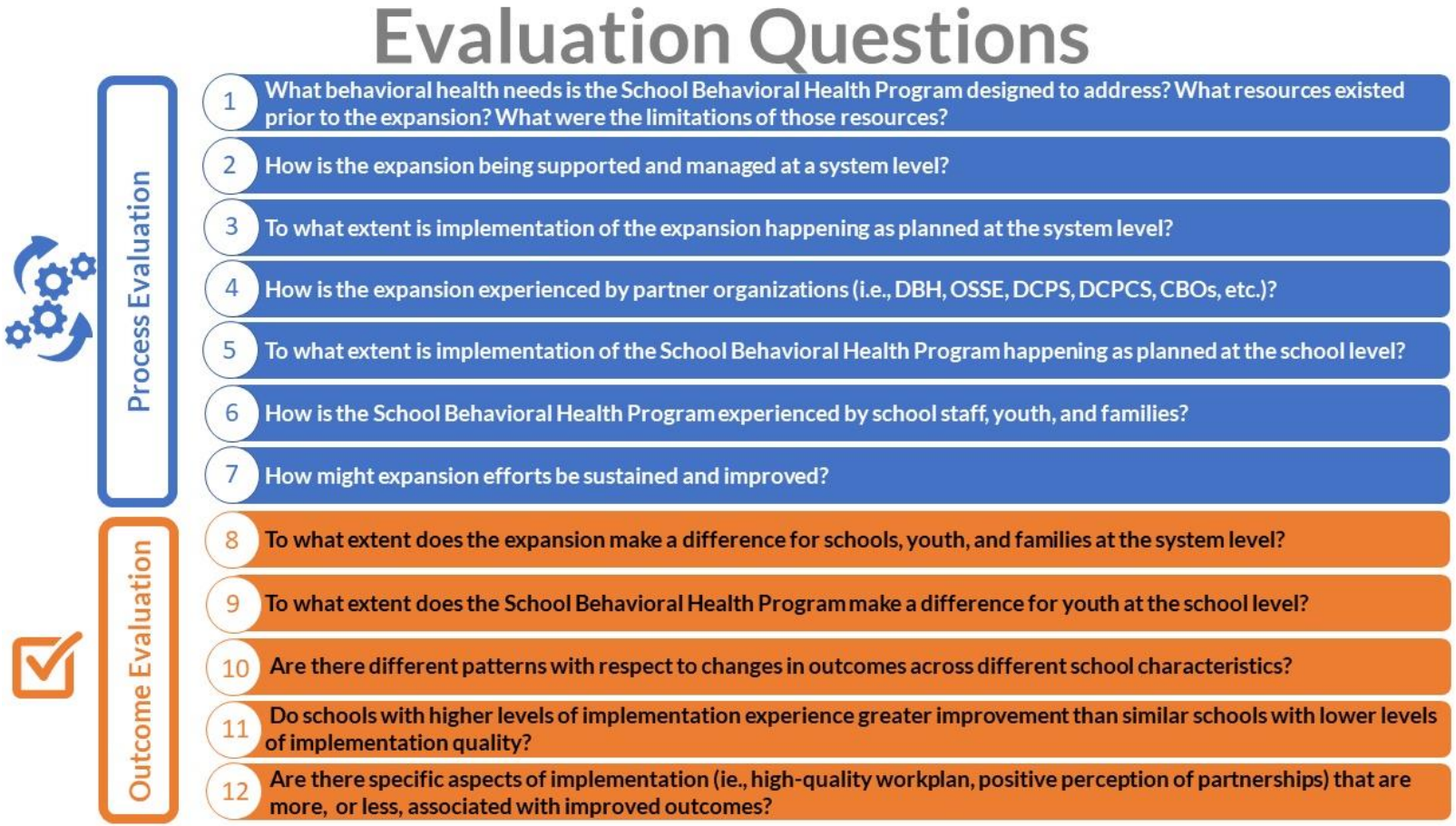
Introduction

The Department of Behavioral Health (DBH) has contracted with Child Trends, a nonprofit research organization, to evaluate the expansion of comprehensive school behavioral health supports in DC Public Schools (DCPS) and DC Public Charter Schools (DCPCS). The Base Year is largely a planning and piloting year. Data collection will occur during Years 1 through 3, with annual reports each year. A summative report—including longitudinal analyses across all three years of data collection plus baseline data—will be submitted in Year 4. The evaluation will include complementary process and outcomes evaluations to help understand the extent to which expansion activities are being implemented as intended and associated outcomes for youth, families, schools and staff are achieved. The evaluation will be conducted in collaboration with key stakeholders in order to provide insight into implementation quality and progress toward desired outcomes.

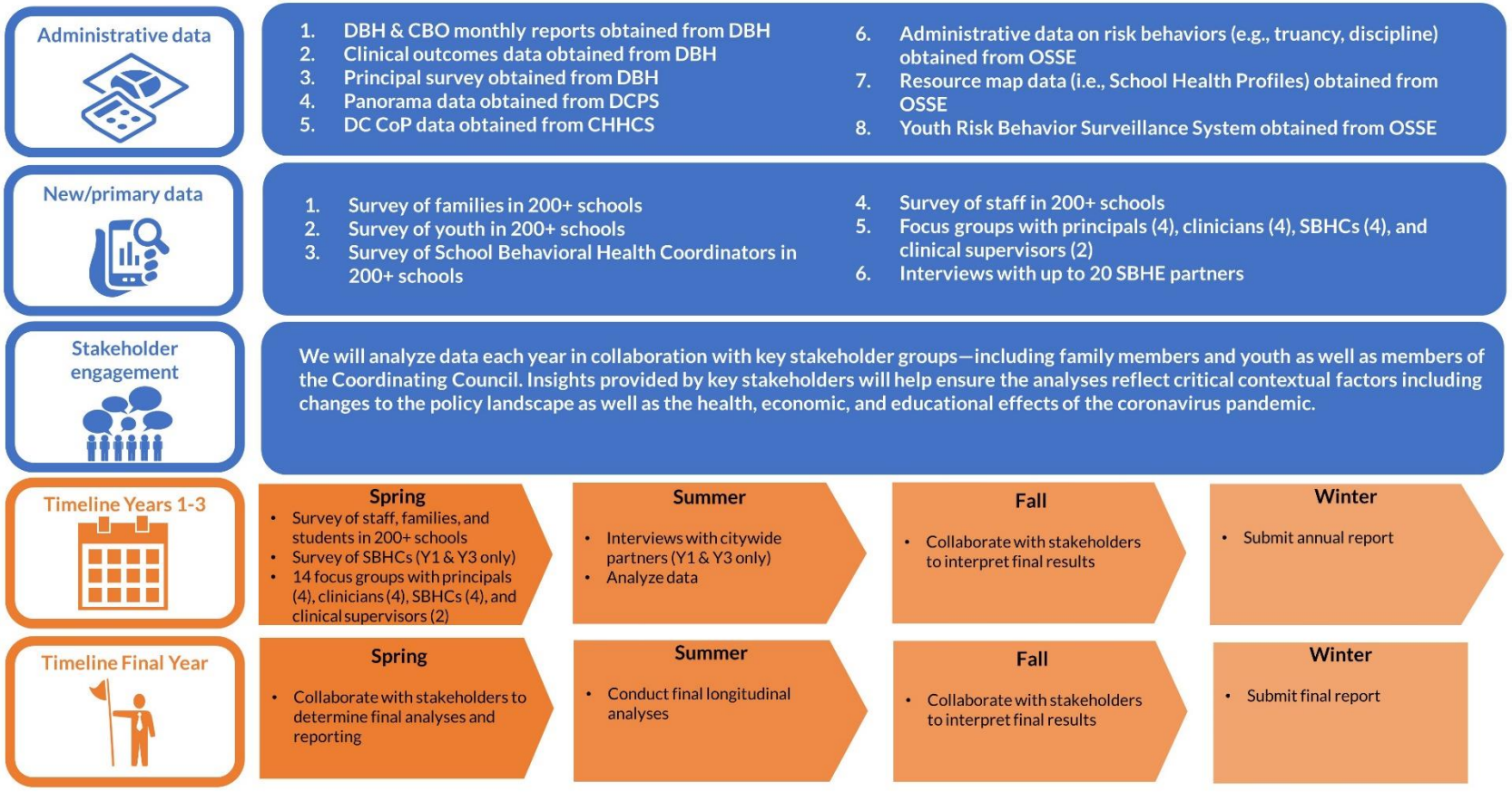
In order to determine priorities for the evaluation, Child Trends asked key stakeholders (including youth, parents, DCPS and DCPCS school behavioral health coordinators, DCPS clinicians, Community Based Organization (CBO) clinicians and supervisors, DBH clinicians and specialists/TA managers, and members of the Coordinating Council on School Behavioral Health and several subcommittees) in summer 2020 to identify questions about the expansion that are of greatest importance to them. Child Trends researchers relied on this information, combined with the evolving logic model for the expansion, to develop research questions to guide the evaluation.

Evaluation at-a-glance

The evaluation will include complementary process and outcomes evaluations to help understand the extent to which expansion activities are being implemented as intended and the associated outcomes for schools, youth, families, and staff. The evaluation will be conducted in collaboration with key stakeholders to provide insight into implementation quality and progress toward desired outcomes as well as timely and actionable recommendations for program improvement. Key aspects of the evaluation are outlined below.



Evaluation Activities



Lessons learned from the data collection pilot

Child Trends conducted a data collection pilot in five schools during late February and early March 2021. The purpose of this pilot was to (1) assess the feasibility and burden on schools of administering surveys and facilitating focus groups with the targeted stakeholders and identify unanticipated challenges with these processes; (2) assess how well our surveys and focus group protocols function in practice; and (3) elicit pilot participants' ideas for additional questions that we may want to consider including. In other words, the pilot provided a realistic sense of recruitment challenges; how long the surveys and focus groups take to complete; whether participants understand the questions in the way they were intended; and ultimately whether any changes are needed to our evaluation plan, data collection instruments, and/or protocols.

- **Stakeholders want annual administration of surveys for students, families, and staff in all schools.** After sharing survey questions and preliminary findings with partners and stakeholders at DBH, OSSE, DCPS, and DCPCSB, these groups shared a preference for annual administration of the youth, family, and school staff surveys in all schools. Originally, we planned to coordinate with community organizations to administer an annual citywide survey to youth and families as a way to minimize burden on schools and had planned to administer the school staff survey within a subset of schools. We also planned to leverage use of existing administrative data, such as YRBS and HPEA to, again, minimize burden on schools. However, due to interest in obtaining youth, family, and school staff survey data in each school, resources will be reallocated to support more intensive, annual data collection and analysis efforts. Existing administrative data will be used to examine change prior to and following the expansion as well as for sensitivity analyses to detect alignment between new and existing survey data.

- **Large-scale, annual survey administration across all schools will require significant resources; other activities will be eliminated or streamlined to accommodate this shift.** Coordination and follow-up with schools requires significant time and resources. For example, working with points of contact at each school to identify the best strategy for their circumstances is necessary but time-intensive. This can be particularly challenging during the pandemic since many staff are experiencing a significant amount of stress as they manage their daily tasks. In addition, updating school points of contact about response rates for the different surveys in order to increase response rates is necessary to achieve adequate sample sizes for analysis but is likely to be a resource-intensive process when more than 200 schools are being targeted. As such, it will be critical to coordinate with DBH, OSSE, DCPS, and DCPCSB as well as the CBOs to establish a process for orienting school points of contact, supporting data collection, and providing schools with useful summaries of their data.

- **Focus groups with youth and parents will be eliminated to accommodate large-scale, annual survey administration.** Youth and parents who participated in focus groups provided rich information about their perspectives and experiences with behavioral health services at their schools. However, youth and parent participation in focus groups was very low. Alternative recruitment strategies would be needed to achieve adequate participation rates for youth and parent focus groups, which would require substantial additional time and resources and would increase burden for schools. In light of this and other changes to the evaluation approach, including annual surveys of youth and parents as noted above, the youth and parent focus groups will be eliminated in order to dedicate resources to support more intensive survey data collection and analysis efforts and minimize burden on schools. Instead, we will incorporate one or more open-ended questions into the youth and parent surveys to ensure that we still provide an opportunity for youth and parents to share qualitative information about their perspectives and experiences.

- **Protocols for focus groups with clinicians will be streamlined to allow for richer discussion of key topics.** During pilot focus groups with clinicians, we determined that our clinician focus group protocols were too long for a one-hour small group discussion; we were not able to discuss all of the topics planned. These protocols will be reviewed carefully and revised with input from DBH to ensure that we are able to hear clinicians' perspectives and experiences with respect to topics of highest priority. In addition, we plan to conduct focus groups with CBO and DBH clinical supervisors instead of with school behavioral health coordinators (discussed above). Some of the topics we had planned to cover in the clinician focus groups may be better addressed by clinical supervisors. This change will enable us to engage another important stakeholder group while also helping to ensure that we focus on topics of highest priority during discussions with clinicians.

Purpose of the Evaluation

In alignment with the logic model, the evaluation will address four key questions about the expansion at both a system-level and a school-level:

1. What activities and resources are in place to support the expansion of school-based behavioral health supports?
2. What are the barriers and facilitators associated with the expansion of school-based behavioral health supports?
3. What is the quality and uptake of the school-based behavioral health supports implemented through the expansion?
4. What difference do expanded school-based behavioral health supports make?

At the **system level,** we intend to capture the coordination of resources and other supports for the expansion, whereas the **school level** is intended to capture what happens in schools that are a part of the expansion. We understand that the quality of coordination at the system level can have important implications for how well the expansion is carried out at the school level.

The evaluation will consist of a process evaluation and an outcomes evaluation. The process evaluation will focus on the first three questions to help understand how processes and systems facilitate the goals of the expansion. The outcomes evaluation will focus on the last question to help understand what difference the expansion makes in schools and in the lives of students, families, and staff. Together, the process evaluation and outcomes evaluation will provide insight into implementation quality, markers of progress, and timely and actionable recommendations for program improvement.

Evaluation Framework

Collective Impact

Because a number of stakeholders have partnered to implement the expansion, it is important to understand how they function collectively to achieve the overall goals. We believe the Collective Impact Framework would be a useful guiding framework for the evaluation, particularly with regard to framing how partner organizations collaborate and coordinate system-level supports. The Collective Impact Framework outlines the elements that contribute to a successful collaboration. These include:

Collective Impact Framework Components

Backbone organization that leads efforts and ensures all member organizations are engaging in planned activities. DBH functions as the backbone organization for the overall expansion.

Common agenda with a shared vision of what qualifies as progress or change. Stakeholders in the expansion may be engaging in different activities but have a shared vision with a common goal.

Continuous communication to inform stakeholders of what is taking place. As part of the expansion, efforts around sharing information also aim to build trust among stakeholders.

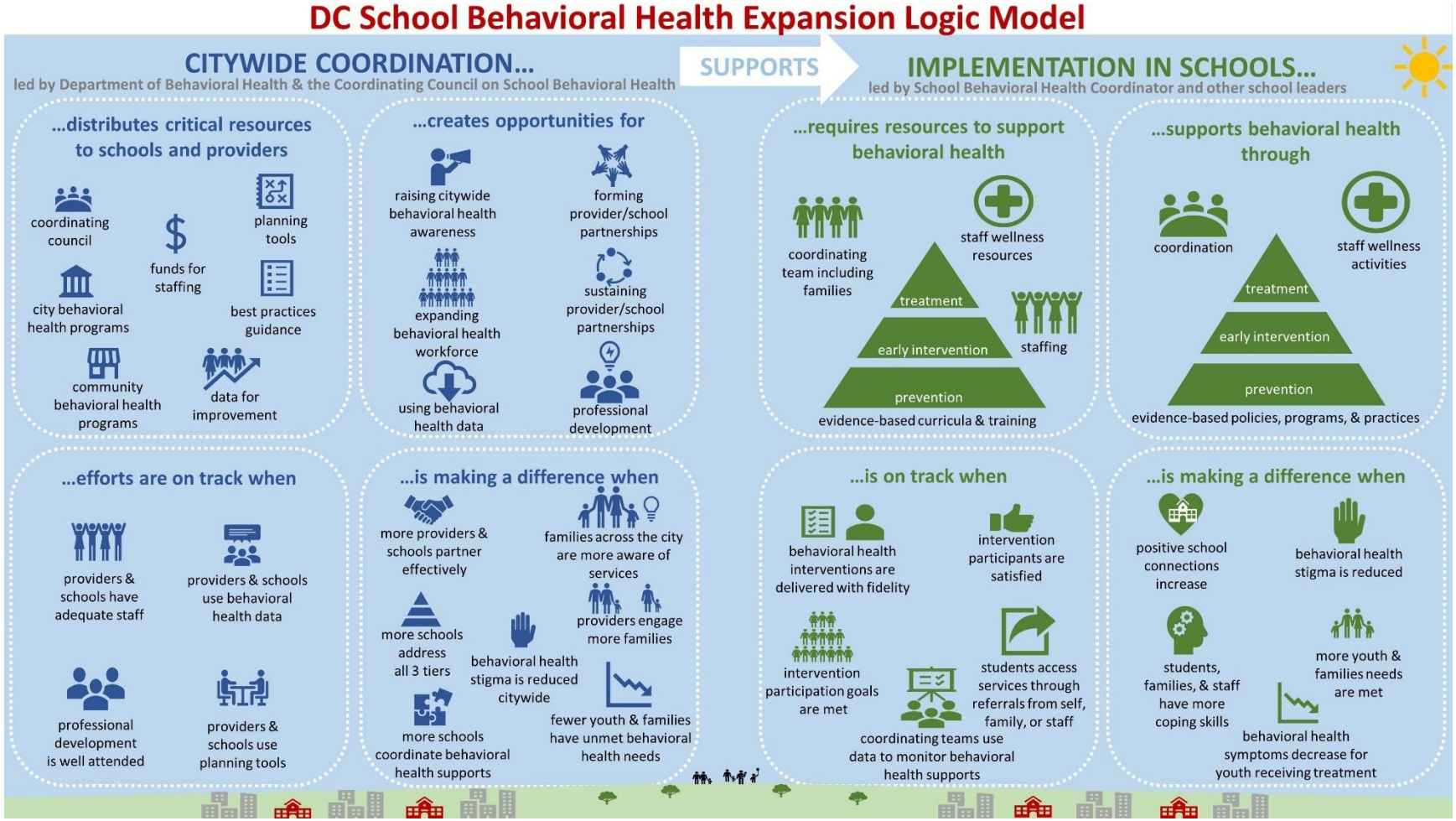
Shared measurement system for assessing progress and change. Stakeholders in the expansion have measures that are specific to their organizations but that contribute to understanding and monitoring the broader expansion initiative.

Mutually reinforcing activities to implement the expansion. Stakeholders in the expansion are able to do what they do best in support of the common agenda.

This 2-minute video gives a brief description of Collective Impact https://www.youtube.com/watch?time_continue=115&v=8CT41uUw8Fc&feature=emb_logo and this website has additional information: https://www.collectiveimpactforum.org/

Logic model

The vision of the expansion can be captured in a logic model, which visually describes a theory of change for how the initiative works and focuses on the inputs, activities, outputs, and outcomes that make up the expansion. The logic model for the expansion includes both coordination at the system-level (i.e., city-wide components of the expansion) and implementation at the school-level. As an iterative tool for program planning and evaluation, the logic model for the expansion guides our proposed evaluation plan. As the logic model evolves and/or is refined, the evaluation plan may be updated accordingly.



Evaluation focus

Based on the logic model, we will examine the following processes and outcomes.

System-level processes and outcomes of interest include:

- **Partner organizations**: planning, decision-making, coordinating, communicating, and monitoring the distribution of resources and tools
- **CBOs**: practices of CBOs and CBO clinicians
- **Schools:** planning, monitoring, and delivery of services within schools in collaboration with families and community partners
- **Families and youth**: behavioral health need, behavioral health disparities, attitudes towards behavioral health services, and awareness and use of behavioral health supports

School-level processes and outcomes of interest include:

- **Youth and families**: awareness of behavioral health supports, access to behavioral health supports, perceptions of support/needs met, behavioral health knowledge, behavioral health symptoms, and school connectedness
- **Staff:** knowledge of behavioral health, behavioral health referrals, buy-in, skills related to supporting behavioral health among students, and wellness
- **Behavioral health clinicians**: family engagement, use of evidence-based strategies, caseloads, and perceived support
- **School behavioral health teams:** monitoring and coordination of behavioral health supports and engagement of youth, family, and community partners by school teams—including whether families hold decision-making roles

Summary of Research Questions

Process evaluation

The process evaluation will help DBH and partners understand the extent to which expansion activities and resources are being implemented as planned, the barriers and facilitators associated with implementation, and the quality and uptake of those activities and resources. This information will provide valuable insights into both the feasibility and acceptability (e.g., satisfaction) of the expansion, help inform program improvement, and help contextualize findings from the outcomes evaluation.

1. **What are the behavioral health needs** that the School Behavioral Health Program is designed to address, what resources existed prior to the expansion to meet those needs, and what were the limitations of those existing resources?
2. How is the expansion being **supported and managed at a *system-level***?
3. To what extent is implementation of the expansion **happening as planned at the *system-level***?
    a. What resources have been made available to schools?
        i. Are there resources that were planned but have not been made available? If so, why?
    b. What system-level activities have happened?
        i. To what extent have they happened as planned? Why?
    c. What are the key barriers and facilitators to implementation at the *system-level*?
4. How is the expansion **experienced by partner organizations** (i.e., DBH, OSSE, DCPS, DCPCS, and CBOs)?
5. To what extent is implementation of the School Behavioral Health Program in expansion schools **happening as planned at the *school-level***?
    a. What resources have schools utilized?
        i. Are there resources that schools have not utilized? If so, why?
        ii. Are there additional resources that schools need that have not been made available to them?
    b. What school-level activities have happened?
        i. To what extent have they happened as planned? Why?
        ii. To what extent do family members have decision-making power?
    c. What are the key barriers and facilitators to implementation at the *school-level*?
6. How is the School Behavioral Health Program **experienced by school staff (including school-based clinicians), youth, and families in expansion schools**?
7. How might expansion efforts be **sustained and improved**?
    a. What resources or supports are required to sustain high quality behavioral health supports in schools?
    b. What changes, if any, are needed with respect to how expansion resources are allocated?
    c. What changes, if any, are needed to better respond to public health emergencies like COVID-19?

Stakeholder engagement

Child Trends consulted with multiple stakeholder groups to develop the logic model presented on the previous page. Focus groups were held over summer 2020 with the following groups: school administrators, school-hired clinicians, DBH clinicians, CBO clinicians, DBH supervisors, CBO supervisors, family members, and youth. The logic model was presented to Coordinating Council on School Behavioral Health in fall 2020 and Child Trends held small group discussions with members of the Data and Evaluation Subcommittee as well as the co-chairs of the rest of the Coordinating Council subcommittees.

Outcomes evaluation

The outcomes evaluation will help DBH and partners understand the extent to which the expansion has yielded the intended outcomes for schools, staff, youth, and families. The outcomes evaluation will also help DBH and partners understand how outcomes are associated with characteristics of schools (e.g., indicators of need) and components of implementation (e.g., number of clinicians, qualifications of clinicians, quality of work plan). Overall, the outcomes evaluation will help DBH and partners learn if outcomes improved and what characteristics of schools and implementation components help to explain those improvements.

8. To what extent does the expansion make a difference for schools, youth, and families at the *system-level*?
    a. Has the percentage of schools with high **unmet behavioral health needs** decreased? Have disparities by ward decreased?
    b. To what extent do youth and families across the city experience an increase in their sense of **connectedness to school**? To what extent are changes different for different groups (e.g., ward, race/ethnicity)?
    c. To what extent are there reductions in **stigma** related to behavioral health supports among youth and families? To what extent are changes different for different groups (e.g., ward, race/ethnicity)?
    d. To what extent do **youth and families access supports** and feel their needs are met? To what extent are changes different for different groups (e.g., ward, race/ethnicity)?
9. To what extent does the School Behavioral Health Program make a difference for youth attending expansion schools at the *school-level*?
    a. To what extent are there reductions in **stigma** related to behavioral health supports among youth and families?
    b. To what extent do students experience reduced risk behaviors? To what extent do students in treatment experience **reduced behavioral health symptoms**?
    c. To what extent are student **behavioral health needs being met**? To what extent do students and families feel that their needs are met?
    d. To what extent do youth and families demonstrate increased **behavioral health literacy** (e.g., knowledge, coping skills)? To what extent do staff feel their own behavioral health literacy has improved?
    e. To what extent do youth, families, and staff feel an increased sense of **school connectedness**?
10. Are there **different patterns** with respect to changes in outcomes across different school characteristics (e.g., existing resources, grade levels)?
11. Do schools with higher levels of **implementation quality** experience greater improvement than similar schools with lower levels of implementation quality?
    a. Does implementation quality make a difference in outcomes for schools that had more or fewer existing resources prior to the expansion?
12. Are there specific **aspects of implementation** (e.g., quality of implementation, positive perceptions of partnership, engagement in DC CoP) that are more or less associated with improved outcomes?
    a. Is the relationship between implementation components and changes in outcomes the same across different types of schools (e.g., existing resources, grade levels)?

Process Evaluation

To answer research questions related to implementation at the system-level, Child Trends will review administrative data and conduct interviews with key stakeholder groups. To answer research questions related to implementation at the school-level, Child Trends will conduct a two-phase sampling process for schools as described below. Phase 1 will include brief surveys of all schools participating in the expansion. Phase 2 will include in-depth focus groups to collect data from key stakeholders from a targeted sub-sample of schools. Below, we describe the sample, data collection, and data analysis plans for the process evaluation.

At a glance

Sample

Interviews will be conducted with a sample of citywide stakeholders. Surveys of School Behavioral Health Coordinators (SBHCs) and other school staff will be collected from all schools. More in-depth focus groups will be conducted with a subset of 24 schools.

Existing data

- *OSSE*: Resource Map (i.e., School Health Profiles)
- *DBH*: Matching results, CBO staffing, Monthly DBH & CBO Clinician Survey, Principal survey
- *DC CoP*: CoP satisfaction/application of knowledge

New data

- Interviews with key stakeholders for citywide coordination Y1, Y3
- Survey of School Behavioral Health Coordinators Y1, Y3
- Survey of other school staff Y1, Y2, Y3
- Focus groups with key stakeholders in 24 schools Y1, Y2, Y3

Timeline

- Year 1: Citywide stakeholder interviews; SBHC survey and school staff survey (all schools); in-depth data collection in first sample of 24 schools
- Year 2: School staff survey (all schools); in-depth data collection in second sample of 24 schools
- Year 3: Citywide stakeholder interviews; SBHC survey and school staff survey (all schools); in-depth data collection in third sample of 24 schools
- Year 4: Complete longitudinal analyses

Sample

Below we describe the samples we intend to focus on for system-level and school-level data collection in order to conduct the process evaluation.

System level

Child Trends will recruit up to 20 key individuals from partner organizations (i.e., DBH, OSSE, DCPS, DCPCS, and CBOs), in addition to members of the Coordinating Council and the DC CoP, to participate in interviews during the first year of data collection. We will conduct follow-up interviews in the third year of data collection. We will collaborate with DBH and the Coordinating Council to identify up to three individuals from each partner organization, the Coordinating Council, and the DC CoP, who have been most closely involved with the expansion, to recruit for participation in interviews.

School level

All DCPS and public charter schools participating in the expansion at the time of evaluation activities will be recruited for participation in a survey of SBHCs during the first year of data collection; we will also administer a survey to other school staff at all expansion schools. Based on survey responses, we will employ purposive sampling to recruit a subset of up to 24 schools to capture a range of school-level data from principals, clinicians, and CBO/DBH clinical supervisors through more in-depth focus groups. To the extent possible, we will strive to include a mix of cohorts, DCPS/DCPCS, school levels, wards, and CBOs.

During the second and third years of data collection, another sample of up to 24 schools will be selected from among all participating schools based on data collected as part of the outcomes evaluation. We will use initial outcomes data to recruit schools that have demonstrated a notable improvement in outcomes as well as some schools that have demonstrated a decrease or no change to better understand implementation experiences.

Evaluator's Note

Purposive sampling is a strategy in qualitative research used for the identification and selection of information-rich cases related to the phenomenon of interest. In this case, rather than seek to interview key stakeholders at each school in the expansion, we will identify schools that represent certain experiences, such as schools that report high or low quality implementation or schools that have experienced notable improvements in outcomes versus no improvement. Such an approach allows us to efficiently use limited evaluation funds while focusing on the schools that are most likely to have insights with respect to best practices or common challenges.

For more information on purposive sampling see:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4012002/

Data collection

System level

Child Trends will review existing/administrative data and collect new/primary data to answer research questions related to implementation at the system level. The table below shows which data sources will be used to answer each of our system-level research questions.

Table of system-level research questions and data sources for process evaluation

Research Questions	Resource Map	DC CoP surveys	Monthly DBH & CBO Clinician Survey	Interviews with Citywide stakeholders
1. What are the behavioral health needs that the expansion is designed to address, what resources existed prior to the expansion to meet those needs, and what were the limitations of those existing resources?	X			X
2. How is the expansion being supported and managed at a *system-level*?				X
3. To what extent is implementation of the expansion happening as planned at the *system-level*?		X	X	X
4. How is the expansion experienced by partner organizations (i.e., DBH, OSSE, DCPS, DCPCS, and CBOs)?				X

Existing/Administrative data

As noted in the table above, Child Trends will review the following existing, administrative data to answer research questions related to implementation at the system level. Child Trends will execute Data Sharing Agreements with OSSE, DCPS, DBH, and other agencies as warranted.

1. Resource Map (largely data from School Health Profiles)
2. DC CoP surveys
3. Monthly clinician surveys

New/Primary data

Child Trends will interview individuals from partner organizations (i.e., DBH, OSSE, DCPS, DCPCS, and CBOs) in addition to members of the Coordinating Council and the DC CoP. Child Trends will coordinate with DBH, the Coordinating Council, and other partners as needed to conduct recruitment activities.

4. Interviews with Coordinating Council members
5. Interviews with members of partner organizations
6. Interviews with DC CoP

School level

Child Trends will review existing/administrative data and collect new/primary data to answer research questions related to implementation at the school level. The table below shows which data sources will be used to answer each of our school-level research questions.

Table of school-level research questions and data sources for process evaluation

Research Questions	Principal surveys	Monthly DBH & CBO Clinician Survey	Interviews with Citywide stakeholders	Survey (all schools) of SBHCs	Focus Groups (subset of schools) with Principals, Clinicians, SBHCs, & Clinical Supervisors	Survey (all schools) of School Staff
5. To what extent is implementation of the expansion happening as planned at the *school-level*?		X		X	X	X
6. How is the expansion experienced by school staff (including school-based clinicians), youth, and families?	X	X		X	X	X
7. How might expansion efforts be sustained and improved?			X		X	

Existing/Administrative data

As noted in the table above, Child Trends will review the existing monthly DBH and CBO clinician survey and principal survey data to answer research questions related to implementation at the school-level. Child Trends will execute Data Sharing Agreements with OSSE, DCPS, DBH, and other agencies as warranted.

New/Primary data

Child Trends will also collect primary data, including surveys of SBHCs and other school staff in all schools. A subset of up to 24 schools will be selected for more in-depth data collection involving focus groups. Child Trends will coordinate with DCPS, DCPCS, and OSSE and other partners as warranted to recruit schools.

1. Survey of School Behavioral Health Coordinators
2. Focus groups with Principals, Clinicians, SBHCS, and Clinical Supervisors
3. Survey of School Staff

All schools

Survey of School Behavioral Health Coordinators

During the first year of data collection, we will attempt to recruit SBHCs at all DCPS and public charter schools participating in the expansion at the time of evaluation to complete a survey. Child Trends researchers will work with DBH and other partners to develop survey items that will cover topics including

school behavioral health activities, challenges, and facilitators to date. We anticipate that the survey will take no longer than 15 minutes to complete, in order to limit the data collection burden on school staff.

Child Trends will administer the survey by emailing the SBHC at each school. The recruitment email will describe the study and include a link to the survey. Potential participants will be informed that their participation is voluntary and any responses they share will be confidential. Dr. Stratford's contact information will be provided to answer any questions. This approach has been successful in recruiting respondents for the crisis response evaluation survey.

Survey responses will be stored on a secure data drive. Should DBH request these data, Child Trends will provide a dataset with identifying information removed.

Surveys of school staff

To assess awareness, utilization, and satisfaction with behavioral health services at all schools, the research team will administer a survey to school staff at all schools. Child Trends researchers will work with DBH and other partners to develop survey items that address staff perspectives on and experiences with behavioral health processes and services in the school, as well as staff perceptions of student and family experiences with these services. We anticipate that the school staff survey will take no longer than 15 minutes to complete, in order to limit the data collection burden on school staff.

Child Trends will work with schools to establish the best strategy for administering the school staff survey. For example, we may leverage SBHCs, clinicians, or other school staff to serve as a primary point of contact. The recruitment email will describe the study, include a link to the survey, and request that the coordinator forward the information to all staff members at their school. Potential participants will be informed that their participation is voluntary and any responses they share will be confidential. Dr. Stratford's contact information will be provided to answer any questions. We will coordinate with DBH, DCPS, DCPCSB, and DC CoP leaders to encourage completion of the survey.

Survey responses will be stored on a secure data drive. Should DBH request these data, Child Trends will provide a dataset with identifying information removed.

Combined with existing data sources (e.g., clinician monthly reports and principal surveys) and new data collected as part of the outcomes evaluation (e.g., citywide survey of families and youth, described below), SBHC survey responses and school staff survey responses will be analyzed and used to assess current level of implementation at each school. We will determine cut points for what is considered high and low implementation based on the available administrative data and distribution of survey responses. This information will then inform in-depth data collection in a subset of schools, described below.

In-depth data collection at a subset of schools

A subset of schools will be sampled to capture a range of school-level data from principals, clinicians, and CBO/DBH clinical supervisors. As described above, schools will be categorized as having either high or low levels of implementation progress to date based on responses to the SBHC and school staff surveys and a variety of other data sources. Child Trends will select up to 12 schools in each category (i.e., 12 high implementation schools, 12 low implementation schools) for a total of up to 24 schools. To the extent possible, we will strive to include a mix of cohorts, DCPS/DCPCS, school levels, wards, and CBOs. Once a subset of high and low implementation schools has been selected, DBH and other partners will have an opportunity to review the list of schools in order to suggest alternatives if appropriate. We will then conduct primary data collection, described below, to examine implementation at each school. In-depth data collection will focus primarily on gathering qualitative insights to provide additional context to the quantitative findings from the surveys administered to SBHCs and other school staff at all schools, as well as

examining awareness, utilization, and satisfaction with behavioral health services at the school and perceptions of stigma.

Saturation, a metric of validity for qualitative data collection, is often achieved with a sample size of 15-20. Therefore, we believe that including up to 24 schools will be sufficient for data collection. Should we fail to reach saturation, we may consider recruiting additional schools should time and resources allow.

Focus groups with principals, clinicians, and CBO/DBH clinical supervisors

In-depth data collection will include focus groups with principals, clinicians, and CBO/DBH clinical supervisors from the subset of schools described above. The purpose of this qualitative data collection is to gather more contextual information about school behavioral health services and supports among this subset of schools, including information about teaming (e.g., coordination and integration) among behavioral health staff members, implementation challenges and facilitators, and perspectives on what is needed to sustain expansion efforts long-term.

Principals, clinicians, and CBO/DBH clinical supervisors will be invited to participate in a focus group for their respective stakeholder group and level of implementation (see below for a breakdown). In the event that scheduling conflicts prevent an individual from attending their respective group discussion, we will provide the option of participating in a one-on-one interview instead. A total of up to 16 focus groups will be scheduled as follows:

- High implementation schools
  - Principals at high implementation schools (up to 2 groups of up to 6 principals)
  - Clinicians at high implementation schools (up to 2 groups of up to 6 clinicians)
  - SBHCs at high implementation schools (up to 2 groups of up to 6 SBHCs)

- Low implementation schools
  - Principals at low implementation schools (up to 2 groups of up to 6 principals)
  - Clinicians at low implementation schools (up to 2 groups of up to 6 clinicians)
  - SBHCs at low implementation schools (up to 2 groups of up to 6 SBHCs)

- CBO/DBH clinical supervisors (up to 2 groups of up to 6 clinical supervisors)

By conducting these discussions separately with high implementation schools and low implementation schools, we will be able to explore the unique challenges and facilitators relevant to each group. By conducting these discussions separately with principals, clinicians, SBHCs, and clinical supervisors, we will be able to hear everyone's perspective without concerns that power dynamics may limit anyone's comfort in sharing their experiences.

Child Trends will reach out to schools by emailing the SBHC, using the same contact information that was used in Phase 1, and the principal at each school. The recruitment email will describe the study, include information about the focus groups, and request that the information be shared with all clinicians working in the school. Child Trends will reach out to DBH staff to assist in identifying the clinical supervisors and Child Trends researchers will then reach out to those supervisors following a similar process for recruitment of principals and clinicians. Potential participants will be informed that their participation is voluntary and any responses they share will be confidential. Dr. Stratford's contact information will be provided to answer any questions. This approach has been used successfully to recruit respondents for the crisis response evaluation.

Focus groups will be conducted by a skilled facilitator. If one-on-one interviews are conducted due to scheduling challenges, they will take place through video conference or by phone. All focus groups and

interviews will be audio-recorded with consent of the participants and transcribed. Focus groups and interviews will last up to one hour. Audio files and transcriptions will be maintained in a secure data drive. Audio files will be destroyed once qualitative data analysis is complete. Should DBH request the transcripts, Child Trends will provide files with identifying information removed/redacted.

Years 2-3: During the second and third years of data collection, surveys will again be administered to school staff at all expansion schools. In addition, another sample of up to 24 schools will be selected from among all participating schools based on initial data collected as part of the outcomes evaluation (described below). During each of these years, 12 schools will be selected that appear to be making substantial progress with respect to key outcomes, and 12 schools will be selected that appear to be making little or no progress with respect to key outcomes. Focus groups will be conducted with principals, clinicians, and SBHCs, as well as clinical supervisors, much like during the first year of data collection. The focus of data collection during the second and third years will be much the same as during the first year—we will collect information about school behavioral health activities to date; implementation challenges and facilitators; staff perspectives related to awareness, utilization, and satisfaction with behavioral health services; and perspectives on what is needed to sustain expansion efforts long-term. Sampling schools that have been more successful, relative to other schools, with respect to key outcomes will allow us to examine those "best practices" that have facilitated their progress. Sampling schools that have been less successful, relative to other schools, with respect to key outcomes will allow us to better understand the barriers that these schools have faced during their involvement with the expansion.

Evaluator's Note

Saturation is a technique used in qualitative data collection and analysis to reduce data collection burden while ensuring that the evaluator has acquired a strong understanding of the situation. One strategy is for evaluators to maintain a list of themes that appear in the data they are coding. When a new theme is identified it is added to the overall list. When several sources of data have been coded with no new themes appearing, it is generally assumed that the data have been saturated (i.e., all major themes identified). When data is collected from people that are similar (such as having the same role) saturation is often reached after 10 to 15 interviews. As a result, it is often the case that an evaluator can develop a good understanding of a phenomenon without having to interview a large number of individuals.

Data analysis

Quantitative data

Child Trends will conduct descriptive analyses of existing data and survey data that we collect, to characterize system level and school level implementation. When possible, we will also conduct subgroup analyses to examine any differences across types of schools. For example, we will analyze the data to determine if there are differences in school behavioral health activities implemented to date based on the grades served, demographics of the school, ward, or other school characteristics. We will describe any such patterns.

Qualitative data

The Child Trends study team will conduct a thematic analysis of focus group transcripts using qualitative analysis software. We will use both a deductive (a priori) and inductive (emergent) approach to coding. Specifically, we will create an initial coding scheme based on the research questions and protocol topics. We will then add to and elaborate on this coding scheme based on the content of the focus group discussions. We will use a team of three to four analysts who will be trained on the coding protocols. Reliability between analysts will be established through calculating percent agreement; an agreement of at least 80 percent across all codes will be required to begin coding. Throughout the coding process, the coding team will hold regular debriefing meetings to ensure alignment of understanding of the evolving coding scheme, reconcile any discrepancies, and discuss emerging themes. Once the coding process is complete, codes will be analyzed to determine common themes. We will also analyze codes across different groups to determine whether any patterns emerge.

Open-ended survey responses will be analyzed using text topic modelling. This is a highly efficient, machine learning technique that can identify topics within short passages of text based on patterns of words or groups of words that occur together frequently. Topic modelling is completely data-driven; the research team will not identify any a priori topics. Depending on the findings from the topic modelling, we may also use sentiment analysis to explore responses more in-depth. This approach goes beyond the identification of topics to examine whether responses are positive, negative, or neutral.

At key points in our analytic process, we will consult with DBH and members of the Coordinating Council to share our emergent findings and obtain feedback. For instance, we may share our initial codebook to obtain feedback on codes that may be missing. Additionally, we will share summaries of emerging themes to obtain additional insights on the data from key stakeholders, including families and youth, that may be able to add context to the data and assist with interpretation. Feedback will be incorporated prior to providing DBH and the Coordinating Council with draft reports.

Stakeholder engagement

Child Trends will consult with key stakeholders—including family members and youth—to interpret the data that is collected. By consulting with the groups that are most affected by the expansion of behavioral health supports in DC schools, we will benefit from their critical insights. This is especially important given that the COVID-19 pandemic has changed the context within which the expansion is occurring and will likely continue to influence behavioral health in schools in the coming years.

Outcomes evaluation

To answer research questions related to the difference being made at the system-level, Child Trends will review administrative data (e.g., YRBS, HPEA, clinical outcomes data submitted to DBH by School Behavioral Health Program Clinicians including DBH and CBO clinicians) and administer an annual survey to family members and youth (beginning at 4th grade) citywide. To answer research questions related to the difference at the school-level, Child Trends will analyze clinical outcomes data submitted to DBH by School Behavioral Health Program Clinicians including DBH and CBO clinicians and administer an annual survey to youth and families at all DCPS and DCPCS schools. We will use three primary analytic models:

1. *Interrupted time series* to compare trends before/after expansion
2. *Multi-group Structural Equation Models* to examine the strength of relationships between implementation and outcomes
3. *Marginal effects* to model the predicted change in school-level outcomes based on a specified change in implementation

At a glance

Sample

Existing citywide data (e.g., YRBS, etc.) as well as a citywide survey of family members and youth will be used to answer system-level questions. Youth and family survey data will be used to answer school-level research questions.

Existing data

- *OSSE*: YRBS, Unmet need (i.e., School Health Profiles), HPEA, administrative data
- *DBH*: Monthly DBH and CBO Clinician survey, clinical outcomes data submitted to DBH by School Behavioral Health Program clinicians (DBH and CBO)
- *DC CoP*: CoP satisfaction/application of knowledge

New data

- Survey of families and youth (beginning at 4th grade) administered citywide and at each DCPS and DCPCS school
- Unmet Need Metric
- Survey of School Behavioral Health Coordinators Y1, Y3 (see Process Evaluation)
- Survey of school staff in 24 schools Y1, Y2, Y3 (see Process Evaluation)

Timeline

- Base Year: Pilot protocols
- Year 1: Access existing data, administer citywide survey of families and youth; Analyze Y1 data
- Year 2: Access existing data, administer citywide survey of families and youth; Analyze Y2 data
- Year 3: Access existing data, administer citywide survey of families and youth; Analyze Y3 data
- Year 4: Complete longitudinal analyses

Sample

Below we describe the samples we intend to focus on for system-level and school-level data collection for the outcomes evaluation.

System level

Evaluation of system-level outcomes will utilize administrative data when available for which sampling will reflect all respondents citywide. For system-level outcomes for which there is no existing data (e.g., stigma, self-referrals), we will conduct primary data collection; however, we will work with Family Facing Organizations, Family-Run Organizations to encourage survey completion among family members.

School level

Evaluation of school-level outcomes will involve primary data collection using an annual youth and family survey to examine changes over time related to school connectedness, stigma, coping, and awareness and access to services. We will coordinate with partners and schools to administer the survey to youth and families. To increase likelihood of high response rates, we will share guidance and recommendations with schools around survey administration. To foster school buy-in, we will provide each school with sufficient response rates with a brief summary of school-level findings. We will also leverage use of existing data (e.g., YRBS, HPEA, clinical outcomes data submitted to DBH by School Behavioral Health Program clinicians) to examine changes prior to and following the expansion and—resources permitting—conduct sensitivity analyses to ensure alignment with newly developed youth and family surveys.

Evaluator's Note

Baseline data represent the time prior to implementation of the intervention that is being evaluated. In the case of the evaluation of the expansion, there are two baselines. For system-level outcomes, the baseline is the time period before the expansion started. For school-level outcomes, the baseline is the time before joining the expansion, which is different for each cohort. The COVID-19 pandemic complicates collection of some baseline data for Cohort 3 and Cohort 4 schools since some data may not have been collected. Even when data were collected, the data collected during the pandemic are likely to be quite different from other years, making it difficult to make meaningful comparisons. In some cases, we may be able to use baseline data collected prior to the pandemic for all schools, such as with an interrupted time series approach. In other cases, it will be necessary to restrict comparisons to schools in the same cohort. Given the challenges of the pandemic, it will be critical to engage with stakeholders when exploring patterns and interpreting data to ensure the context of the pandemic is reflected in the findings and recommendations.

Data collection

Below we present data sources for system- and school-level outcomes, including a summary table of resources for each outcome and details of data collection by research question.

System level

Because the expansion is a citywide initiative, it is important to examine citywide outcomes regarding unmet need and youth and family perceptions of access to behavioral health supports, stigma around behavioral health needs, and school connectedness. A combination of existing and new data sources will be used, as shown in the summary table below.

Table of system-level outcomes and data sources for outcome evaluation

Research Question	Parent/Youth surveys	YRBS	Monthly DBH and CBO Clinician survey	Unmet Need metric
8a. Has the percentage of schools with high unmet behavioral health needs decreased?			X	X
8b. To what extent do youth and families across the city experience an increase in their sense of connectedness to school?	X	X		
8c. To what extent are there reductions in stigma related to behavioral health supports among youth and families?	X			
8d. To what extent do youth and families access supports and feel their needs are met?	X	X		

Research Question 8a: Has the percentage of schools with high unmet behavioral health needs decreased? Have disparities by ward decreased?

Schools

We will leverage use of a metric of unmet need that has been recommended to DBH (which has been submitted and is currently under review) or another metric that is approved by DBH. Such a metric allows schools to be categorized or ranked across indicators of need (e.g., suspensions, attendance, mental and emotional health scores) and resources (e.g., clinician-to-student ratio, school nurse, mental and emotional health education for students and families). The metric will be used to quantify unmet need across all schools in each expansion year, regardless of expansion cohort, to examine the proportion of schools with high levels of unmet need, the extent to which the proportion of these schools decreased over time, and disparities by ward. When possible, we will

examine trends over time beginning prior to the expansion. For example, we may look to see if need and resource scores change over time; we may also set cut-offs using data from the year prior to the first cohort to determine whether the proportion of schools that meet cut-off scores for the highest need category (as set in the year prior to the expansion) diminish over time. We will also examine items in the youth and family surveys related to perceptions of unmet need and perspectives on barriers to accessing services. For example, we may look to determine whether the percentage of schools with a year-over-year decrease in students or families reporting unmet behavioral health needs varies by ward.

Research Question 8b: To what extent do youth and families feel a sense of connectedness to school? To what extent are there differences by race/ethnicity and ward?

Youth and Families

The youth survey will include items to assess school connectedness, including belonging and comfort talking to adults. Additionally, publicly available data from YRBS, starting in 2015-2016, will be used to examine the percentage of middle and high school students citywide who report having at least one teacher or other adult in the school that they can talk to if they have a problem. We will also examine changes over time and differences between race/ethnic groups and, if possible, ward.

Families

The family survey will include questions related to school connectedness, including feeling welcomed and comfort talking to school staff. We will also examine changes over time and differences between race/ethnic groups and, if possible, ward.

Research Question 8c: To what extent are there reductions in stigma related to behavioral health supports among youth and families?

Youth

The citywide youth survey will ask items related to stigma as an indication of whether attitudes towards and perceptions of those receiving behavioral health supports has improved in the years following the expansion. Stigma-related items will be piloted prior to full data collection. We will also work with partners including DBH and the Coordinating Council as well as youth to finalize a set of items to be used across all years of the survey.

Families

The citywide family survey will ask items related to stigma as an indication of whether attitudes towards and perceptions of those receiving behavioral health supports has improved in the years following the expansion. Stigma-related items will be piloted prior to full data collection. We will also work with partners including DBH and the Coordinating Council as well as family members to finalize a set of items to be used across all years of the survey.

Research Question 8d: To what extent do youth and families access supports and feel their needs are met? To what extent are there differences by race/ethnicity and ward?

Youth

We will use data from the youth survey about awareness of supports, access of supports, and perceptions of met need. Additionally, we may examine publicly available citywide YRBS data, starting in 2015-2016, to examine student perceptions of getting the help they need; because YRBS

data are available for multiple years, we can use these data to examine trends before and after the expansion.

Families

We will gather data through the family member survey about awareness of supports, access of supports, and perceptions of met need.

School level

Examination of school-level outcomes will help us to understand how the expansion has shifted behaviors, experiences, and perceptions of those directly impacted by expansion activities. The outcomes evaluation will answer questions about school-level outcomes regarding behavioral health symptoms, unmet need, behavioral health literacy, stigma, awareness of and access to supports, and school connectedness, A combination of existing and new data sources will be used, as shown in the summary table below.

Table of school-level outcomes and data sources for outcome evaluation

Research Questions	Youth and Family Surveys	CAFAS (or SDQ)	YRBS	Panorama	HPEA	Monthly DBH and CBO Clinician Survey	DC CoP	SBHC Survey	School Staff Survey	Unmet Need Metric
9a. To what extent are there reductions in stigma related to behavioral health supports among youth and families?	X									
9b. To what extent do students experience reduced risk behaviors? To what extent do students in treatment experience reduced behavioral health symptom		X	X							
9c. To what extent are student behavioral health needs being met? To what extent do students and families feel that their needs are met?	X			X		X				X
9d. To what extent do youth and families demonstrate increased behavioral health literacy (e.g., knowledge, coping skills)? To what extent do staff feel their own behavioral health literacy has improved?	X				X				X	
9e. To what extent do youth and staff feel an increased sense of school connectedness?	X		X	X					X	
10. Are there different patterns with respect to changes in outcomes across different school characteristics (e.g., existing resources, grade levels)?							X	X		
11. Do schools with higher levels of implementation quality experience greater improvement than similar schools with lower levels of implementation quality? Does implementation quality make a difference in outcomes for schools that had more or fewer existing resources prior to the expansion?	X	X	X	X	X	X	X	X	X	
12. Are there specific aspects of implementation (e.g., quality of implementation, positive perceptions of partnership, engagement in DC CoP) that are more or less associated with improved outcomes? Is the relationship between implementation components and changes in outcomes the same across different types of schools (e.g., existing resources, grade levels)?	X	X	X	X	X	X	X	X	X	

Research Question 9a: To what extent do students and families report reduced behavioral health stigma?

Youth

The youth survey will include items related to behavioral health stigma. We will examine the extent to which perceptions change over time.

Families

The family survey will include items related to behavioral health stigma. We will examine the extent to which perceptions change over time.

Research Question 9b: To what extent do students experience reduce risk behaviors? To what extent do students in treatment experience reduced behavioral health symptoms?

All youth

If feasible, we will examine risk behaviors among all students, as well as symptoms among students receiving Tier 3 services. To examine risk behaviors across all students, we will use YRBS data from public and public charter middle and high school students gathered prior to the expansion (i.e., 2015 or 2017) and following the expansion; for each cohort, we will also be able to identify relevant data prior to their involvement in the expansion. We will focus on items related to participation in violence, bullying, thoughts and feelings around suicide, and drug use. We will request school-level data overall, as well as disaggregated by student subgroups (e.g., race/ethnicity, gender, grade). Risk behaviors among all students in elementary school will not be examined as there is no known existing measure being used in across a majority of DCPS and public charter schools. We will also utilize data from the unmet need metric to examine risk among students within a school, such as suspensions and absenteeism.

Evaluator's note

The California Department of Health Care Services contracted with the UCLA Center for Health Policy Research in 2017 to make recommendations regarding Child Mental Health Performance Outcomes. The CAFAS and the SDQ were among the measures reviewed. Details on the measures as well as their recommendations can be found here.

Youth in treatment

To examine symptoms and functioning among students receiving Tier 3 services, we will use data from Child and Adolescent Functional Assessment Scale (CAFAS) or the Strengths and Difficulties Questionnaire (SDQ), both of which are used widely by clinicians in DCPS and DCPCS across school levels. We will request individual-level, de-identified data for each year since the expansion began. For the evaluation, we propose to use the total CAFAS score, with higher scores indicating greater challenges with day-to-day functioning or the SDQ total difficulties score with higher scores indicating greater difficulties. Data from these two measures will not be combined to reflect a single symptoms outcome given substantive differences between the measures. For example, the CAFAS can only be completed by a clinician trained to use the tool, whereas the SDQ can be completed by a teacher or parent or via self-report, which indicates differences in the intended and potential uses of these measures (e.g., clinical versus general populations, screener versus assessment). Clinicians can select CAFAS items that are the most appropriate for a given individual based on prior knowledge and interactions, indicating the ability to tailor the tool as needed. Additionally, the two measures ask respondents to reference different timeframes, with CAFAS examining current functioning and SDQ examining functioning over the past 6 months. Though

both measures provide useful information about functioning, we are not aware of any prior research addressing the appropriateness of combining data from the two measures as an indicator of the same nature of functioning.

Research Question 9c: To what extent are student needs being met? To what extent do students and families feel that their needs are met?

Youth

We will examine indicators of unmet need using multiple data sources. The youth survey will include items related to unmet need and perceived barriers to accessing services. School Health Profiles will be used to calculate mental health staff-to-student ratios which will be examined in relation to level of reported unmet need. Using YRBS data, starting in 2015 or 2017, we will also examine student responses to the item asking how often they get the help they need when feeling sad, empty, hopeless, angry, or anxious; we will request school-level data overall and disaggregated by student subgroup (e.g., race/ethnicity, gender, grade).

Families

The family survey will include items to gauge awareness of supports, unmet need, and perceived barriers to service access.

Research Question 9d: To what extent do youth and families demonstrate increased behavioral health literacy (e.g., knowledge, coping skills)? To what extent do staff feel their own behavioral health literacy has improved?

Youth

We will examine the extent to which students' behavioral health literacy improves after their school joins the expansion. The youth survey will include items related to help-seeking knowledge. We will use the HPEA to examine behavioral health literacy among fifth, eighth, and health course-enrolled high school DCPS and public charter school students. We will request annual HPEA data for each year beginning in 2015-2016 when administration of the current form of HPEA began, recognizing that HPEA was not administered in 2019-2020 and may not be administered in 2020-2021. We will focus on items related to mental and emotional health. How data will be analyzed will depend on the specific HPEA items and the nature of shared data. We will request overall school-level data, as well as disaggregated by student subgroups (e.g., race/ethnicity, grade, gender), if available.

Families

To examine behavioral health literacy among family members, we will primarily rely on survey items related to help-seeking knowledge.

Staff

To gauge staff behavioral health literacy, the staff survey administered in a subset of schools annually as part of the process evaluation will include items regarding perceptions of their own knowledge, attitudes, and skills related to behavioral health in the prior and current year; findings for staff will reflect behavioral health literacy in the years following the expansion.

Research Question 9e: To what extent do youth, families, and staff feel an increased sense of school connectedness?

Youth

The youth survey will include items related to school connectedness, including belong and comfort speaking with an adult at school. We will examine the extent to which perceptions change over time. For DCPS schools, we will also include Panorama data on school connectedness.

Families

The family survey includes items related to school connectedness, including feeling welcomed at school and comfort talking to school staff about their child.

Staff

As a proxy for school connectedness, the annual staff survey that will be administered as part of the process evaluation will include items related to staff perceptions of their own wellness.

Research Question 10: Are there different patterns with respect to changes in outcomes across different types of school characteristics (e.g., existing resources, grade levels, etc.)?

In addition to examining changes in, and the nature of, outcomes before, during, and after the expansion, it is important to understand the school and implementation characteristics associated with outcomes in order to contextualize findings and inform future expansion efforts. Research questions 10-12 are focused on this contextual information.

School types

To understand which school types see the greatest improvements, we will utilize administrative data to examine patterns by specific school characteristics, such as grade level, percentage of students below poverty, and percentage of students with suspensions, in relation to outcomes.

Research Question 11: Do schools with higher levels of implementation quality experience greater improvement than similar schools with lower levels of implementation quality? Does implementation quality make a difference in outcomes for schools with more or fewer existing prior resources?

Implementation quality

Administrative and survey data examined as part of the process evaluation will be used to characterize schools' quality of implementation of expansion activities. As described in the process evaluation, a combination of administrative data sources (i.e., e.g., DBH and CBO Clinician Monthly reports) and SBHC surveys will be used to categorize schools as high or low implementers as an indicator of implementation quality that will be used to predict outcomes. Additionally, by characterizing schools' quality of implementation across multiple years (e.g., first and final years of data collection), we will also be able to examine changes in implementation quality over time and associated changes in outcomes. As an additional indicator of implementation quality, we will use data from the DBH and CBO Clinician Monthly survey to characterize and determine changes in schools' teaming effectiveness over time.

Research Question 12: Are there specific aspects of implementation (e.g., quality of implementation, positive perceptions of partnership, engagement in DC CoP) that are more/less associated with improved outcomes? Is the relationship between implementation components and changes in outcomes the same across different types of schools?

Implementation components

To understand what implementation components are most associated with outcomes, we will use data gathered from the SBHC survey administered in the first and third data collection years as well as data from the DC Community of Practice and DBH and CBO Clinician Monthly surveys to understand such implementation components as teaming, engagement, and training. Primary components of interest include number of clinicians within the school and clinician qualifications. Additional components of interest include cohesiveness of school behavioral health teams, level of participation in the DC CoP, number of students served, dosage of supports, and satisfaction with supports. Again, because these components will reflect the first year of data collection, and therefore different expansion years for each cohort, we will also include a cohort indicator or examine associations by cohort.

Stakeholder engagement

Child Trends will consult with key stakeholders—including family members and youth—to develop the citywide survey to be administered to family members and youth to assess behavioral health stigma and awareness of behavioral health services both in schools and in the community. Child Trends will work with the Family and Youth subcommittee of the Coordinating Council to obtain input on important constructs to include and to ensure that language is clear and concise. Additionally, Child Trends may reach out to community organizations with strong connections to family members and youth. For example, youth at the Young Women's Project have been conducting their own investigations into behavioral health supports in DC schools, including administering surveys to youth.

Data analysis

System-level outcomes

Because data for most system-level outcomes will be at the city level, analyses will be descriptive in nature to examine trends. Where possible, analytic techniques such as regression will be used to examine associations between family and youth characteristics and outcomes or repeated measures Analysis of Variance (ANOVA) to examine significance in changes over time. Analyses of data used to answer each research question are described below.

Research Question 8a: Has the percentage of schools with high unmet behavioral health needs decreased? Have disparities by ward decreased?

> ***Hypothesis*:** The percentage of schools in the "high unmet need" category will decrease over time as more schools join the expansion. The disparities in the percentage of schools in the "high unmet need" category between wards will decrease over time as more schools join the expansion.

To examine the percentage of schools with high unmet need, an indicator of citywide unmet need, we will use the unmet need metric to determine the percentage of schools ranked as having high unmet need in a given year. In accordance with recommendations for calculating unmet need, we will prioritize inclusion of indicators to minimize missing data needed to calculate unmet need for a given school (e.g., if data are available for only a subset of schools it would not be used as part of calculation). We will collaborate with project partners at DBH, OSSE, and the Coordinating Council to determine the preferred metric to be used. Citywide estimates will be examined descriptively and interpreted in the context of the number of schools involved in the expansion in a given year; that is, whether the percentage of schools with high unmet need decreases as more schools become involved in the expansion. Additionally, to understand changes by ward, schools will be further categorized by ward prior to determining the percentage of schools within each ward identified as having high unmet need. We will also examine to what extent there was significant change in schools' unmet need categorizations between years, for example, using a Marginal Homogeneity or Sign test.

Data from youth and family surveys will also be used to gauge perceptions of unmet need. We will examine the percentage of youth and families reporting unmet need and summarize perceived contributors to unmet need. We will examine whether these change over time.

Research Question 8b: To what extent do youth and families feel a sense of connectedness to school? To what extent are changes different for different groups (e.g., ward, race/ethnicity)?

> ***Hypothesis*:** The percentage of students and families across the city that report positive connections with school will increase over time as more schools join the expansion. Disparities by race and ethnicity will decrease over time as more schools join the expansion.

As part of YRBS, middle and high school DCPS and public charter students report on whether they have an adult in the school that they can talk to if they have a problem. Aggregated city-level data are reported publicly and, because a census approach is taken in administering YRBS, reflect students at all middle and high schools citywide. These data will be examined descriptively across years to identify trends in feelings of connectedness before and after the expansion began, as well

as trends by race/ethnicity groups. We anticipate that the percentage of students across the city endorsing having an adult in the school they can talk to will increase across the years of the expansion as more schools have increased behavioral health capacity. We will use repeated measures ANOVA with aggregated school-level data to examine if the average percentage of students responding favorably changes across years.

As part of the youth and families surveys, we aim to survey approximately 10,000 youth and families annually using a 15-20-item survey, where approximately two items will ask how connected students and families feel to their school. We will average responses across related items to get an estimate of connectedness. Data will be examined descriptively within each year to examine differences by subgroup (race/ethnicity and ward) in years following the expansion. City-level data will be examined descriptively across years to look at trends in years following the expansion and by race/ethnicity and ward. We will use regression analyses to examine the extent to which characteristics like race/ethnicity and ward predict perceptions of connectedness; because respondents will not be followed across years, analyses will be conducted within each year.

Research Question 8c: To what extent are there reductions in stigma related to behavioral health supports among youth and families? To what extent are changes different for different groups?

***Hypothesis*:** We anticipate behavioral health stigma will decrease over time as more schools join the expansion.

The youth and family surveys will also include approximately three items regarding perceptions of behavioral health need and supports, where responses will be averaged across related items to get an estimate of stigma. Data will also be examined descriptively within year to examine differences by race/ethnicity and ward in years following the expansion and across years to examine overall and subgroup trends. Again, regression analyses will be used to examine the extent to which race/ethnicity and ward predict perceptions of, and stigma towards, behavioral health supports.

Research Question 8d: To what extent do youth and families access supports and feel their needs are met? To what extent are there racial/ethnic and ward differences?

***Hypothesis*:** The percentage of school-age children with unmet behavioral health needs will decrease over time as more schools join the expansion.

The youth and family surveys will also include approximately three questions related to frequency of service access and barriers. Data for each item will be examined descriptively within year to examine differences by race/ethnicity and ward in years following the expansion and across years to examine overall and subgroup trends. Again, regression analyses will be used to examine the extent to which race/ethnicity and ward predict perceptions stigma towards behavioral health supports.

We will also examine publicly available YRBS data to examine trends in the percentage of high school students reporting that they can get the help they need, including trends by race/ethnicity, gender, and grade level. We will use repeated measures ANOVA with aggregated school-level data to examine if the average percentage of students responding favorably changes across years.

School-level outcomes

Youth and family survey data will be examined to assess school-level changes over time and examine differences by student and family characteristics. As appropriate, analyses will employ sampling weights to ensure data are representative of the broader student and family population. Additionally, data from existing sources will be examined to examine school-level changes before, after, or during the expansion. Where data are available for multiple years before and after the expansion, trends in outcomes will be analyzed while accounting for the variation in the timing of each cohort and other characteristics, particularly the onset of COVID-19, which may have not only disrupted data collection but also impacted outcomes subsequently observed. These kinds of changes can be accounted for using techniques such as an interrupted time series analysis, which allows for analysis of trends before and after a given intervention. Where data are only available following the expansion, significance of change will be examined across years.

In addition to examining whether outcomes improved over time, additional analyses will be conducted to identify which types of schools experience, and which implementation components yield the greatest, change in outcomes as a way to inform future expansion efforts. Such associations will be examined using techniques such as structural equation modeling, which allow analysis of both collective and individual associations between variables, or marginal effects analysis, which model the predicted change in outcomes based on a specified change in implementation, for example. Such models can be useful in exploring which implementation components hold the most promise for desired improvements in outcomes. Analyses of data used to answer each research question are described below; we will meet with key stakeholders regularly to review, interpret, and contextualize findings.

Research Question 9a: To what extent do students and families report reduced behavioral health stigma?

> ***Hypothesis*:** Behavioral health stigma will decrease over time as more schools are added to the expansion.

Youth and Family surveys will include items to assess stigma towards mental illness and mental health treatment. Data will be analyzed to examine changes in perceptions over time and regression analyses will be used to examine factors associated with stigma perceptions (e.g., race/ethnicity, gender, ward).

Research Question 9b: To what extent do students experience reduced risk behaviors. To what extent do students in treatment experience reduced behavioral health symptoms?

> ***Hypothesis*:** The percentage of students participating in risky behaviors will decrease over time as more schools are added to the expansion. Students in treatment will experience reductions in symptoms reflecting difficulties in functioning.

Item-level YRBS data will be used to examine the percentage of students responding unfavorably about risk factors (e.g., participation in violence, suicidal thoughts, alcohol consumption), as indicators of risk behaviors among the broader population of students. Changes before (2015 or 2017) and after (2018 and later) the expansion will be examined. We will employ analyses such as interrupted time series to examine school-level trends overall and by subgroup over time, accounting for multiple baselines (i.e., the expansion starting at different times for schools) and other factors that may affect outcomes of interest. Essentially, these analysis techniques are used

to isolate the association between participation in the expansion and outcomes by accounting for other factors that are also likely to be associated with behavioral health outcomes across the same time period, such as the COVID-19 pandemic.

De-identified individual level assessment data (i.e., CAFAS or SDQ) will be used to examine symptoms among students receiving Tier 3 services. Given substantive differences between CAFAS and SDQ, this data will be analyzed separately for each measure, recognizing that the measure utilized is also a proxy for clinician because DCPS clinicians use the SDQ and DBH clinicians use the CAFAS, even when located in the same school. If analyses are restricted to DBH and CBO clinicians, and if all CBO clinicians are trained on the CAFAS, we may restrict analyses to CAFAS scores in order to be able to make more intuitive comparisons across schools. Analyses will focus on students with assessments for at least two time points (baseline and follow up). Initial analyses will compare students assessed with SDQ or CAFAS at baseline to understand potential differences due to type of clinician. Total difficulties and functioning scores on SDQ and CAFAS, respectively, will be compared at baseline and follow up to examine if symptoms changed significantly over the course of treatment. Analyses, such as multi-level fixed effects models, will be used to account for nesting of clinicians within schools where clinicians within a school may be more similar. We will also estimate change scores for each measure (difference between total scores at baseline and follow up) and determine if student characteristics (e.g., race/ethnicity, grade, gender) are associated with the extent of change over time, which will serve as a proxy for different treatment outcomes across groups of students.

Research Question 9c: To what extent are student behavioral health needs being met? To what extent do students and families feel that their needs are met?

> ***Hypothesis*:** The number of students served will increase over time as more schools are added to the expansion. Schools will experience improvements in unmet need over the course of the expansion. The percentage of students who feel they can get the help they need will increase over time as more schools are added expansion.

We will use youth and family survey data to examine the percentage reporting having unmet need and perceived barriers to accessing help and examine changes over time. We will also examine the extent to which the mental health staff-to-student ratio changes over time.

Item-level YRBS data will be used to examine the percentage of students responding unfavorably about being able to get the help they need. Changes before (2015 or 2017) and after (2018 and later) the expansion will be examined. Again, analyses, such as interrupted time series will be used to examine school-level trends over time overall and by subgroup, accounting for the different time points when schools join the expansion and other factors that could affect outcomes that are not related to the expansion.

Research Question 9d: To what extent do youth and families demonstrate increased behavioral health literacy (e.g., knowledge, coping skills)? To what extent do staff feel their own behavioral health literacy has improved?

> ***Hypothesis*:** The percentage of students demonstrating behavioral health literacy will increase over time as more schools are added to the expansion. Staff will feel more confident in their behavioral health knowledge over time.

Youth and family survey data will be used to examine knowledge around help-seeking and coping skills (youth only). We will examine the percentage of youth and families reporting that they do know, do not know, or are unsure about help-seeking and coping, and changes over time.

Data from the HPEA Mental and Emotional Health domain will be examined to determine the percentage of students demonstrating behavioral health literacy. Trends will be examined over time using analyses, such as interrupted time series, to determine school-level overall and subgroup (e.g., grade level) trends before and after the expansion, accounting for the different time points when schools join the expansion and other factors that could affect outcomes that are not related to the expansion.

The staff survey administered in Years 1 and 3 as part of the process evaluation will include questions asking staff to rate their level of knowledge. We will examine the extent to which staff perceptions of their behavioral health knowledge changed across years. Analyses will approximate overall changes in staff knowledge in later expansion years and account for the potential effect of cohort, or how long the school has been in the expansion.

Research Question 9e: To what extent do youth, families, and staff feel an increased sense of school connectedness?

***Hypothesis*:** The percentage of students reporting a sense of connectedness will increase over time as more schools are added to the expansion. Staff will feel an increased sense of connectedness over time.

Youth and family survey data will be used to examine how connected they feel on average and if sense of connectedness changes over time.

Data from the YRBS item regarding having an adult at school to talk to, respectively, will be examined to examine the percentage of students responding favorably. School-level overall and subgroup trends will be examined over time using analyses such as interrupted time series to account for the different time points when schools join the expansion and other factors that could affect outcomes that are not related to the expansion The staff survey administered as part of the process evaluation will include approximately three items to assess feelings of connectedness in the years following the expansion.

Evaluator's Note

Structural Equation Modeling (SEM) is a statistical analysis technique that is used to examine relationships between different variables and also with the outcome of interest. For example, such analyses can help explore how aspects of school behavioral health are related to one another and their relationship with improved school climate. Multigroup SEM goes a step further to examine whether relationships differ based on other characteristics. For example, depending on sample size and how much the relationships vary by group, we could explore whether certain aspects of implementation make a bigger difference for schools with low versus high behavioral health resources.

Research Question 10: Are there different patterns with respect to changes in outcomes across different types of school characteristics (e.g., existing resources, grade levels, etc.)?

***Hypothesis*:** Schools with more resources will experience greater changes in outcomes compared to schools with fewer resources. Changes in outcomes will vary by grade level and outcome; for example, high schools may experience larger improvements in chronic absenteeism and truancy while elementary schools may experience larger improvements in schools climate.

As discussed earlier, schools will be categorized into clusters based on the existing behavioral health resources the school had in the first expansion year. Multigroup structural equation modeling will be used to examine how changes in outcomes of interest differ for each cluster. Additionally, structural equation modeling will be used to examine which school characteristics (e.g., grade level) are associated with changes in outcomes. Marginal effects analyses will also be used to model how outcomes would change if school characteristics change. These findings will help to anticipate outcomes for different types and characteristics of schools, which can be used to inform future expansion efforts.

Research Question 11: Do schools with higher levels of implementation quality experience greater improvement than similar schools with lower levels of implementation quality? Does implementation quality make a difference in outcomes for schools with more or fewer existing prior resources?

***Hypothesis*:** Schools with high levels of implementation will experience better outcomes compared to schools with low levels of implementation. Schools with more resources and a high level of implementation will experiences better outcomes than schools with similarly high resources but low level of implementation.

As discussed earlier, as part of the implementation evaluation, all schools will be categorized as high or low implementers in the first and third data collection years. Analyses such as the McNemar test will be used to examine if the proportion of schools categorized as high or low implementers changed significantly between Year 1 and Year 3. Multigroup structural equation modeling will be used to examine the extent to which high- or low-level implementation in each year predicts changes in outcomes for each cohort. Additionally, multigroup structural equation modeling will be used to examine the extent to which high- or low-level implementation in each year predicts changes in outcomes for each cluster, or for schools with different levels of existing resources.

Research Question 12: Are there specific aspects of implementation (e.g., quality of implementation, positive perceptions of partnership, engagement in DC CoP) that are more/less associated with improved outcomes? Is the relationship between implementation components and changes in outcomes the same across different types of schools?

***Hypothesis*:** Schools that have more resources and meet a greater number of implementation components will have better outcomes than schools with fewer resources or fewer number of implementation components.

In addition to examining overall level of implementation, we will examine specific components of implementation, including those used to categorize schools as high or low implementers (e.g., school behavioral health team, engagement in DC CoP). Structural equation modeling will be used to examine which components account for changes in outcomes before and after the expansion; this will also be examined for each cluster, or for schools with different levels of existing resources. Additionally, marginal effects analysis will be used to model scenarios where implementation of individual components are varied to examine anticipated outcomes across scenarios; this will also be examined for each cluster and will inform planning around which implementation components to prioritize and for which types of schools.

Evaluator's Note

Marginal effects models are a technique to predict changes in an outcome based on knowledge of the relationship between certain characteristics and changes in an outcome of interest. For example, we might look at data from 200 schools to determine the relationship between a high-quality behavioral health workplan and improvements in student mental health knowledge while accounting for things like school size, grades in the school, etc. We can then predict how much mental health knowledge would improve across the city if each school had a high quality workplan. Such analyses can be helpful in determining which resources might hold the most promise for achieving desired outcomes.

Limitations

DC offers students a variety of opportunities to share their perceptions and experiences and demonstrate their knowledge through surveys and assessments such as YRBS and HPEA. Additionally, as part of the expansion, surveys are being piloted to gauge progress on such indicators as number of students served. These rich data sources will be used in the evaluation to answer research questions about outcomes of interest. As with any secondary data sources, there are limitations regarding what questions can be answered, how questions can be answered, and for whom. Tools used to survey and assess students differ across such characteristics as school level (elementary, middle, high), school type (DCPS, DCPCS), and clinician affiliation (DCPS, DBH, CBO), the implication of which is that not all school types and grade levels will be included in examination of outcomes of interest. To address these issues, we will rely on multiple data sources for a given outcome where possible; for example we will use YRBS to examine school climate among DCPCS students, where different school levels are included where possible, and use our youth surveys to examine school climate among all students. An additional limitation is that using secondary data precludes the type of data yielded by the tools; for example, where it may be of interest to the evaluation research questions to assess *average level* of perceptions, data yielded from the tool may instead reflect the *percentage of students* responding at a given level. To address this, where possible (such as with the youth and family brief surveys), we will gauge the extent of perceptions (e.g., to what extent families feel needs are met) to get a more nuanced picture of outcomes.

The evaluation itself also involves inherent or unanticipated timing issues. One timing issue is the start of the evaluation occurring after start of the expansion initiative being evaluated, which precluded *a priori* planning around issues such as identifying a comparison group, collecting baseline data, or identifying measures to be collected. An additional timing issue is the onset of the COVID-19 pandemic, which is likely to impact behavioral health of students, families, and staff, and obscure changes anticipated due expansion efforts. To address timing issues, where possible, analyses will account for the multiple time points that cohorts began the expansion and the potentially confounding effects of the pandemic. Despite the outlined limitations of using existing data and timing of the evaluation, findings will nonetheless provide information about the changes in outcomes and associated factors to ultimately help stakeholders understand how investments in school behavioral health benefitted students, families, and staff across DC.

In addition, it may be challenging to achieve an adequate response rate for surveys of school staff, a common challenge for research and evaluation projects. However, we recently administered a survey of school staff as part of our evaluation of Crisis Services and Response among DCPS and DCPCS and achieved a more than adequate response rate; we will be able to leverage, for purposes of the current evaluation, those strategies that proved successful for the crisis services evaluation. It may also be challenging to get high rates of participation in focus groups because of scheduling conflicts. To address this known challenge, there will be at least two discussions scheduled for each stakeholder group at each level of implementation, so if one time does not work for a potential participant, there will be an alternate time available. For those individuals for whom neither time works, we will offer the option to participate in a phone interview instead, which can be scheduled at their convenience. Finally, we will pilot all of our data collection activities (described below), which will help us identify any unanticipated challenges, develop strategies to address those challenges, and, if needed, make modifications to the evaluation plan prior to collecting our first year of data.

Reporting

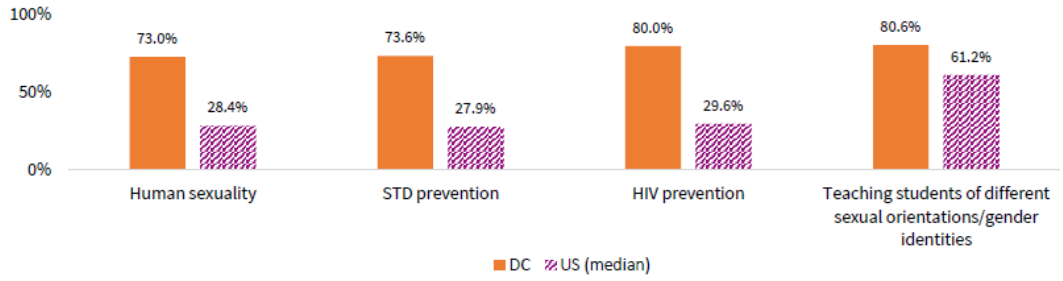
Child Trends has experience creating reports that are intended to offer analysis of nuanced data to support practical decision-making. Below is an example of a report that was produced to look at state policies related to health educator training and health outcomes of youth, including comparisons with other jurisdictions or to national standards. We will work with key stakholders —including DBH and other partners as well as the Coordinating Council—to distil evaluation data each year to share annual results in the form of brief annual reports, summarizing both process and outcomes evaluation findings to date and including recommendations when warranted. Child Trends will develop a presentation for DBH and members of the Coordinating Council and—resources permitting—may also create a brief video summary of the findings. Draft reports will be provided to DBH and the Coordinating Council for review prior to submission of final reports. Note that in addition to annual reports, Child Trends will provide regular updates on the evaluation in quarterly reports, including initial/preliminary findings when possible. In the final year of the evaluation, Child Trends will also summarize trends across all three years of data collection.

Snapshot of State Policies and School Practices

Pathway 1: Building Staff Capacity

Policy Approaches	DC Policy (as of January 2019)
Health educator professional development covers:	
Human sexuality	**Not required**; requires creation of teacher training for comprehensive health education. Does not define "comprehensive."
STD prevention	**Not required**; see above.
HIV prevention	**Not required**; see above.
Teaching students of different sexual orientations/gender identities	**Not required**; see above.
School staff receive professional development on bullying prevention	**Required**
School nurse availability specified	**Required**; one nurse per school at least 20 hours per week.

Percentage of Secondary Schools Reporting That Lead Health Teachers Received PD in a Given Topic



There are **1.15 licensed school nurses per 750 students** in Washington, D.C. The National Association of School Nurses recommends having 1 school nurse per 750 students for the general population.

87.7% of DC secondary schools report that teachers received PD on bullying prevention in the last two years, compared to the U.S. median of 73%.

Timeline

Below is a proposed timeline for the process and outcomes evaluations across all five years of the evaluation. For the Base Year, we have included activities that have already taken place as well as those that are planned for later in the year. This timeline will result in one baseline data collection in Spring of Option Year 1 followed by two full school years of Fall/Spring data collection across Option Years 1, 2, and 3 with an additional follow-up data collection in Fall of Option Year 3 for a total of 6 periods of data collection. Option Year 4 will be spent conducting analyses and engaging with stakeholder groups to develop a final report with actionable recommendations. Note that in addition to annual reports, Child Trends will provide regular updates on the evaluation in quarterly reports, including initial/preliminary findings when possible.

Base Year	
June 2020	Conduct focus group with key stakeholder groups (SBH coordinators, Family and Youth Committee, Implementation Committee, DCPS school clinicians)
July 2020	Conduct focus group with key stakeholder groups (CBO clinicians, DBH clinicians, SBHE Supervisors, DBH specialists and TA Managers)
August 2020	Conduct focus group with key stakeholder groups (school administrators, youth, parents/caregivers) Draft logic Model
September 2020	Draft evaluation plan Finalize logic model
October 2020	Revise evaluation plan
November 2020	Finalize evaluation plan Draft protocols, including protocols for relevant process and outcomes data
January 2021	Begin pilot data collection
February 2021	Collect pilot data
March 2021	Review and analyze pilot data Modify data collection, storage, transfer, and integration systems as needed
April 2021	Revise and finalize protocols as needed by April 23rd Revisit evaluation plan, as needed
Option Year 1	
Spring 2021	Collect baseline data for process and outcomes evaluations
Summer 2021	Conduct interviews with key expansion partners. Review and analyze baseline data, revise and finalize protocols, and revisit evaluation plan as needed
Fall 2021	Collaborate with stakeholders for interpretation of findings.
Winter 2021	Submit annual report
Option Year 2	
Spring 2022	Collect data for process and outcomes evaluations
Summer 2022	Conduct interviews with key expansion partners. Review and analyze data.
Fall 2022	Collaborate with stakeholders for interpretation of findings.
Winter 2022	Submit annual report
Option Year 3	
Spring 2023	Collect data for process and outcomes evaluations
Summer 2023	Conduct interviews with key expansion partners. Review and analyze data.
Fall 2023	Collaborate with stakeholders for interpretation of findings.
Winter 2023	Submit annual report
Option Year 4	
Spring 2024	Collaborate with stakeholders to determine final analyses and reporting
Summer 2024	Conduct final longitudinal analyses
Fall 2024	Collaborate with stakeholders to interpret final results
Winter 2024	Submit final report