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Implementation of a School Mental Health Learning Collaborative Model to Support Cross-Sector Collaboration

Melissa C. Heatly 10 · Corey Nichols-Hadeed 10 · Allison A. Stiles 10 · Linda Alpert-Gillis 10

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Abstract

Facilitating success for students with behavioral health challenges requires effective collaboration among professionals from traditionally disparate systems (e.g., education, health, and mental health). The current investigation describes a case-study implementation of a school-based learning collaborative model and explores its effectiveness in promoting knowledge, skill, efficacy, and systems-related improvements in cross-sector collaboration. The learning collaborative (LC) was offered to school teams over the course of a year and consisted of a combination of didactic and experiential learning opportunities, guest speakers, district-specific improvement goals, peer learning and support, and individualized consultation support. Evaluation efforts included evidence demonstrating the efficacy of the LC, improvement in person-centered knowledge skills and competencies, and generation of concrete changes in school systems. Respondents consistently shared that the quality of the LC was high that the topics were highly useful for their day-to-day practice, and that they would recommend the LC to their colleagues and peers. In turn, this process fostered improvement in educators' knowledge, skills, and confidence, and generated systemic improvement in districts to support children with behavioral health needs and their families. Specific components of this model that best account for changes are discussed, along with implications for application and next steps.

Keywords School mental health · Learning collaborative · Cross-sector collaboration · Mixed-methods

Introduction

National and regional estimates suggest that 15–20% of children and adolescents meet criteria for a mental health difficulty of moderate to significant impairment, yet only 20% of youth actually receive the care they need (Bitsko et al., 2022; Kataoka et al., 2002; Tkacz & Brady, 2021). Schools are well-positioned to enhance access to mental health care for youth (e.g., Duong et al., 2021; Satcher, 2000) and often serve as a gateway to mental health services through community-based intervention and prevention programs (Kataoka et al., 2007). While educators and other school professionals generally accept a responsibility to address the mental health needs of their students, they frequently report feeling unprepared and under-resourced to do so effectively, especially when supporting youth in crisis (Rothì et al., 2008). Moreover, many children with behavioral health needs also

In turn, public health experts increasingly recognize a need for building workforce capacity for cross-sector collaboration and the development of systemic strategies to promote collaboration across child-serving systems (Campbell et al., 2020; Mellin et al., 2015). Yet collaborative efforts can be fraught with challenges, including differences in language, culture, expectations, and even goals (Mellin et al., 2011). These co-occurring issues demonstrate the need for reciprocal collaboration across child-serving systems and agencies in order to increase positive outcomes for the children and families they serve (Carlin & Peterman, 2019; Chandra et al., 2017; Mellin et al., 2015). To this end, educators increasingly call for advanced training on how to identify and provide early support for students who are struggling (without taking on the perceived role of a therapist), and emphasize a strong need for practical, interactive and expert-led training that provides resources that can be adapted to individual settings (Dimitropoulos et al., 2022;

Department of Psychiatry, University of Rochester Medical Center, Rochester, NY, USA



require support outside the school building, and are jointly affected by issues related to physical health, education, the legal system, and poverty (Landsverket al., 2002; Malmgren & Meisel, 2004; Trout et al., 2008).

Melissa C. Heatly melissa_heatly@URMC.rochester.edu

Shelemy et al., 2019). The current manuscript presents a case study evaluating one region's efforts to address these needs via implementation of a school-based learning collaborative (LC), focused on improving educators' knowledge, skill, and confidence in effective cross-sector communication and collaboration. Specific sectors considered included schools, pediatrics, mental health, as well as other community organizations serving diverse and underserved youth and families within urban, rural, and suburban districts.

Cross-Sector Collaboration to Support Children's Mental Health

Cross-sector collaboration is the process of collaboration between organizations and professions housed within different systems of care. Collaboration entails communication between professionals, coordination of time and resources, cooperation with recommendations, and development of collaborative goals, interventions, and feedback loops (Howarth & Morrison, 2007). Effective collaboration also requires the development of trusting relationships, diligent work to defuse turf issues, and the investment of time to achieve these goals.

Collaboration between schools and other child-serving organizations has been consistently associated with improved student-level outcomes (Splett et al., 2017). Specifically, Bates et al. (2019) demonstrated that collaboration between educators, school-employed mental health staff, and community-based mental health professionals improved absenteeism, office disciplinary referrals, academic achievement, and behavioral health outcomes. Further, educators shared that interprofessional relationships created access to new ideas, expertise, resources, and support that resulted in more holistic approaches to helping students. Studies have also suggested that collaboration helps increase access to interventions and supports for students and families, leading to improved knowledge of community resources and decreased burnout among school professionals (Anderson-Butcher & Ashton, 2004; Mellin & Weist, 2011).

Recent studies have also identified facilitators and barriers of cross-sector collaboration between schools and community organizations. Successful collaborative relationships rely on a strong foundation of knowledge, clear communication, interpersonal professional relationships, and skill (Burgess et al., 2016; Mellin et al., 2010; Tooher et al., 2017). Yet these relationships are often impeded by barriers such as fundamental differences in theoretical orientation, basic terminology, and understanding of cross-systemic policies, procedures, and routines (Mellin et al., 2011; Waxman et al., 1999; Weist et al., 2012). There is also a competency gap among administrators and teachers, whose training programs often lack an emphasis on student mental health and whole child development (Koller et al., 2004; Weston et al., 2008).

This limitation becomes particularly meaningful when considering the role of teachers and administrators as key players in the identification, referral, and linkage system (Anderson-Butcher, 2006; Dimitropoulos et al., 2022). To this end, school professionals increasingly request training in community systems that support children's mental health, community development and organizations, evidence-based practices for working with children and families, and high-quality school mental health practices (Anderson-Butcher & Ashton, 2004; Mendenhall et al., 2013).

Strategies for Improving Cross-Sector Collaboration

Learning collaboratives (LCs) are increasingly recognized as an effective approach for fostering uptake of the aforementioned tools, and subsequent improvement in school mental health practices (Connors et al., 2020). LCs are short-term collaborations in which multiple institutions come together to develop innovative strategies to address a specific area of need and identify strategies to overcome barriers to the delivery of quality care (Massoud et al., 2006; Nadeem et al., 2014). Though traditionally applied to healthcare settings (e.g., American Diabetes Association, 2004; Nadeem et al., 2014), LCs have also been used in educational settings to advance evidence-based care in school-based health centers (Stephan et al., 2011, 2013), trauma treatment in schools (Hoover et al., 2018), school mental health quality and sustainability (Connors et al., 2020), and schools' social and emotional climate (Ashley, 2016). Importantly, two of these school-based LCs demonstrated improvements in teaming practices that support children's mental health (Connors et al., 2020) and collaboration between school teams and their respective school-based health centers (Stephan et al., 2011).

Notably, many districts and teams already engage in selfassessment and quality improvement efforts to advance work related to collaboration within and across multi-tiered and interconnected systems of support (e.g., Algozzine et al., 2017; Splett et al., 2017). Professional learning communities (PLCs) have a long history in education for improvement in school quality, practice, and educational reform (Stoll et al., 2006). In addition, project ECHO models (i.e., expert didactic training on best practices paired with case presentations by participants) are increasingly utilized in educational settings to improve collaborative cross-training in areas relevant to child mental health, including developmental disabilities (Hardesty et al., 2020) and eating disorders (Tantillo et al., 2020). However, these approaches lack LCs' distinct structure of didactic learning, peer support, and facilitation of systematic quality improvement. Instead, the LCs' structured training in cross-sector collaboration, ongoing quality improvement cycles for implementation of cross-sector coordination, technical assistance, and peer learning may be



a more effective improvement strategy (Anderson-Butcher & Ashton, 2004; Connors et al., 2020; Mendenhall et al., 2013).

Learning Collaborative to Support Cross-Sector Collaboration

The learning collaborative to support cross-sector collaboration (LC-SCSC) was developed by a regional health foundation's Intersectionality Task Force (ITF), comprised of diverse community leaders from fields including education, child health policy, human service, behavioral health, and primary care. Specifically, the ITF commissioned two regional needs assessments, which revealed several crucial findings: (1) similar to national trends, our region is experiencing a "crisis in care" (i.e., unmet mental health need), (2) there is a need for youth-serving systems work more effectively and efficiently together, and (3) capacity-building within educational settings represents a critical point of intervention (Scharf et al., 2016). Within the education sector, the needs assessments also revealed key knowledge gaps in school professionals' understanding of communitybased systems of care that support youth with behavioral health challenges, and subsequent difficulty communicating, cooperating, coordinating, and collaborating across systems. School professionals also identified a need for explicit training and coaching in better understanding each system, learning best practices in coordination and communication across organizations, and identifying strategies for supporting a child and family engaged in community-based child behavioral health services. In response to these documented needs, the ITF developed the LC-SCSC focused on increasing school-based knowledge, skill, and confidence in cross-sector collaboration in support of children's behavioral health. Specific sectors considered included schools, pediatrics, mental health, as well as other community organizations serving diverse and underserved youth and families within urban, rural, and suburban districts. A secondary goal was to facilitate implementation of evidence-based policies, procedures, resources, and practices that foster cross-sector collaboration.

The purpose of this manuscript is twofold. First, this manuscript describes the LC-SCSC process, which was designed to improve school teams' ability to foster cross-sector collaboration. Specifically, the manuscript describes the pilot implementation of the LC-SCSC, the provision of training in cross-sector collaboration within a regional system of care, and implementation of quality improvement cycles. Second, it evaluates the LC-SCSC's effectiveness in promoting knowledge, skill, efficacy, and systems-related improvements in cross-sector collaboration. Research questions specifically consider:



- (2) What is the impact of the LC-SCSC upon educators' perceived knowledge, skill, and confidence in crosssector collaboration?
- (3) Does the LC-SCSC result in systemic changes in school-based strategies to support communication and collaboration across sectors?

Method

Participants

Participating teams were comprised of three public school teams, including a midsize urban educational partnership organization, a large suburban school district, and a small rural school district. School teams were drawn from one midsized county in western New York. Teams ranged from five to nine individuals, and were required to consist of at least one administrator, one school-employed mental health staff, one school health professional, one teacher, and one parent representative on each team (respectively). The team lead and two participating team members were required to attend all training sessions. Secondary data analysis was approved by institution IRB; Demographic data describing each district and their teams are found in Table 1.

Design and Implementation of LC-SCSC

Offered over the course of 11 months, the LC-SCSC focused on advancing collaborative care competencies among school teams and community-based sectors that support children's behavioral health, including pediatrics, mental health, juvenile justice, and other community resources that children and families may access. The LC-SCSC utilized an adapted version of the Institute for Health Care Improvement Breakthrough Series Model that has found success in other school-based LCs (Stephen et al., 2013; Connors et al., 2020; IHI, 2003). The LC-SCSC started with a one-day a preliminary intensive learning session, followed by monthly 90-min meetings which contained three core components: (1) monthly didactic and experiential learning opportunities, (2) system improvement cycles, and (3) structured peer learning about progress related to system improvement goals and strategies for implementation (See Fig. 1). Individualized technical assistance was also offered to each team in the form of monthly scheduled meetings between each school team leader and the project director to discuss progress and roadblocks, and provide tools and resources that may facilitate quality improvement efforts.



Table 1 Demographics

	Urban HS	Suburban	Rural					
Participating district demographics								
Schools	2	17	2					
# Student body	800	11,000	650					
Race/ethnicity								
Black	53%	14.30%	14.30%					
Hispanic	33%	64%	5.10%					
White (Non-Hispanic)	9%	13.70%	74.90%					
Asian/Pacific Islander	4%	3.30%	1.60%					
Native American	0.80%	0.20%	0.90%					
% Free/reduced lunch	88%	43.50%	45%					
School mental health staffing								
Social Workers	7	12	2					
Counselors	10	39	3					
School Psychologists		15	2					
Substance Abuse Prevention	0	2	0					
Participating team demographic	es							
# Team members	9	8	5					
Discipline								
Administrators	1	1	1					
School MH Staff	6	4	2					
Teachers	1	1	1					
Parent representatives	1	2	2					

Preliminary Intensive Learning Session

The LC-SCSC started with a pre-recorded webinar that introduced participants to the project rationale, objectives, and big goals; provided information on the content, structure, and expectations of the LC-SCSC; and offered instruction for how to prepare for participation. This was followed by a one-day intensive in-person learning session (Appendix 1), which focused on both didactic and interactive training in Quality Improvement; the continuum of mental health care from promotion, prevention, primary care/outpatient intervention, intensive intervention and emergency/acute care services; and how to access and utilize community mental health resource guides such as 211/ Lifeline to support referrals and connect youth and families to care. The day also involved in-person 'tours' through pediatric behavioral health systems of care, including a large outpatient pediatric practice, outpatient behavioral health clinic, a partial hospitalization program, a psychiatric emergency department, and an inpatient hospitalization setting. In addition, each team received targeted technical assistance in identifying and mapping actionable goals and workplans for specific systemic improvements focused on cross-sector collaboration and teaming.

Monthly Didactic Learning Sessions

Didactic learning sessions were held monthly from September 2019 through June 2020. The first six were held in-person; one session was missed due to the onset of the COVID-19 pandemic, and the final three were held via Zoom. A key component of each meeting was a monthly learning topic with presentations and panels by delivered by content experts, including university faculty and community mental health leaders (See Fig. 1). Topics were selected in response to the previously described needs assessments and designed by a multidisciplinary faculty committee, including a psychologist, psychiatrist, pediatrician, attorney, and educator. Each meeting included best-practice strategies for collaborating with a specific sector, building participants' knowledge about the goals and limits of each sector, skills needed to communicate, coordinate, and collaborate, and on strategies to turn-key this knowledge back to participants' home district (Speaker's Guide, Appendix 2). Expert panelists also identified strategies for empowering families to access and coordinate care across services, and for supporting equity in access for traditionally disenfranchised youth and their families.

System Improvement Cycles

The other half of each LC-SCSC meeting focused on fostering systemic improvement in each school system's ability to collaborate across sectors. The model uses a plan, do, study, act (PDSA) cycle for participants to test changes in real-world settings. Each team implemented the PDSA cycles using a structured PDSA worksheet (Appendix 3) in one-month increments. Teams shared their progress and discussed challenges and successes, obtained both peer and expert implementation support and guidance, and shared tools and resources with the group. Each team was further supported in this work by monthly consultation meetings with project leads. These meetings occurred outside of monthly LC meetings and focused on implementation and evaluation of PDSA cycles, on difficulties that rose out of these efforts, and in identifying effective and evidence-based solutions to overcome these difficulties.

Peer Learning

Peer learning opportunities were offered throughout the LC-SCSC. Teams were asked to present their progress to the LC monthly, sharing both successes and roadblocks encountered. All LC sessions also had a networking component, during which school teams and expert instructors engaged in direct dialogue, asked questions, and built relationships. Lastly, each team was offered time at the end of each LC session to collectively plan for their next cycle, and identify



Learning Collaborative to Support Cross-Sector Collaboration

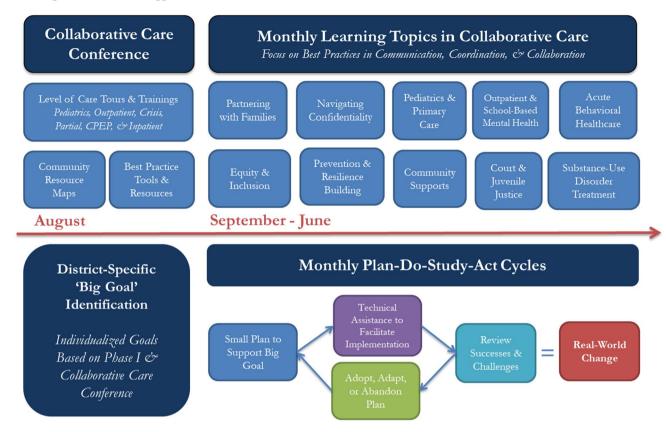


Fig. 1 Learning collaborative to support cross-sector collaboration

specific tasks that each team member was to accomplish between LC sessions.

Measurement

End-of year Surveys completed included the following: A mixed-methods feedback survey; the Wilder Collaborative Factors Inventory (WCFI; Mattessich & Johnson, 2018); and a semi-structured qualitative interview. All individual members of the district team were e-mailed the mixed-methods survey and WCFI at the end of the 11-month LC. The online surveys following the intensive learning experience included questions regarding professional characteristics (i.e., degree, discipline, years in current position, and years in mental health), assessments of feasibility/acceptability; perceived changes in individual knowledge, skill, and confidence; and progress toward system improvement goals. Survey administration time was approximately 20 min and up to three reminders were sent via email. One-hour semi-structured interviews were held within one month of the LC's end-date; there was participation from 17 participants from all three school districts. Participants received the interview questions and had the opportunity to provide written feedback. Responses were utilized to descriptively identify reported improvements as a function of PDSA Cycles and to descriptively support and illustrate quantitative results.

Feasibility of LC-SCSC

LC feasibility was determined by utilizing markers of team engagement, including (1) monthly meeting attendance, and (2) data submission of monthly PDSA cycles. Attendance was based on the number of team members joining learning session. A team was considered 'present' if at least three team members attended the LC meeting. This attendance policy gave each school team sufficient flexibility to include a larger, more diverse team while also recognizing how difficult it can be for educators to leave the classroom or school building during the day.

Teams were required to make and submit at least a 'plan' for quality improvement each month, and strongly encouraged to complete the full PDSA cycle if possible. During the peer learning segment of the LC-SCSC, teams were encouraged to discuss their planned intentions, barriers to implementation, learnings, and possible adjustments for the next cycle. This took place even if the team had not formally



completed the full PDSA worksheet, allowing for continuous improvement, adaptation, and peer learning even when things did not go according to 'plan'. Thus, successful PDSA submission was defined as submitting a PDSA with at least the "plan" section completed.

Perceived Quality of LC-SCSC

Perceived quality of the LC was assessed with the Wilder Collaborative Factors Inventory (WCFI; Mattessich & Johnson, 2018), an evidence-based measure used to help identify strengths and weaknesses that influence collaborative success. The WCFI captures a current snapshot of how the collaboration is functioning overall with 40 questions assessing twenty factors that are grouped into six composites: environmental support, membership characteristics, process and structure, communication, purpose, and resources available. For each inventory item, response options ranged from 1 (strongly disagree) to 5 (strongly agree). The score for each factor was calculated as the mean of all team members' responses about the item(s) representing that factor. Responses above 4 indicate a strength of the LC; scores ranging from 3.0 to 3.9 are borderline; responses at 3 or below are indicative of an area of concern. Two evaluations found that the inventory factors were moderately to highly reliable, with Chronbach's alpha scores ranging from 0.58—0.92 across the scales (Derose et al., 2004; Townsend & Shelley, 2008). WCFI factors have also been linked to successful collaboration in several community partnerships (e.g., Hargreaves et al., 2017; Perrault et al., 2011).

Acceptability of LC-SCSC

Acceptability of the LC was measured utilizing an online survey querying participants' experiences, collected at the end of the LC. Respondents were asked to rate acceptability of the LC by indicating agreement that the LC was a good use of time, that the structure and format of the LC was acceptable, that information was presented clearly and effectively, and that they would recommend the LC to a peer or colleague (1 = strongly disagree; 5 = strongly agree). Participants were also asked to rate the extent to which they agreed on the utility of LC topics on a 4-point Likert scale (1 = not at all useful; 4 = significantly useful).

Individual Impact of LC-SCSC

As part of the previously described online survey, participants were asked to rate the extent to which participating in the LC led to changes in the following individual factors: (1) knowledge, (2) skill, and (3) confidence in cross-sector collaboration on a 4-point Likert-type scale (1 = not at all; 4 = significantly). In addition, each team was surveyed about

their perspectives regarding their districts' system improvement goals with responses on a 5-point scale (1 = strongly disagree; 5 = strongly agree).

Systemic Impact of LC-SCSC

At the beginning of the LC-SCSC, each team identified and recorded one to two "big goals" they wanted to work toward over the course of the academic year. Teams then completed and shared PDSA Cycle Worksheets in one-month increments based on the Plan-Do-Study-Act cycle (IHI, 2003). Each team lead shared key accomplishments identified in the 'study' section during the beginning of each Learning Collaborative session, and discussed whether and how they were going to 'abandon', 'adapt', or 'adopt' changes made over the course of the next month. Peer teams and expert faculty also offered feedback and assistance during this time. End-of year interviews were held with all members of each school team, during which time they were asked to summarize changes their teams made as a function of the monthly PDSA cycles. Qualitative responses were utilized to descriptively identify reported improvements as a function of PDSA Cycles. Specifically, district team's Big Goals were recorded, and monthly and annual changes were tracked within the context of districts' big goals.

Results

LC Feasibility and Acceptability

School team engagement with the LC was high: 100% of teams had the required three participants attending the oneday intensive learning session and follow-up monthly LC sessions. Individual participation was more variable: of the 22 participants, 60% attended the one-day intensive learning session in August; an average of 85% attended each of the subsequent 9 monthly LC sessions. Of these, 17 (77%) returned year-end surveys evaluating acceptability, quality, and individual impact. PDSA Cycle submissions were also high: All three teams completed 8/8 PDSA cycles with at least the plan section; 83% of the remaining "Do-Study-Act" cycles were completed upon review. In turn, teams that had not completed this portion of the PDSA cycle were encouraged to discuss roadblocks and challenges to implementing their plans during the Peer Learning component of the session, and decide how to adjust their QI efforts accordingly.

Acceptability ratings for the LC content and structure was high. On 4-point scale participants rated the LC topics to be highly useful for their day-to-day practice, with overall utility ratings falling within the moderately to significantly useful range (M = 3.77, SD = 0.40; Table 3). On a 5-point scale, participants consistently agreed or



strongly agreed that they were satisfied with the overall content of the LC (M=4.81, SD=0.40), that the LC was a good use of their time (M=4.82, SD=0.39), that information was presented clearly and effectively (M=4.94, SD=0.24), and that the overall structure of the LC worked for them and their team (M=4.76, SD=0.43). Moreover, all participants agreed or strongly agreed they would recommend the LC to a peer or colleague (M=4.88, SD=0.33); 94% indicated they are moderately or very interested in participating in another LC.

Quality of the LC

The results from the Wilder Collaborative Factors Inventory suggests that the quality of the LC's collaborative structure was high (Table 2). Respondents indicated that the *environment* for the LC was ripe for this project (M=4.03, SD=0.87), noting a strong history of collaboration in the community, a favorable political and social climate for this initiative, and expert faculty are seen as legitimate leaders within the community. Respondents also shared that the

Table 2 Quality of the LC-SCSC, as assessed by the wilder collaborative factors inventory

Wilder collaborative factors and composites	% Strongly disagree		% Neutral		% Strongly agree	Mean	SD
	1%	2%	3%	4%	5%		
1. Environment	1.96	1.96	18.63	46.08	31.37	4.03	0.87
1. History of collaboration or cooperation in the community	5.88	5.88	26.47	50.00	11.76	3.56	0.99
2. Collaborative group seen as a legitimate leader in the community	0.00	0.00	26.47	47.06	26.47	4.00	0.74
3. Favorable political and social climate	0.00	0.00	2.94	41.18	55.88	4.53	0.56
2. Membership characteristics	0.65	3.27	8.50	38.56	49.02	4.32	0.82
4. Mutual respect, understanding, and trust	0.00	0.00	2.94	29.41	67.65	4.65	0.54
5. Appropriate cross section of members	0.00	14.71	5.88	52.94	26.47	3.91	0.97
6. Members see collaboration as being in their self-interest	0.00	0.00	0.00	17.65	82.35	4.82	0.39
7. Ability to compromise	5.88	0.00	23.53	41.18	29.41	3.88	1.05
8. Members share a stake in both process and outcome	0.00	0.00	11.76	41.18	47.06	4.35	0.69
3. Process and structure	0.00	5.43	19.46	45.70	29.41	4.00	0.84
9. Multiple layers of participation	0.00	20.59	32.35	29.41	17.65	3.44	1.02
10. Flexibility	0.00	0.00	8.82	44.12	47.06	4.38	0.65
11. Development of clear roles and policy guidelines	0.00	5.88	26.47	35.29	32.35	3.94	0.92
12. Adaptability to changing conditions	0.00	5.88	26.47	41.18	26.47	3.88	0.88
13. Appropriate pace of development	0.00	0.00	17.65	61.76	20.59	4.03	0.63
14. Evaluation and continuous learning	0.00	1.96	9.80	56.86	31.37	4.18	0.68
4. Communication	0.00	3.53	2.35	43.53	50.59	4.41	0.71
15. Open and frequent communication	0.00	0.00	1.96	33.33	64.71	4.63	0.53
16. Established informal relationships and communication links	0.00	8.82	2.94	58.82	29.41	3.88	0.83
5. Purpose	0.00	3.36	9.24	31.93	41.18	4.34	0.79
17. Concrete, attainable goals and objectives	0.00	0.00	1.96	35.29	62.75	4.61	0.53
18. Shared vision	0.00	2.94	2.94	41.18	52.94	3.88	0.70
19. Unique Purpose	0.00	8.82	26.47	35.29	29.41	3.88	0.96
6. Resources	0.00	10.71	28.57	30.95	29.76	3.80	0.99
20. Sufficient funds, staff, materials, and time	0.00	15.69	41.18	25.49	17.65	3.45	0.97
21. Skilled leadership	0.00	0.00	0.00	35.29	58.82	4.63	0.50
22. Engaged stakeholders	0.00	5.88	17.65	41.18	35.29	4.06	0.90

Averaged composites are given in bold Standard deviation are given in italics n=17



membership characteristics of school-based teams was a strength (M = 4.32, SD = 0.82). They reported that the right people are around the table for this work, see collaboration as in their best interest, are able to compromise with each other, and feel a sense of mutual respect, understanding, and trust between team members. The process and structure of the LC is also a strength (M=4.00, SD=0.84), with collaboration across multiple layers of participation, baked-in flexibility and adaptability for the project, clear project roles and guidelines, an appropriate pace of development, and a clear process for evaluation and continuous learning. Participants also considered communication to be a strength (M=4.41; SD=0.71) and were appreciative of the opportunities for open and frequent communication in both formal and informal venues. The *purpose* of the LC was also a strength (M = 4.34; SD = 0.79), with participants sharing a common sense of shared vision, unique purpose, and concrete, attainable goals and objectives. Finally, school team members shared that the *resources* available to support the LC were generally appropriate (M = 3.8, SD = 0.99)—and felt that the skilled leadership, funding, staffing, and materials needed were sufficient to accomplish collaborative goals. However, participants also note that they often felt pressed for time and wished they had an additional hour built into their schedule each week to accomplish quality improvement goals.

Individual Impact of LC

Findings regarding the individual-level impact of the LC can be found in Table 3. Participants agreed or strongly agreed that the LC topics were useful (M = 3.77, SD = 40)and reported perceived changes in knowledge, skill, and confidence in cross-sector collaboration. Specifically, participants agreed that the LC led to changes in knowledge about how to navigate different systems and community resources, and increased understanding about overcoming barriers to care for youth with behavioral health needs (M = 3.61, SD = 0.52). They also agreed that the LC facilitated changes in their ability to refer youth and families to appropriate services, as well as their skill in communicating and collaborating across systems that support children's behavioral health (M = 3.45, SD = 0.65). Finally, participants reported that the LC led to increases in their own confidence in supporting youth with behavioral health needs, in supporting their families, and in supporting colleagues who are doing this work (M = 3.43, SD = 0.71).

Systemic Impact of LC

School teams made systemic changes in school-based strategies to support collaboration. At the end of the 1-day intensive learning session, each school team successfully

generated 1–2 'big goals' they were hoping to accomplish by the end of the school year (See Table 4). All three teams completed 8/8 subsequent PDSA cycles with at least the plan section filled out; 83% of the remaining "Do-Study-Act" cycles were completed. Monthly report-outs of the "Study" and "Act" section of each PDSA cycle indicated that each team engaged in continuous improvement efforts over the course of the school year, and allowed peers and community experts to make suggestions and recommendations for future work. When teams had not successfully carried out their plan (17%), they were able to still discuss barriers, road blocks, and adjustments to the plan needed to make continuous improvement over the course of the next month.

In turn, responses to semi-structured interview questions indicated that teams made progress toward their big goals over the course of the academic year (Table 4). Team 1 engaged in internal teaming efforts with their counseling, social work, and nursing departments, creating a regular multidisciplinary meeting and aligning departmental priorities, communication, and coordination policies and procedures between the departments. Team 1 also initiated a district-wide collaborative partnership with the countywide mobile crisis team, and co-developed a school-based rapid-response and follow-up protocol with the team to support students experiencing a mental health crisis. Teams 2 and 3 initiated school-based needs assessments of both school and community child behavioral health services and supports that are most relevant to and utilized by district youth, families, and staff. Team 2 used that data to develop an integrated school mental health team in which community partners are invited to communicate and collaborate about student-focused needs; team 3 used needs assessment data to develop, vet, and disseminate a user- and family-friendly resource map and organize a family resource night with relevant child behavioral health organizations.

School teams' survey responses regarding their perspectives on their districts' system improvement goals are also reported in Table 3. Teams indicated that they largely agreed that they were able to implement the PDSA action planning cycles as intended, that these cycles were effective in making changes within their schools, and facilitated progress in accomplishing stated big goals. Teams felt more mixed about whether their efforts were leading to impactful changes over the course of the school year: while the majority of participants agreed or strongly agreed that the changes made were impactful, several participants expressed greater doubt. In open-ended responses, these participants shared frustration over continued systemic, regulatory, and policy barriers to effective collaboration and coordination of care, disruptions around the COVID-19 crisis, and expressed a need for continued improvements within schools and the child mental



 Table 3
 Reported impact of the LC-SCSC

Perceived utility of learning collaborative	% No	% Not at all useful		% Significantly useful			Mean		SD
topics (5-point scale)	1%	2'	%	3%	4%	,			
Overall utility							3.77		0.40
Collaborative care conference	0.00	0.	.00	15.38	84	.62	3.84		0.37
Partnering with county and community resources	0.00	0.	.00	11.76	88	.24	3.88		0.33
Coordination with crisis services	0.00	0.	.00	7.14	92	.86	3.9		0.26
Supporting court-involved youth	0.00	7.	.14	42.86	50	.00	3.42		0.64
Teaming for school mental health	0.00	0.	.00	37.50	62	.50	3.62		0.5
Navigating confidentiality	0.00	0.	.00	29.41	70	.59	3.75		0.45
Schools and community mental health	0.00	0.	.00	43.75	56	.25	3.56		0.51
Engaging and supporting parents and families	0.00	0.	.00	25.00	75	.00	3.75		0.44
Partnering with pediatrics	0.00	0.	.00	15.38	84	.62	3.84		0.38
Equity in child mental health	0.00	0.	.00	6.25	93	.75	3.94		0.25
Best practices in collaborative care	0.00	0.	.00	7.69	92	.31	3.92		0.28
Perceived changes in knowledge, skill, an	nd % No	change		% Sig. change			Mea	an	SD
confidence (4-point scale)	1%	2	%	3%		4%			
Changes in knowledge	0.00		1.96	35.29		62.75	3.61	1	0.52
Systems that support youth and families with MH needs	with 0.00	1	0.00	29.41		70.59	3.71	l	0.47
Community resources that support youth families with MH needs	and 0.00	1	0.00	29.41		70.59	3.71	l	0.47
Strategies for overcoming barriers to care	0.00		5.88	47.06		47.06	3.41	1	0.62
Changes in skill	0.00	;	5.88	29.41		39.71	3.45	5	0.65
Effectively refer youth and families to appriate services	pro- 0.00		5.88	29.41		64.71	3.59)	0.62
Effectively communicate across systems	0.00	1	1.76	41.18		47.06	3.35	5	0.70
Effectively collaborate across systems	0.00		5.88	47.06		47.06	3.41	1	0.62
Changes in confidence	0.00	1	1.76	29.41		58.82	3.43	3	0.71
Supporting Youth and teens with MH nee	eds 0.00	1	1.76	29.41		58.82	3.47	7	0.72
Supporting families with youth with MH needs	0.00	1	1.76	41.18		47.06	3.47	7	0.72
Supporting colleagues who are supporting youth and families with MH needs	g 0.00	1	1.76	41.18		47.06	3.35	5	0.70
Impact of system improvement goals (5-point scale)	% Str. disa	igree		% Neutral		% Str	. agree	Mean	SD
	1%	2%		3%	4%	5%			
PDSAs have been an effective way to make changes	0.00	0.00		17.65	41.18	41.18	1	4.24	0.75
Team has implemented PDSA Action Planning Cycles	0.00	0.00		0.00	47.06	52.94		5.22	0.51
Team has made progress in accomplishing identified goals	0.00	6.25		25.00	37.50	31.25	i	4.65	0.93
PDSA Cycles have led to impactful changes	0.00	0.00		29.41	70.59	0.00)	4.44	0.47

Averaged composites are given in bold Standard deviation are given in italics n=17



Table 4 Reported improvements as a function of PDSA cycles

School Team	Reported improvements as a function of PDSA Cycles
School team 1	Big goal #1: improve communication and coordination with internal school-based mental health colleagues •Initiation of multidisciplinary MH team of counselors, social work, and nurses •Alignment of written departmental priorities, communication, and coordination between departments Big goal #2: improve communication and coordination with community-based mental health partners •Initiated district-wide collaborative partnership with Mobile Crisis Team (MCT) •Trained all high school administrators and mental health staff in best practices in collaborating with MCT •Developed school-based rapid-response and follow-up protocol with MCT
School team 2	Big goal: improve connections and relationships with key service providers Needs assessment Developed needs assessment questionnaire to assess existing partnerships that are most relevant to and utilized by district youth, families, and staff Disseminated questionnaire to all school mental health staff Evaluated results to identify community partners for development Fostering collaborative relationships Developed semi-structured partnership questionnaire Implemented semi-structured partnership questionnaire to build relationships and foster communication with key partners Developed a school mental health team, in which community partners are invited to the table to communicate and collaborate about scholars
School team 3	Big goal: develop a district-specific map of area resources • Evaluated existing data and developed new survey to identify community partners that are most relevant to and utilized by district youth, families, and staff • Developed, vetted, and disseminated a user- and family-friendly resource map • Trained school mental health staff in ways to use district-specific community resource map • Initiated new web-development to place on district's webpage and provided this as a centralized and family-friendly 'child mental health resource Guide' • Organized and scheduled family resource night with invited guests (Postponed due to COVID-19)

health system itself to show long-lasting improvement in access to high-quality care.

Discussion

This manuscript offers a case study in how one region successfully implemented a school-based learning collaborative focused on building schools' ability to support children's behavioral health needs via cross-sector collaboration. Offered over the course of the academic year, school-based collaborative care teams engaged in (1) experiential and didactic trainings in collaborative care, (2) concrete quality improvement efforts facilitated by monthly technical assistance, and (3) peer learning opportunities. This model was found to be both feasible and acceptable to participants, who were highly engaged throughout the 11-month process despite the onset of the COVID-19 pandemic. Respondents also consistently shared that the quality of the LC was high, that the topics were highly useful for their day-to-day practice, and that they would recommend the LC-SCSC to their colleagues and peers. In turn, this process fostered improvement in educators' knowledge, skills, and confidence, and generated systemic improvement in districts to support children with behavioral health needs and their families. Below we discuss specific components of this model that may best account for these changes, and implications for replication and next steps.

Direct Training in Child Mental Health Systems

Two important components of the LC-SCSC were the experiential and didactic training opportunities offered during the one-day intensive learning session and follow-up sessions, and should be a component of any replication. The results indicate that team engagement with trainings was high (100%), though there was more individual variability for attendance at the intensive learning session that was held prior to schools returning from summer vacation (60%) and monthly didactics held during the school day (85%). Despite variability in attendance, nearly 86% indicated that this session was 'significantly useful'. We believe that the initial intensive learning session was critical to the success for the LC because it offered team leaders foundational training in the premise of the LC-SCSC, introduction to Plan-Do-Study-Act cycles paired with individualized coaching on individualized goals, and time-consuming experiential walking tours through the region's system of care. Indeed, participants uniformly described the tours offered during this time as critical to their learning and ability to understand how to guide family members to- and through- these



services. As one school counselor noted, "It has been so helpful for me to learn this information. I have twice now walked hand in hand with a family through our system as they can't navigate it alone."

Monthly didactic learning topics were also a key component of the LC, and were also consistently rated highly by participants. Within these, 92% or more of participants rated the sessions on equity in child mental health, coordination with crisis services, and best practices in collaborative Care as particularly useful. It may be that issues surrounding these topics come up most frequently during participants' day-to-day work, and offered instrumental tools and resources that could be applied the next day. As one educator shared, "Hearing the guest speakers be real about what our region has to offer has been incredibly important. I have now taken more time to think about situations my students and their families are in before referring them places due to what I have learned." Fewer participants rated the session on 'Supporting Court-Involved Youth' as 'significantly useful' (50%), perhaps because laws and policies intended to protect the privacy of youth in the court system continue to serve as barriers to effective cross-agency collaboration and information sharing despite best individual intentions (Leone & Weinberg, 2010). In such cases, simply learning about strategies to improve communication between systems may be insufficient—change is also needed within the system itself.

School partners subsequently reported improvements in knowledge, skill, and confidence in collaborating across sectors. Participants reported that this led to meaningful changes in both individual practices and school-wide skills, as team members applied and shared their learnings and became more knowledgeable and confident in supporting colleagues and parents in supporting youth. Parent team members found it similarly useful—"I've been able to share critical information with our [Parent Groups], who have shared with others. But I also, unexpectedly, found it so helpful when [my child] was struggling with some issues in May. Because of this Learning Collaborative I knew who to talk to, where to go in the hospital, and what to expect while we were there. Without these learnings, I would have been lost."

Efforts toward replication should build upon strategies utilized in the LC-SCSC. For example, project leads should ensure relevance of trainings by surveying participants about key knowledge gaps in school professionals' understanding of community-based systems of care prior to selecting didactic topics. Once selected, findings suggest that trainings may be most effective when delivered by professionals working within the region's System of Care, and offer school teams lived experiences, practical tips, and helpful tools for improving interprofessional collaboration between organizations.



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Structured Program Improvement Cycles

While didactic sessions promoted individual learning, PDSA cycles were key to the LC-SCSC's effectiveness in creating systemic changes needed to improve collaboration between systems. Districts were asked to create big goals in the beginning of the LC, broke these into smaller accomplishable deliverables, and then implemented PDSA cycles to both implement and test changes in real-world settings (IHI, 2003). Though these incremental changes often felt quite small, year-end results reveal that they added up to significant improvements in nationally recognized best-practices related to internal and external teaming, community needs assessment, and resource mapping of both school and community resources available to support children's mental health (Connors et al., 2020). Approximately 82% of respondents agreed or strongly agreed that PDSAs were an effective way to make change, and a year-end quote from one participant sums this work up nicely: "I have to be honest—I was skeptical [at the beginning] that these really small goals were going to add up to anything real. But looking back, I'm just amazed at all we've accomplished. The model seems simple, but it works."

Future school-based LCs interested in promoting systemic change should not overlook the power of the PDSA-driven QI cycles. 70% of respondents indicated that PDSA cycles promoted impactful change within each district, despite setbacks and challenges inherent in any QI effort. This may be because PDSA-supported program improvement cycles provided the structure, support, and accountability school teams needed to identify and implement systemic changes that foster collaboration across systems. Those interested in replication or scale-up might consider utilizing healthcareoriented QI tools like the PDSA cycle to strategically support these efforts (IHI 2003). Organizers may also consider utilizing school mental health tools like the SHAPE System (NCSMH, 2020b) and the National School Mental Health Curriculum to more concretely measure and guide changes in these areas (NCSMH & MHTTC NCO, 2019).

LC Structure

It was also clear that the structure of the LC-SCSC itself was useful. Teams reported that they particularly appreciated and benefitted from the dedicated, protected time each month to help them focus on a common goal. They also appreciated the ability to network with and learn from diverse peers as they were implementing improvement cycles, both within and across districts, and highlighted the benefits of working as part of an interdisciplinary team, the opportunity for partnership with parents, and the ability to gain knowledge from partner districts as critical to the quality of their work. This style of collegial and peer learning can also be difficult to come by in a school system, where

day-to-day demands leave little natural opportunity for coordination with diverse colleagues. In turn, participants' reports on the WCFI suggest that even more protected time would have been beneficial—perhaps between meetings for joint teamwork, or for networking and processing immediately after the meetings.

Approximately 87% of team members agreed or strongly agreed that the diverse composition of team members participating in the LC-SCSC was also important for its success. All teams consisted of an administrator, a school mental health staff member, an educator, an additional school-linked professional (e.g., nursing, community partner, or parent/family liaison), and at least two parent partners. Efforts toward replication should ensure that team members not only hold the right set of knowledge and skills to recommend impactful changes, but also the administrative power to approve and implement changes. Parent membership may be particularly important for building parent-friendly systems and demonstrate the value and importance of both partnering with and empowering parent voice. This was an important lesson for the LC-SCSC, especially when supporting children's mental health which is inexorably linked to families' knowledge about their children's needs, ability to effectively access resources, and decision-making. As one administrator noted, "I feel like I've been educated to some of the realities as to how culture and resources can play an effect. ... We need to offer more things that families value, like knocking on doors, spending time talking with families, building personal face-to-face relationships, rather than offering a piece of paper and a phone number."

Limitations and Continued Barriers to Cross-Sector Collaboration

There were several structural limitations to this study, including its small sample size (n=22), number of participating school districts (3), and geographical restriction to a midsize county in Western NY with regionally specific resources and needs. The LC-SCSC was also held during the 2019–2020 school year, and was interrupted and adapted due to the onset of the COVID-19 pandemic in March of 2020. In addition, our findings only offer information on school teams' perspectives and QI efforts, and does not directly report outcomes for each team's actual ability to support children's behavioral health needs. Despite these limitations, the LC-SCSC represents a strong case study for how regional efforts can hold promise for generating meaningful change in cross-sector collaboration with schools.

At the same time, there are continued school-based barriers to cross-sector collaboration that are important to note, as well. Though teams worked to implement a variety of systemic changes within their schools, each team also identified continued opportunity and need for improvement in policies, procedures, and practices. For example, it can be difficult to stay on top of ever-changing community resources; thus,

districts may also benefit from ongoing efforts to map what resources they have available within school buildings, the district at-large, and within the immediate surrounding community (NCSMH, 2020a). School teams would also benefit from continued development of streamlined policies and practices that facilitate screening for mental health challenges or risk (NCSMH, 2020c), development of flowcharts and decision-trees for how to support students experiencing mental health crises (e.g., Stargell et al., 2017), and strategies to foster interprofessional communication and partnership when such issues arise (NCSMH, 2020b). To make all this happen, it is also clear that school mental health staff and educators would benefit from protected time to communicate, coordinate, and collaborate with parents and behavioral health providers about their concerns.

Although school teams acknowledge the need for this type of work, they also consistently reported benefitting from the dedicated time, structured support, and collegial feedback available in the LC-SCSC needed to develop and implement lasting change. At the same time, participants acknowledged that access to this time and support is a significant barrier to ongoing learning, collaboration, and systemic change. Educators often have very limited time to participate in professional learning opportunities and may struggle to access in-depth learning collaboratives such as the LC-SCSC without institutional support and release time. This is of particular concern in light of ongoing workforce shortages and increasing student needs exacerbated by the COVID-19 pandemic. Without the resources described above, systemic change would be difficult to attain.

It is also important to note that collaboration is a two-way process—and there remains continued challenges in reciprocal communication between school-based providers and health-, behavioral health-, and support systems that impede effective cross-sector partnership. For example, school staff described genuine efforts to collaborate during initial phone calls or document requests, followed by little reciprocal communication after that first contact. In prior needs assessments, community-based providers also reported struggling with knowledge gaps regarding how schools work, school-based language and terminology, and resources available to children both in- and outside of special education services. Structural (e.g., conflicting work schedules) and practical (e.g., lack of reimbursement for school-based collaboration for healthcare providers) barriers are also prevalent within community health and mental health fields (Anderson-Butcher & Ashton, 2004.). To this end, regional healthcare systems may also benefit from QI efforts and professional learning opportunities like the LC-SCSC, focused on strategies for how to more effectively collaborate with schools. The need for advanced community and school-based training in best practices for communication and collaboration across each system is great, and desperately needed (Gibson et al., 2014).

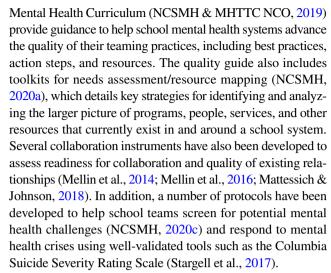


Finally, there remains a need for ongoing training and support in enacting culturally relevant practices in supporting children's social and emotional health. School teams reported that visits to court, community mental health organizations, CPEP [Comprehensive Psychiatric Emergency Program], and inpatient settings have helped them better "walk in families' shoes" and support racially, ethnically- and language-diverse youth and families in accessing care. They also reflected that the practices identified in the "Equity in Access to Child Mental Health Services" training as critical for closing equity gaps. Particularly meaningful practices included a dedication to relationship-building (e.g., initiating proactive outreach to students and families before problems occur, willingness to go to families' communities and homes); an understanding of the history of racism within the health and mental health system; and knowledge of culturally competent practitioners for referral when needed. Additional communitybased initiatives focused on improving equity in access to child mental health services would be beneficial.

Recommendations and Next Steps

Community partners should continue offering advanced training and coaching in collaboration across systems and levels of care that support youth and families of youth with behavioral health challenges. Moreover, schools should also consider providing training and coaching for community providers in the special issues involved in collaborating with schools and school-based professionals. Trainings should include explicit guidance for providers in the language, policies, procedures, and common practices typically utilized within school districts and educational communities. Future efforts may follow the adapted Institute for Healthcare Improvement (IHI) Breakthrough Series Model for Improvement model utilized by this and other school-based LCs (Stephan et al., 2013; Connors et al., 2020; IHI, 2003), with didactics paired with program improvement cycles and peer learning. Such efforts may also be accomplished with a remote training- and mentoring-model, such as Project-ECHO (Extension for Community Healthcare Outcomes; Arora et al., 2016). Project ECHO has been recognized globally as a successful tool to improve health outcomes and is increasingly used in educational settings to build knowledge around supporting youth with behavioral health needs (Perry & Turner, 2019).

Nationally, a variety of publicly accessible assessments, toolkits, and resources are increasingly available to foster school mental health initiatives in educational settings on an independent basis. Many of these are housed within the School Health Assessment and Performance Evaluation System (www.theshapesystem.com; NCSMH 2023), which offers an easy-to-access inventory of school mental health quality improvement tools and resources. In particular, the school mental health quality guide: teaming playbook (NCSMH, 2020b) and the accompanying modules in the National School



We also recommend that future work should continue to formally empower family and youth voices in program development, decision-making, implementation, and evaluation of collaborative improvement efforts. In addition, we recommend offering additional supports to parents and families around child mental health. For example, school teams may hold parent and student workshops and resources to increase community awareness of child behavioral health and community services. Districts may also consider developing district-specific parent guides for how to identify whether their child is struggling; ways to talk with children about concerns; strategies for supporting youth while at home, within the community, and at school; and how they can connect with local resources that may help their children when needed.

In addition, systemic differences in the treatment of mental health needs persist among youth of varied racial, ethnic and socioeconomic backgrounds (e.g., Costello et al., 2014). These disparities in access to care are particularly problematic given that minority youth are disproportionately burdened with internalizing problems (Anderson & Mayes, 2010), trauma-related mental health difficulties (Andrews et al., 2015), and toxic environmental stressors (Garner et al., 2012). Cumulatively, these risk factors create longitudinal pathways for disparities in health outcomes across the lifespan (Roxburgh & MacArthur, 2014). In partnership with community-based experts in social and racial equity, a supporting equity in access LC would also be beneficial, focusing specifically on school-based strategies to promote equity in access to behavioral health services and supports and promoting structural changes in both school and healthcare systems working with diverse youth and families.

Conclusions

The youth of today, and the adults that support their health, face many challenges in promoting children's mental health. Investigation of this learning collaborative model



underscores that with the proper support and collaboration between education and community mental health organizations, change across systems can be achieved. We must commit to dedicating time and resources to our children's mental well-being, and invest in fostering a web of wellness that enriches their development. It is through the promise and potential of school and community collaboration that we can address these needs and enable our youth to achieve emotional, physical, and educational success.

Appendix 1

Collaborative Care Conference Agenda.

Session 1: Welcome and Introduction

- 1a: Welcome—local and regional perspectives (didactic)
- 1b: Learning collaborative structure and objectives (didactic)
- 1c: Collaborative care team introductions (interactive and peer learning module)

Session 2: Strategic Action Planning

- 1a: Model of quality improvement (didactic)
- 1b: Ingredients for success: the learning collaborative (didactic)
- 1c: Goal Setting and share-out (interactive and peer learning module)

Session 3: Effectively Navigating Community Resources

- 3a: Commonly accessed community resource guides (didactic)
- 3b: LC-SCSC child and adolescent behavioral health community resource guide (interactive module)

Session 4: Level of Care 101

 4a: Continuum of mental health care for children and adolescents: promotion-prevention-intervention-intensive-emergency (didactic) 4b: Reflection and Q&A (interactive and peer learning module)

Session 5: Walking Tours

- 5a: Outpatient Tours—pediatrics, child & adolescent outpatient therapy & psychiatry (interactive module)
- 5b: Acute service tours—emergency room, psychiatric emergency room, partial hospitalization, inpatient hospitalization (interactive module)

Session 6: Small Group Planning

- 6a: Individualized goal setting (interactive module)
- 6b: Individualized action planning (interactive module)

Appendix 2

Invited Guests Speakers' Guide.

Partnering With Schools: Speaker's Guide

Thank you for agreeing to speak with our school teams! Our goal is to improve partnership between school teams and community organizations that support children's behavioral health. When discussing your organization, please come prepared to discuss the following questions.

- 1. What do schools and families need to know about your organization to work with it most effectively?
- What does your organization do? Common misperceptions?
- How should school teams talk about your organization?
- 2. How can schools and families best communicate with your organization, both to make referrals and to stay in touch?
- Do you prefer phone? E-mail?
- Who is the one best person to contact?
- 3. What are some things people in your organization think about when trying to coordinate services with schools and families?
- When and where do you prefer to meet? How often?
- What are boundaries to coordination of care? (e.g., privacy, confidentiality)



- 4. What are best-practice ways for school teams to collaborate with your organization?
- Do you provide recommendations for school teams working with youth and families?
- How can school teams provide recommendations to you?
- 5. To what extent do you integrate services within schools themselves? (Note: Not all organizations do this, and that's OK)
- Do you ever have meetings with families within school?
- Can school teams invite your organization to collaborate on school-focused activities or projects?

6. What else do school teams need to know about your organization to work with it effectively?

Appendix 3

PDSA Worksheet (NCSMH, 2022).

PDSA WO	RKSHEET					
Plan Do Team Name	Start Date: End Date:					
What Small Improvement are you trying to make?						
Act Study Which Big Goal is this related to?						
PLAN: Plan to test a small part of your improvement efforts.	DO: Test the changes.					
Briefly describe the test:	Was the test carried out as planned? ☐ Yes ☐ No					
What questions do you want this test to answer?	Record observations and data:					
What do you predict will happen?	What did you observe that was not part of the planned test?					
PLAN Person						
List the tasks necessary to responsible complete this test (what) (who) When Where	STUDY: Did the results match your predictions? □ Yes □ No					
1.	Compare the result of your test to your previous work:					
2.	What did you learn?					
3.						
4.	ACT: Decide to Abandon, Adapt, or Adopt					
	Abandon: Discard this change idea and try a different one.					
5.	Adapt: Improve the change and continue testing. Describe what you will change in your next PDSA					
How will you know that the change is an improvement?	☐ <u>Adopt</u> : Select changes to implement on a larger scale and develop an implementation; plan and plan for sustainability					



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