Implementation of a Novel Pediatric Behavioral Health Integration Initiative

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Abstract

This study explores healthcare professionals' perspectives about the impact of behavioral health integration (BHI) on pediatric primary care delivery in community health centers (CHCs). A concurrent, qualitative-dominant mixed methods empirical study design was utilized, applying semi-structured interviews with healthcare professionals at the end of the implementation phase of a 3-year co-development, implementation, and evaluation process. Surveys were also administered

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at three time points. Via thematic analysis, emergent qualitative themes were mapped onto the Relational Coordination (RC) conceptual framework to triangulate and complement final qualitative results with quantitative results. Interview findings reveal five emergent themes aligning with RC domains. Survey results show that healthcare professionals reported increased behavioral healthcare integration into clinic practice ($p = 0.0002$) and increased clinic readiness to address behavioral health needs ($p = 0.0010$). Effective pediatric BHI and care delivery at CHCs may rely on strong professional relationships and communication. Additional research from the patient/caregiver perspective is needed.

Introduction

Almost half of the estimated 8 million children with at least one treatable mental health condition — a figure reflecting 16.5% of the United States (US) population — do not receive treatment from a mental health professional.[1] In pediatrics, models of behavioral health integration (BHI) seek to address this by implementing a range of behavioral health services directly into primary care, such as universal screening, care coordination, and counseling and/or psychiatric support by primary care providers and behavioral health clinicians.[2] A growing body of evidence supports the effectiveness of BHI in terms of increasing access to pediatric behavioral health services[3,4] as well as improving behavioral health outcomes in the US.[3,5,6] However, little is known about the perspectives of healthcare providers and staff in the pediatric community healthcare center setting.[2,7] Providers — defined in this paper as healthcare professionals (i.e., individuals conducting patient-facing work in a healthcare setting) with prescribing privileges — as well as healthcare staff without providing privileges, have a clear and essential role in healthcare delivery. This role is highlighted by the National Academy of Medicine's call to action regarding provider burnout, a concept that is frequently associated with exhaustion, cynicism, and feelings of low professional personal accomplishment.[8] Research on provider and staff perspectives on carrying out these models is likely critical to the success of implementing and sustaining models of BHI due to the prevalence of burnout among providers whose responsibility lies in these efforts.[8]

Transforming and Expanding Access to Mental Health Care in Urban Pediatrics for Children (TEAM UP) is an initiative designed to build and strengthen capacity among primary care practices within community health centers (CHCs) in the greater Boston area. The goal is to deliver integrated behavioral health services to children and families. TEAM UP staff designed the model to meet several specific needs. In spite of findings revealing benefits of BHI on children's behavioral health outcomes,[3–6] many BHI models focus on addressing specific behavioral disorders, rather than providing services in a condition agnostic manner along the screening to treatment continuum, as is discussed elsewhere.[9] Furthermore, many studies do not focus on providing BHI for structurally marginalized groups, who often experience inequities in access to behavioral healthcare. Additionally, little research outside of that related to TEAM UP highlights BHI implementation in the pediatric healthcare setting in Federally Qualified Health Centers (FQHCs).[2,7] FQHCs, whose providers and staff care for millions of children with behavioral healthcare needs in the US, play an important part in meeting the needs of children with behavioral health conditions. All TEAM UP CHCs provide services for the aforementioned marginalized groups and are classified as FQHCs.

The TEAM UP staffing model involves full integration of BHCs and community health workers (CHWs) directly into the pediatric care team to provide a range of behavioral health services (Supplemental Material: Transformation Model Explained). TEAM UP's primary care physicians (PCPs) communicate behavioral health screening results to families and develop care plans based on patients' needs, while behavioral health clinicians (BHCs) provide evidence-informed behavioral health interventions.

Trained in techniques like motivational interviewing, CHWs partner with patients' families to help address social needs as well as provide family- and caregiver-peer navigation and health education.

TEAM UP sought to build capacity among three CHCs in order to deliver high quality, evidence-informed, integrated behavioral health services to children and families. The goal was to strengthen CHC providers' and staff members' ability to recognize emerging behavioral health issues and intervene early using appropriate treatment, thus facilitating improvement in long-term behavioral health outcomes. Participating sites differed with respect to their level of BHI upon program initiation. One CHC had integrated BHCs prior to TEAM UP, while the other two hired BHCs and CHWs to augment their integrated care teams upon initial TEAM UP implementation. Additionally, TEAM UP CHCs varied with respect to number of pediatric patients served, pediatricians employed, and patient sociodemographic and insurance characteristics; that information has been excluded from this paper in order to protect the anonymity of the sites.

This study explores the perceptions of healthcare professionals on BHI implementation and the process of integration, as well as the impact of BHI on pediatric behavioral healthcare delivery via quantitative surveys. The goals of this research were to inform the scale-up of TEAM UP implementation and expansion of pediatric BHI initiatives among racially, ethnically, linguistically, and economically marginalized populations. This study also serves to extend research conducted earlier in the program's implementation.[2,10] Prior studies report results of qualitative interviews at baseline and 18 months;[2,7] the present study describes findings from the final round of qualitative interviews and analyzes trends across the three quantitative survey conducted at three time points (Table 1). Implementation of TEAM UP has been formally evaluated elsewhere.[11]

Methods

Study design

In the present study, mixed methods were used to understand pediatric CHC healthcare professionals' reactions to TEAM UP implementation. Specifically, a concurrent, qualitative-dominant, mixed methods empirical study design was utilized to elicit rich data about the multi-faceted experiences of health professionals.[12,13] It was also used to triangulate qualitative and quantitative data.[14] At each of three initiative time points (baseline, 18 months, and 36 months), research staff uninvolved in BHI implementation conducted quantitative surveys using REDCap in addition to qualitative, semi-structured, individual interviews with PCPs, BHCs, CHWs, medical assistants (MAs), and administrative staff from the three participating CHCs.

Participants: study setting, sampling, recruitment, and eligibility Between 2016 and 2019, TEAM UP research staff discussed the study purpose with all healthcare professionals participating in TEAM UP at each CHC participating in the initiative. As findings from the first two rounds of data collection have been published,[2,10] the present study describes results from the 38 individuals who participated in the qualitative interviews during the third and final round of data collection; overall, 69 participants (including the 38 interviewed during the third round of data collection) completed 109 surveys over the three time points, with 13 completing surveys at all three.

Study participants were provided with a $10 gift card. The Boston University Medical Campus Institutional Review Board reviewed, categorized as exempt, and approved the overarching study (H-33841).

Data collection and management In a private space, research staff provided study details, obtained verbal consent, and conducted the audio-recorded interviews, which lasted between 25 and 45 min.

Table 1
Participant information[†]

	Baseline	18 Months	36 Months	
Role[‡]	**Survey respondents (*n* = *34*)**	**Survey respondents (*n* = 38)**	**Survey respondents (*n* = *37*)**	**Interview respondents (*n* = 36)**
Medical team	16 45.8%	18 47.4%	15 40.5%	10 27.8%
BH clinician	12 34.7%	12 31.6%	13 35.1%	9 25.0%
Other staff	6 19.4%	8 21.1%	9 24.2%	17 47.2%
CHC	**Survey respondents (*n* = 34)**	**Survey respondents (*n* = 38)**	**Survey respondents (*n* = 37)**	**Interview respondents (*n* = 36)**
CHC1	12 35.3%	14 36.8%	15 40.5%	13 36.1%
CHC2	15 44.1%	13 34.2%	11 29.7%	12 33.3%
CHC3	7 20.6%	11 28.9%	11 29.7%	11 30.6%

[†]Table depicts participants by role type and community health center (semi-structured interviews at time point 36 months; surveys at baseline, 18 months, and 36 months; $n = 109$). Among the 69 unique participants, 109 total participants completed surveys due to some individuals completing surveys at multiple time points. Participant roles categorized as medical team members, behavioral health clinicians, or other staff. Percentages represent column percentages; percentages may not add up to 100% due to rounding

[‡]The "Medical team" category reflects PCPs. The "Other staff" category includes medical assistants, CHWs, and administrative staff

Our semi-structured interview guides (Supplemental Material: Sample Interview Guides) included questions exploring participant perceptions about BHI implementation and were guided by the Theoretical Domains framework.[15] Two of the 38 transcripts were excluded from the analysis for a total of 36 interviews: one because the participant declined to be audio-recorded, thus limiting the authors' ability to conduct a thematic analysis in a manner similar to that of the others, and the second because the participant's CHC had only employed them for 6 weeks, rendering the participant unable to answer most questions.

Qualitative methods

Data analysis To map emergent themes onto the domains of an existing theoretical framework (described below), this study applied a modified Grounded Theory approach.[16] The constant comparative method was used.[17] Research analysts (CBS and MGE) coded interview transcripts in two phases. Phase 1 involved initial coding, during which the analysts read six interview transcripts line-by-line and named each segment of data utilizing an open-coding process.[18] After establishing an initial codebook, the remaining 30 transcripts were independently coded before code applications

of the opposite analyst were reviewed. In phase 2, axial coding was employed to merge and split codes as well as draw connections between them.[18] Memos were applied throughout the coding process to exercise researcher reflexivity.[19]

Conceptual framework As initial rounds of coding revealed that professional relationships informed many respondents' understanding of BHI, the Relational Coordination (RC) framework was identified to guide further analyses while building upon prior literature. Emergent interview themes were then mapped onto RC. RC posits that relationships shape the communication vital to successful coordination among colleagues in the workplace.[23] The framework focuses on the shared goals, shared knowledge, and mutual respect inherent in relationships, as well as the frequency, timeliness, accuracy, and problem-solving nature of communication.[24] Researchers frequently utilize RC by applying the framework's 7-item survey tool and have applied the framework to qualitative and mixed method studies.[25–28] However, its use in qualitative research is yet more novel, as is its application to BHI. Indeed, it appears that investigators have yet to apply the framework to BHI research.

A published strategy was adopted to plot the emergent themes onto RC domains.[29] A table listing said domains, a definition of each, and answers to questions the authors asked themselves throughout the analytic process was constructed in order to enhance an understanding of emergent themes and of RC while maintaining fidelity to the framework's principles and domains (Supplemental Material: Table S1).

Quantitative methods

Healthcare professional perceptions of the degree to which behavioral health services were integrated into primary care at their CHC were measured using the 35-item Level of Integration Measure (LIM).[30] Self-reported readiness to address pediatric behavioral health concerns was measured using the 32-item Mental Health Practice Readiness Inventory (MHPRI).[31] Average scores for each measure as well as scores for each of six LIM subscales (Table 2) and five MHRPI subscales (Table 2) as an average of relevant responses following a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) were calculated.

Data analysis Data were analyzed using SAS® 9.4.[32] Marginal means and standard errors by time point for the LIM and MHPRI total scores were calculated. For each measure, generalized estimating equation (GEE) models to estimate the differences in reported scores over time were fit, and Tukey–Kramer post hoc comparisons applied to determine at which time points statistically significant changes in scores occurred. Generalized estimating equations are a form of regression model that allow for the analysis of correlated data, including longitudinal datasets.[33] The appropriate working correlation matrix was determined, with models selected with the lowest quasi-likelihood under the independence criterion as final models (e.g., unstructured for the LIM outcome model; autoregressive for the MHPRI model). Models were not stratified or adjusted by site due to lack of statistical power. If average scores changed significantly over time, additional GEE models were fit to determine whether each subscale score also differed over time.

As previously discussed, in total, 69 participants completed 109 surveys over the three time points. However, due to staff turnover precluding consistency in responses across time points, only 13 participants completed surveys at all three. Missingness was not associated with any observed variables. GEE model estimates are not affected by missing data in the outcome variable when data in the outcome are missing completely at random.[34]

Table 2
Level of Integration Measure (LIM) and Mental Health Practice Readiness Inventory (MHPRI)

Level of Integration Measure (LIM) subscales
(1) Clinic system integration
E.g. "The clinic has a sufficient number of behavioral health specialists (BHSs) on site."
(2) Beliefs and commitment
E.g. "The clinic is committed to integrated care."
(3) Integrated practices
E.g. "PCPs and BHSs do "warm hand-offs" according to patient needs."
(4) Interdisciplinary alliance/relationship
E.g. "The BHSs and PCPs respect each other."
(5) Training and consultation
E.g. "The BHSs and PCPs attend trainings together
(6) Leadership
E.g. "The clinic administrator(s) "go to bat" for integrated care."
Mental Health Practice Readiness Inventory (MHPRI) subscales
(1) Community resources
E.g. "Our primary care practice team has collaborative relationships with school-and community-based providers of key services."
(2) Health care financing
E.g. "Our primary care practice has coding and billing procedures to capture payment for primary care mental health-related services covered by major health plans."
(3) Support for children, adolescents, & families
E.g. "Our primary care staff has good "first contact" skills to help children and families feel welcome and respected."
(4) Clinical information systems/delivery system redesign
E.g. "Our primary care practice has a system for monitoring medication efficacy, adverse effects, adherence, and renewals."
(5) Decision support for clinician
E.g. "Our primary care clinicians use validated functional assessment scales to identify and evaluate children and adolescents with mental health problems and monitor their progress in care."

Results

The final sample comprising the third round of qualitative interviews included 10 medical team members, which represent PCPs; 9 BHCs; and 17 participants identifying as other staff members; this group includes MAs, CHWs, and administrative staff (Table 1). Each site contributed 11–13 participants (Table 1).

Qualitative findings

Five themes aligning with the RC framework (Fig. 1) were identified. Participant quotes are alluded to below and are cited directly (Table 3) .

Theme 1. Participating in a team with complementary, well-defined roles contributes to healthcare providers' professional fulfillment. Participants described BHI as involving the building of

care teams requiring differentiation of roles among members. Team members assuming distinct yet complementary roles reported feeling supported and respected. Participants often recognized the necessity for teamwork and acknowledged the contribution of each individual's unique job, such as when describing efforts to address an emergent behavioral crisis (22C, BHC, CHC 2) or when discussing how PCP and BHC roles were distinct and clear (14C, PCP, CHC 2).

Participants reported that differentiation of roles led to confidence in care delivery. For example, one participant delineated how role definitions facilitate transitions from one colleague to another (44C, other, CHC 1) in a manner that suggests a sharing of responsibility — and perhaps a mutual trust among colleagues — that enabled not only the building of successful care teams for BHI implementation but also the strengthening of care delivery.

Finally, participants reported that the confidence in care delivery inspired by functional care teams increased professional fulfillment. For example, one participant expressed satisfaction because BHI allowed the participant to play a larger role in patient care than would have been possible in the traditional care model (44C, other, CHC 1).

Theme 2. The CHW role is critical to comprehensive and sustainable delivery of care. Although participants valued all positions as specialized components of the BHI implementation team, they reported that the CHW role reflects a unique and necessary position for care delivery. Specifically, CHWs may be uniquely suited to help address some of the complex care needs anchored in social determinants of health (SDoH) facing many patients and their families and caregivers (74C, PCP, CHC 3).

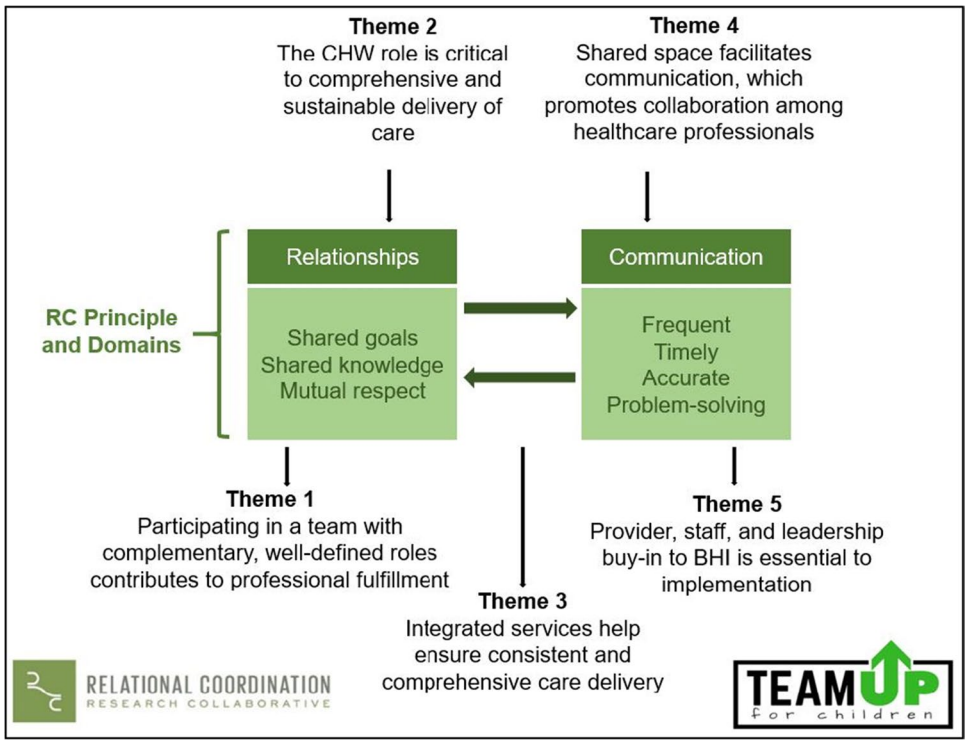

Figure 1

Themes and Relational Coordination (RC) principle and domains.[† †]Text labeled themes 1–5 represent emergent themes. Boxes labeled "Relationships" and "Communication" represent RC principles and domains

Table 3

Table of Themes

Theme	Quote	Participant
Theme 1: Participating in a team with complementary, well-defined roles contributes to healthcare providers' professional fulfillment	*a child gets real agitated and gets, you know, starts to get escalated. And it's literally opening the door and saying, "I need help here…" You know, and it's all hands on deck and people come in, and everyone does what they need to do. Everyone knows what their role is.*	22C, BHC, CHC 2
	they see me for medical concerns and then they have their people for therapy and then for like psych med initiation. I might help monitor the medication while they're taking the meds just, you know, for instance if they have ADHD and they're on Ritalin we will always double-check their weight just to make sure it's not suppressing the appetite so much that they're losing weight, you know? So, I think we definitely do support each other in that respect, and I think the boundaries of our roles in the kids' lives are also clear…it's like a good symbiotic relationship we have.	14C, PCP, CHC 2
	…integration… makes me feel like I'm actually doing my job. Like, as a medical assistant I have a job description and it's limited, like I can't do everything. But having that coworker who I can pass the baton to, like, "Now it's your turn, you run"…it is teamwork, like a team of care. You know, it makes my job feel very important because I know my job in this place, in this team is going to give this patient the best care possible.	44C, Other, CHC 1
	…we're having conversations now. And it makes my job fulfilling for me because this is what I wanted. I want to be more than just taking your vitals; I want to be part of, you know, your care plan.	44C, Other, CHC 1

Table 3
(continued)

Theme	Quote	Participant
Theme 2: The CHW role is critical to comprehensive and sustainable delivery of care	*…community health workers…play such an important part in helping a lot of our low-education, low-resource families in helping them with so many things – whether it be food pantries, furnishings for their home, you know…helping them figure out how they sign up for WIC, homelessness, how they sign up for kindergarten, preschool, everything…I'm just really afraid if we lose them I don't know what we'll do.*	74C, PCP, CHC 3
	There's really a big value in holistic care, to be able to have the CHWs. So, hopefully the culture in the city, which is pretty integrated-heavy, will band together and kind of make a pitch to MassHealth about, 'Hey listen, this is a service that really needs to be paid for, and can we bill?'.	20C, BHC, CHC 2
Theme 3: Integrated services help ensure consistent and comprehensive care delivery	*…the thing that's been super-inspiring lately has been helping with the process of…building up BRANCH because we've always valued child/parent psychotherapy…So, to have people come in who know that stuff through and through and to say, "Hey, I know that this is helpful for X population, but now that you're doing this integrated work can you help us form this new way of looking at this protocol basically?" And it's been really cool just to be part of that.*	45C, BHC, CHC 1
	…I think one of the hard things when in primary care, you develop relationships with people over the long term; but if you don't ask the question early on in the relationship it can be hard over time to kind of go back and revisit some things that might have happened that you didn't know about…our community health workers and our clinicians have discovered things that I might not have known.	82C, PCP, CHC 3

Table 3
(continued)

Theme	Quote	Participant
Theme 4: Shared space facilitates communication, which promotes collaboration among healthcare professionals	*You know, swiveling your chair around and processing something or walking next door makes a huge difference.*	24C, PCP, CHC 2
	…the fact that we like physically moved [therapists] into the department's space was a big deal. That proximity has brought a lot of the collaboration much more quickly than it would have otherwise.	46C, PCP, CHC 1
Theme 5: Provider, staff, and leadership buy-in to BHI is essential to implementation	*…you have to get the right people, people who are really interested in doing this particular mission. This is really what they want to do; this is really where they want to be. But that's true in any of the jobs, you know, nursing or whatever. You have to have people who really want to be where they are and want to do what you're supposed to be doing here.…*	16C, Other, CHC 2
	I think sometimes the more we communicate the more we have, the overall health center has investment in it as well as each individual point of view, as well as the staff investment and interest in it.	85C, CHW, CHC 3
	It's so critical to have leadership backing so that when space gets tight you can say, 'Those social workers and community health workers should be right there, you know, should be right where the patients are,' 'cause the temptation is always going to be to move them out and put some dermatologist or someone there who's going to be making more money.	24C, PCP, CHC 2

However, some expressed concern about the sustainability of the CHW role. One participant noted, "What I'm worried about is the loss of the community health workers [after philanthropic funding ends]." Many other participants alluded to the necessity for a more sustainable funding mechanism for CHWs, noting that CHWs are "invaluable." Another participant stressed the value of CHWs, indicating that providers should be able to bill MassHealth — Massachusetts' Medicaid program, in which the majority of children receiving services at the CHCs participate — for CHW services (20C, BHC, CHC 2).

Theme 3. Integrated services help ensure consistent and comprehensive care delivery. Study participants defined the BHI model in part by its service integration, which they frequently described as supportive of effective and comprehensive patient care. The addition of behavioral services within primary care enables new opportunities for healthcare professionals to connect families to care. One participant reported that applying TEAM UP's early childhood mental health intervention resulted in a strengthening of patient-provider connections (45C, BHC, CHC 1). Another participant reported that inclusion of health professional collaborators in a well-child visit led to stronger professional connections with PCPs. Another PCP praised BHCs' and CHWs' ability to intervene on patient and familial behavioral health issues at critical time points, and still another reported that inclusion of BHCs and CHWs improved assessment by illuminating otherwise obscured behavioral health conditions (82C, PCP, CHC 3).

Theme 4. Shared space facilitates communication, which promotes collaboration among healthcare professionals. Participants stated that physical proximity between healthcare professionals supported BHI by enabling communication, which in turn facilitates collaboration (24C, PCP, CHC 2). Participants also reported that shared space expedited frequency of communication leading to collaboration (46C, PCP, CHC 1).

Theme 5. Provider, staff, and leadership buy-in to BHI is essential to implementation. Less tangible factors than shared physical space also contributed to BHI success. Participants described a dynamic process of buy-in over time. First, participants reported that individual provider and staff characteristics fostered initial buy-in among BHI stakeholders (16C, other, CHC 2). Second, they reported that communication about the benefits of the BHI model often lead to further buy-in over time. For example, one participant delineated this relationship between communication among providers and staff and buy-in once implementation begins (85C, CHW, CHC 3).

In addition, participants frequently alluded to the importance of buy-in not only among frontline workers but also among CHC leadership, for both BHI implementation and effective care delivery. One participant described the value of leadership being on board with BHI, even at the expense of more lucrative forms of care delivery (24C, PCP, CHC 2).

Quantitative findings

Table 1 outlines participant characteristics by role type and community health center at baseline, 18 months, and 36 months into the initiative. Over the three-and-a-half-year time period, survey participants reported an increase in the degree of BHI in their clinic's primary care practice ($Z = 4.02$ [2], $p = 0.0002$) (Table 4) . Among the six subscales, three drove this significant increase in average score over time: Clinic System Integration ($Z = 4.91$ [2], $p \leq 0.0001$); Integrated Practices ($Z = 3.12$ [2], $p = 0.0051$); and Training and Consultation ($Z = 3.97$ [2], $p = 0.0002$) (Table 4). Participants also reported increased readiness to address children's behavioral health needs ($Z = 3.59$ [2], $p = 0.0010$) (Table 4). All five subscales drove the significant change: Community Resources ($Z = 2.64$ [2], $p = 0.0228$); Healthcare Financing ($Z = 2.42$ [2], $p = 0.0412$); Support for Children and Families ($Z = 2.89$ [2], $p = 0.0109$); Clinical Information Systems ($Z = 2.78$ [2], $p = 0.0150$); and Decision Support for Clinicians ($Z = 3.83$ [2], $p = 0.0004$) (Table 4).

Table 4

Change in LIM and MHPRI scores over time ($n=109$)

	Baseline ($n=34$) Marginal mean (SE)	18 Months ($n=38$) Marginal mean (SE)	36 Months ($n=37$) Marginal mean (SE)	Difference in means (baseline to 36 months)	*p*-value
LIM average	3.9 (0.1)	4.2 (0.1)	4.3 (0.1)	0.4	**0.0002**
LIM systems integration subscale	3.7 (0.1)	4.0 (0.1)	4.2 (0.1)	0.5	**< .0001**
LIM beliefs & commitment subscale	4.6 (0.1)	4.5 (0.1)	4.7 (0.1)	0.1	0.9164
LIM integrated practices subscale	4.1 (0.1)	4.4 (0.1)	4.5 (0.1)	0.4	**0.0051**
LIM relationship subscale	4.3 (0.1)	4.6 (0.1)	4.6 (0.1)	0.3	0.0937
LIM training subscale	3.3 (0.1)	3.8 (0.1)	3.9 (0.1)	0.6	**0.0002**
LIM leadership subscale	4.2 (0.1)	4.3 (0.1)	4.1 (0.1)	−0.1	0.8492
MHPRI average	3.7 (0.1)	4.0 (0.1)	4.1 (0.1)	0.4	**0.0010**
MHPRI community resources subscale	3.7 (0.1)	3.8 (0.1)	4.1 (0.1)	0.4	**0.0228**
MHPRI health care financing subscale	3.4 (0.1)	3.5 (0.1)	3.7 (0.1)[c]	0.3	**0.0412**
MHPRI support for children & families subscale	3.9 (0.1)	4.2 (0.1)	4.3 (0.1)	0.4	**0.0109**
MHPRI clinical information systems subscale[a]	3.5 (0.1)	3.8 (0.1)	3.8 (0.1)	0.3	**0.0150**
MHPRI decision support for clinicians subscale[b]	3.8 (0.1)	4.2 (0.1)	4.3 (0.1)	0.5	**0.0004**

Bold = statistically significant result where *p*-value < 0.05

[a]Full name is "Clinical Information Systems/Delivery System Redesign."

[b]Due to missing data, $n=32$ for all baseline MHPRI subscale scores, with the exception of decision support for clinicians, where $n=31$

Due to missing data, $n=36$

Discussion

The five themes identified in this study illustrate the importance of team-based care in BHI implementation, as well as factors that TEAM UP participants perceive as important to its successful execution. Participants reported that effective teams benefit from a supportive context, such as shared space to foster communication and collaboration, and that team members embody complementary and clearly delineated skills and roles. In terms of the impact of BHI on pediatric healthcare delivery, participants reported that team members must also "buy in" and derive professional satisfaction from their roles to ensure sustainability and effectiveness of care delivery. Indeed, participants reported that integrated care — with improved access to behavioral health services and a multidisciplinary team housed in a primary care setting — helps ensure consistent and comprehensive care delivery. Quantitative results underscore these themes and suggest that readiness for BHI increased over the course of implementation; specifically, survey findings suggest improvements in perceptions of the degree to which CHC providers and staff implemented BHI over time, as well as in readiness to address behavioral health needs from resources and financing to clinical decision support and information systems. Perhaps most importantly, results indicate perceptions of improvements in direct support for children and their families at the CHCs.

These findings extend the authors' previous understanding of TEAM UP healthcare professionals' perceptions of BHI. For instance, a prior publication based on the TEAM UP baseline interviews found that placing CHWs on care teams enabled them to address patients' unmet basic resource needs while allowing providers to focus on addressing patients' clinical needs.[7] Present results further emphasize that the CHW role is critical to comprehensive and sustainable delivery of care (theme 2), especially with regard to SDoH. On a different note, an analysis of TEAM UP's 18-month interviews found that participants valued co-location with close physical proximity.[2] The present study extends this result by identifying communication as a factor connecting the concept of shared space to team collaboration. In this way, this study reflects novel participant views on a mature, fully implemented pediatric BHI model at three FQHCs.

Present findings also address important questions in the literature. Across the US, staffing shortages, lack of diversity of many types, high turnover, and general low effectiveness in care delivery burden the mental health workforce.[35] Evidence suggests that CHW involvement in the primary care of marginalized patients can improve access to care via educational and navigation interventions.[36,37] This has led some experts to promote the transition from the current model of mental healthcare to one based on highly trained mental health professionals supported by CHWs, who have become increasingly recognized as valued members of care teams.[35] Adopting a somewhat different approach, TEAM UP CHWs work collaboratively with other pediatric staff not only as educators and navigators — roles that are common to most CHW models — but also as cultural brokers, catering to the needs of the CHCs' diverse populations. To this end, TEAM UP CHWs received unique training on mental health and therapeutic interventions, including motivational interviewing, early childhood dyadic relationships, problem-solving therapy, and psychoeducation. In this light, current findings emphasizing perceptions that the CHW role makes a unique and necessary contribution to care delivery — especially for addressing complex care needs anchored in social determinants of health — demonstrate the acceptability of the TEAM UP model to pediatric healthcare professionals. However, in spite of the perceived value of CHWs, only temporary funding mechanisms support TEAM UP CHWs, as is the case with many CHWs in the mental health context.[35]

Additional themes that emerged from the interviews also contribute to the literature on factors addressing burdens facing the behavioral health workforce. Study participants described the relevance of participating in complementary and well-defined integrated teams in achieving professional fulfillment and effective patient care delivery due to the effects of professional satisfaction on patient care. Satisfaction helped improve professional fulfillment — a key factor to balance burnout outlined in the Maslach Burnout Inventory.[38] Teamwork not only contributed to participants' professional

fulfillment, but to the prevention of burnout — which participants implied stemmed not only from feeling overworked but also from feeling unfulfilled. Moreover, Batalden and colleagues suggest that an understanding of the "coproductive partnership" between patients and healthcare professionals as well as among healthcare professionals is imperative to delineate the roles of both.[6] Consistent with this theme, research on the RC framework finds that strong relationships and communication among professionals in particular is associated with quality of care delivery. This research speaks to the idea that themes from the present study reflect core principles of the RC framework, offering a unique way to consider BHI in the context of effective, multidisciplinary, team-based care.

Similarly, TEAM UP study findings suggest that a team-based approach is fundamental to achieving successful integration and care delivery. Consistent with the RC framework, results suggest that team participation requires shared goals and knowledge as well as mutual respect. These characteristics contribute to effective implementation and eventual care delivery due to the effects of professional satisfaction on patient care.[39] As such, study participants implied that RC's core principles — relationships and communication — are key factors in delivering strong patient care as well as in professional well-being. The literature supports the importance of RC in other healthcare settings;[23] these results suggest that RC is also important for BHI.

Quantitative results support the qualitative data. As reflected by the LIM, findings point to improvements in perceptions of the degree to which CHC providers and staff implemented BHI over time, as indicated by changes in responses related to integration of both systems and practices as well as by training and consultation relevant to integration. MHPRI results suggest improvements in readiness to address behavioral health needs from resources to clinical decision support and information systems and, perhaps most important, direct support for children and their families.

Limitations

The findings from this study should be considered in light of several limitations. TEAM UP was implemented within CHC settings; therefore, findings may not be transferrable to other pediatric or adult primary care settings. In addition, the study sample was heterogeneous in at least three ways. First, TEAM UP CHCs operated differently from one another in terms of the degree and type of integration of behavioral health services. Second, due to churn in each CHC's workforce over time, the study sample completing interviews and surveys at each time point did not perfectly coincide. Finally, because PCPs, BHCs, and CHWs embody distinct roles in BHI implementation, their perspectives on implementation, outcomes, and impact may differ. While the interview guides were not designed to discern differences in these perspectives across providers or sites and are thus unable to illuminate these specific differences in the data, the inclusion of multiple stakeholder perspectives is believed to add an element of rigor to the qualitative study. In spite of these limitations, the study's major strength — its potential to contribute to the larger body of literature on considerations for CHCs as they implement or scale up pediatric BHI — is believed to outweigh these limitations.

Conclusion

This research highlights that relationships and communication play foundational roles in the organizational culture of pediatric BHI. Themes demonstrate the impact of team-based care on healthcare delivery: implications of team science on healthcare quality include an ability to tackle the SDoH that the healthcare system may otherwise be unable to target. Additionally, team-based science may reduce burnout — a piece of the "Improved Clinician Experience" component of the AHRQ Quadruple Aim intended to optimize the performance of health systems.[40] The pediatric behavioral healthcare literature warrants additional research supporting a comprehensive understanding of pediatric BHI implementation from the patient perspective.

Implications for Behavioral Health

Implications for research

This study may lay the foundation for additional reports from children's primary caregivers about how timely delivery and quality of support and resources can be improved by family- and caregiver-based approaches to care.[41]

Implications for practice

Perspectives of healthcare professionals at three FQHCs reflect important efforts in healthcare delivery. They may inform successful execution of pediatric behavioral health integration at other intervention sites, in addition to other pediatric primary care facilities in the US, and possibly beyond.

Implications for policy

Understanding the value of pediatric BHI via future costing studies examining the value of pediatric BHI could inform US policy. A robust literature on cost-effectiveness and/or cost–benefit analyses on pediatric BHI in the CHC setting is warranted.

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Declarations

Conflict of Interest The authors declare no competing interests.

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