Supplemental Information

To begin documenting TEAM UP's clinical and implementation models, 2 members of the implementation team independently completed both ERIC and TIDiER checklists for each of the 3 participating Federally Qualified Health Centers. Responses were reconciled by a member of the evaluation team, and discrepancies were resolved by consensus.

SUPPLEMENTAL TABLE 3 Template for Intervention Description and Replication (TIDiER)

	TIDieR Criteria	TEAM UP Model
Why	Describe any rationale, theory, or goal of the elements essential to the intervention.	The TEAM UP clinical model is intended to improve the overall behavioral health and healthy development of children and families. To do so, TEAM UP is designed to build the capacity to address behavioral health issues in primary care pediatrics via a collaborative, integrated model of care.
What	Procedures: Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities.	TEAM UP utilizes a stepped care model based on the NAM Prevention Framework. Common elements included use of a standardized set of screening questionnaires (including a social needs screener), inclusion of integrated BH clinicians and CHWs, development of population health management strategies, and development of augmented supports for families with young children. Patients who are identified with a behavioral health concern are introduced to the integrated team through a real-time warm hand off to the BH clinician or CHW. BH clinicians deliver therapeutic interventions that are tailored to the primary care setting, and they monitor symptoms in patients 6 to 18 y old through sequential assessment and reassessment with the PSC. CHWs provide support to address material needs as well as navigation to community-based resources and institutions. Specific to early childhood, each FQHC developed a mechanism to track and close the loop on EI referrals and identify high-risk families during the prenatal period and support them through the transition to the postpartum period. This work was accomplished by an EC-focused BH clinician and CHW. The intervention also included a clinical training curriculum for the whole care team, including focused trainings for PCPs, BH clinicians, and CHWs. Additionally, role-specific training was provided for BH clinicians (transdiagnostic approaches to engagement, assessment, and treatment, Child Parent Psychotherapy) and CHWs (Motivational Interviewing, Problem Solving, Outreach and Education training for CHWs, Child Parent Psychotherapy Foundations). Informed by Child Parent Psychotherapy, an early childhood intervention that could be delivered in primary care was developed (Building Resilience and Nurturing Children) and was specifically created as a model of integrated BH care appropriate for young children.
What	Materials: Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers. Provide information on	Materials were provided to support the implementation of these common activities (job descriptions, coding and billing resources, role development memos, data gathered for evaluation, data reports, data analysis for CQI, CQI tools, etc).

SUPPLEMENTAL TABLE 3 Continued

	TIDieR Criteria	TEAM UP Model
	where the materials can be accessed (eg online appendix, URL).	
Who Provided	For each category of intervention provider (eg, psychologist, nursing assistant), describe their expertise, background and any specific training provided.	Sites adopted a similar staffing model for delivery of clinical care, with some site-specific differences in role and responsibilities:PCP – responsible for providing screening, assessing for BH issues, referring to BH team. Some PCPs also took the lead in medication management, but not universal across all FQHCs.BHC – provide ready access to brief therapeutic interventions in the integrated setting, before referring to internal and external BH services. Some BHCs continued to see patients for long-term therapy, but not universal across all FQHCs.CHW – Provide basic needs, health education, and navigation support to families. CHWs also served as point person for closed loop tracking of Early Intervention referrals and to support pregnant women in OB and new moms in pediatrics through the perinatal transition. While all FQHCs provided all of these services through CHWs, the specific responsibilities of each CHW varied across FQHCs.BH clinicians and CHWs together addressed the BH and social needs of all patients and families. Some worked as a dyad to provide therapy and support families together; others worked more independently.
How	Describe the modes of delivery (eg, face-to-face or by some other mechanism, such as internet or telephone) of the intervention and whether it was provided individually or in a group.	Clinical activities were provided individually face-to-face or by telephone (mostly in the case of CHWs addressing material needs and facilitating referrals).
Where	Describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features.	The vast majority of the intervention occurred on site. Specifically, the intervention occurred in the pediatrics departments, where BH clinicians and CHWs were directly integrated. The initiative capitalized on the standard infrastructure found in FQHCs including access to physical space, an EMR, an organizational structure with senior leadership tasked to champion the intervention, a community-based board of directors, and operational supports such as Human Resources.
When and How Much	Describe the number of times the intervention was delivered and over what period of time including the number of sessions, their schedule, and their duration, intensity or dose.	Number and schedule of sessions, duration and dose were determined on a case-by-case basis at each FQHC and were also a subject of CQI reports.
Tailoring	If the intervention was planned to be personalised, titrated or adapted, then describe what, why, when, and how.	The clinical model was specifically designed to be adaptable to family needs, including the developmental and behavioral needs of the child, the mental health needs of the caregiver, and the material needs of the family. Training in common elements was provided to staff who then engaged in shared decision making with families to determine the need for and course of intervention.
Modifications	If the intervention was modified during the course of the study, describe the changes (what, why, when, and how).	In the area of focused early childhood (EC) programming, FQHCs could chose to receive additional funds to take on additional programming. With these funds, all 3 FQHCs adopted closed-loop tracking of Early Intervention referrals, provided additional support for high-risk families through the prenatal-postpartum transition, and supported strength-based parenting strategies. In years 2 and 3, 2 of the 3 FQHCs chose to receive additional EC-focused funds

SUPPLEMENTAL TABLE 3 Continued

	TIDieR Criteria	TEAM UP Model
		and committed to participation in a Child Parent Psychotherapy (CPP) Learning Collaborative and in the development and piloting of BRANCH, an EC-focused therapeutic intervention designed for delivery within primary care. The third FQHC participated on a voluntary basis and also implemented additional innovative activities that were not implemented at the other 2 FQHCs.
How Well	Planned: If intervention adherence or fidelity was assessed, describe how and by whom, and if any strategies were used to maintain or improve fidelity, describe them.Actual: If intervention adherence or fidelity was assessed, describe the extent to which the intervention was delivered as planned	Progress implementing the agreed-upon common clinical interventions/activities was tracked by the BMC implementation team. This was accomplished through monthly meetings with the project team, a quarterly narrative and dashboard, and annual reporting to the funding Foundation. When diversion from the agreed-to intervention was detected, follow-up discussions with the FQHC were undertaken, in partnership with the funding Foundation, to understand the rationale and impact analysis for the diversion. Depending on the rationale and impact analysis, a decision was made to either accept the diversion or ask the FQHC to set out a plan to accomplish the original common intervention or activity.

SUPPLEMENTAL TABLE 4 Template for Expert Recommendations for Implementing Change (ERIC)

ERIC Criteria		
Strategy	Definitions	TEAM UP Model
1. Access new funding	Access new or existing money to facilitate the implementation	Yes, all FQHCs applied for and received direct funding from the Richard and Susan Smith Family Foundation
2. Alter incentive or allowance structures	Work to incentivize the adoption and implementation of the clinical innovation	No
3. Alter patient or consumer fees	Create fee structures where patients or consumers pay less for preferred treatments (the clinical innovation) and more for less-preferred treatments	No
4. Assess for readiness and identify barriers and facilitators	Assess various aspects of an organization to determine its degree of readiness to implement, barriers that may impede implementation, and strengths that can be used in the implementation effort	Yes, all FQHCs: (1) completed a readiness assessment; and (2) participated in the evaluation team's baseline survey and qualitative interviews asking about barriers and facilitators to pediatric BH integration. In addition, 1 FQHC initiated work on an integrated BH model before implementation.
5. Audit and provide feedback	Collect and summarize clinical performance data over a specified time period and give it to clinicians and administrators to monitor, evaluate, and modify provider behavior	No formal audit and feedback processes were included. However, all sites used data as part of a CQI process.
6. Build a coalition	Recruit and cultivate relationships with partners in the implementation effort	Yes, all FQHCs developed relationships with community organizations, including early learning centers, Head Start, payor partners, food assistance, Early Intervention providers, public school systems, and local task forces.
7. Capture and share local knowledge	Capture local knowledge from implementation sites on how implementers and clinicians made something work in their setting and then share it with other sites	Yes, monthly steering committee meetings, biannual community dinners, and annual conferences were designed as forums to share learning across TEAM UP sites
8. Centralize technical assistance	Develop and use a centralized system to deliver technical assistance focused on implementation issues	Yes, technical assistance in behavioral health, CQI, and practice transformation was centralized at Boston Medical Center. Technical assistance was provided by a multidisciplinary team with expertise in primary care pediatrics, psychiatry, behavioral health care, health care financing, clinical informatics, and statistical analysis.
9. Change accreditation or membership requirements	Strive to alter accreditation standards so that they require or encourage use of the clinical innovation. Work to alter membership organization requirements so that those who want to affiliate with the organization are encouraged or required to use the clinical innovation	No
10. Change liability laws	Participate in liability reform efforts that make clinicians more willing to deliver the clinical innovation	No
11. Change physical structure and equipment	Evaluate current configurations and adapt, as needed, the physical structure and/or equipment (eg, changing the	Yes, all 3 FQHCs adapted their use of physical space to incorporate additional integrated care team members.

SUPPLEMENTAL TABLE 4 Continued

ERIC Criteria		
Strategy	Definitions	TEAM UP Model
	layout of a room, adding equipment) to best accommodate the targeted innovation	This process included considerations of the value of physical proximity to integrated teams.
12. Change record systems	Change records systems to allow better assessment of implementation or clinical outcomes	Yes, all 3 FQHCs implemented documentation templates to support screening, BH workflow, and CQI. For example, all sites implemented a BH Plan to document PCP's treatment plans when BH issues arose.
13. Change service sites	Change the location of clinical service sites to increase access	No
14. Conduct cyclical small tests of change	Implement changes in a cyclical fashion using small tests of change before taking changes system-wide. Tests of change benefit from systematic measurement, and results of the tests of change are studied for insights on how to do better. This process continues serially over time, and refinement is added with each cycle	No, sites did not use formal PDSA cycles. However, but they did use other CQI structures (eg, Model for Improvement, process mapping, FMEA and statistical process control), and their ongoing use of data to support decision making was informed by CQI principles.
15. Conduct educational meetings	Hold meetings targeted toward different stakeholder groups (eg, providers, administrators, other organizational stakeholders, and community, patient or consumer, and family stakeholders) to teach them about the clinical innovation	Yes, meetings targeted different stakeholder groups. For example, steering committee meetings targeted FQHC leaders. Evaluation team meetings targeted data analysts and IT support at FQHCs. Early childhood meetings targeted project teams and BH providers and CHWs who serve children under 5 y of age.
16. Conduct educational outreach visits	Have a trained person meet with providers in their practice settings to educate providers about the clinical innovation with the intent of changing the provider's practice	Yes, all FQHCs participated in a Learning Community that was tailored to PCPs, BH clinicians, and CHWs, both as separate groups and together as a care team. Educational outreach opportunities were tailored to each FQHC and were delivered on site or by webinar. Members of the clinical training team visited each FQHC regularly, and 1 site was visited weekly by a psychiatrist to support practice change. All FQHCs also had access to clinical consultation from a psychiatrist.
17. Conduct local consensus discussions	Include local providers and other stakeholders in discussions that address whether the chosen problem is important and whether the clinical innovation to address it is appropriate	Yes, TEAM UP leadership involved local leaders in its annual conference. In addition, a focus group was convened to guide development of clinical programming for Early Childhood, and 1 FQHC held a community dinner to solicit input from families to promote discussion about TEAM UP priorities.
18. Conduct local needs assessment	Collect and analyze data related to the need for the innovation	Yes, FQHCs submitted information on local needs when applying for funding.
19. Conduct ongoing training	Plan for and conduct training in the clinical innovation in an ongoing way	Yes, PCPs, BH clinicians and CHWs did participated in ongoing clinical training. In addition, all FQHCs trained and retrained on topics tailored to their site, including specific workflows relevant to TEAM UP, EMR documentation, and specific clinical trainings. (NOTE: standardize list of trainings with Q16)

SUPPLEMENTAL TABLE 4 Continued

ERIC Criteria		
Strategy	Definitions	TEAM UP Model
20. Create a learning collaborative	Facilitate the formation of groups of providers or provider organizations and foster a collaborative learning environment to improve implementation of the clinical innovation	Yes, all sites participated in the TEAM UP Learning Community.
21. Create new clinical teams	Change who serves on the clinical team, adding different disciplines and different skills to make it more likely that the clinical innovation is delivered (or is more successfully delivered)	Yes, all FQHCs created new integrated clinical teams composed of BH clinicians and CHWs and tailored those teams to their site. For example, 1 site added BH-CHW dyads to their primary care team as well as a pediatric care coordinator to focus on early childhood, a second added an additional CHW who specialized in early childhood, and a third differentiated tasks for its integrated BHCs and CHWs.
22. Create or change credentialing and/or licensure standards	Create an organization that certifies clinicians in the innovation or encourage an existing organization to do so. Change governmental professional certification or licensure requirements to include delivering the innovation. Work to alter continuing education requirements to shape professional practice toward the innovation	No
23. Develop a formal implementation blueprint	Develop a formal implementation blueprint that includes all goals and strategies. The blueprint should include the following: (1) aim or purpose of the implementation; (2) scope of the change (eg, what organizational units are affected); (3) timeframe and milestones; and (4) appropriate performance or progress measures. Use and update this plan to guide the implementation effort over time	No
24. Develop academic partnerships	Partner with a university or academic unit for the purposes of shared training and bringing research skills to an implementation project	Yes, FQHCs partnered with Boston Medical Center as part of the TEAM UP initiative. The BMC team included faculty and staff from Boston Medical Center's department of pediatrics and from the Boston University School of Public Health.
25. Develop an implementation glossary	Develop and distribute a list of terms describing the innovation, implementation, and stakeholders in the organizational change	No
26. Develop and implement tools for quality monitoring	Develop, test, and introduce into quality-monitoring systems the right input, the appropriate language, protocols, algorithms, standards, and measures (of processes, patient or consumer outcomes, and implementation outcomes) that are often specific to the innovation being implemented	Yes, all FQHCs worked with academic partners to codevelop metrics for monthly CQI reports.
27. Develop and organize quality monitoring systems	Develop and organize systems and procedures that monitor clinical processes and/or outcomes for the purpose of quality assurance and improvement	Yes, FQHCs developed methods to report EMR data. In turn, academic partners generated statistical code to produce CQI reports on a monthly basis.

SUPPLEMENTAL TABLE 4 Continued

ERIC Criteria		
Strategy	Definitions	TEAM UP Model
28. Develop disincentives	Provide financial disincentives for failure to implement or use the clinical innovations	No
29. Develop educational materials	Develop and format manuals, toolkits, and other supporting materials in ways that make it easier for stakeholders to learn about the innovation and for clinicians to learn how to deliver the clinical innovation	Materials were provided to support the implementation of common activities, including coding and billing resources, job descriptions or role development memos, CQI data reports, clinical training manuals, etc.
30. Develop resource sharing agreements	Develop partnerships with organizations that have resources needed to implement the innovation	Yes, FQHCs developed partnerships with community organizations like public schools and early intervention providers.
31. Distribute educational materials	Distribute educational materials (including guidelines, manuals, and toolkits) in person, by mail, and/or electronically	Yes, FQHCs used resources like Boston Basics to support healthy parenting strategies and the NICHQ ADHD Toolkit to support development of an ADHD clinical pathway.
32. Facilitate relay of clinical data to providers	Provide as close to real-time data as possible about key measures of process or outcomes using integrated modes or channels of communication in a way that promotes use of the targeted innovation	Yes, FQHCs systematically shared data from reports with clinicians to promote implementation
33. Facilitation	A process of interactive problem solving and support that occurs in a context of a recognized need for improvement and a supportive interpersonal relationship	No
34. Fund and contract for the clinical innovation	Governments and other payers of services issue requests for proposals to deliver the innovation, use contracting processes to motivate providers to deliver the clinical innovation, and develop new funding formulas that make it more likely that providers will deliver the innovation	No
35. Identify and prepare champions	Identify and prepare individuals who dedicate themselves to supporting, marketing, and driving through an implementation, overcoming indifference or resistance that the intervention may provoke in an organization	Yes, each FQHC identified a leadership team with a project manager and clinical champions at the onset of the initiative
36. Identify early adopters	Identify early adopters at the local site to learn from their experiences with the practice innovation	Yes, clinical champions acted as early adopters and additional early adopters emerged at each FQHC through implementation. For example, at 1 site, early childhood screening was piloted by 1 provider before full implementation.
37. Increase demand	Attempt to influence the market for the clinical innovation to increase competition intensity and to increase the maturity of the market for the clinical innovation	No
38. Inform local opinion leaders	Inform providers identified by colleagues as opinion leaders or “educationally influential” about the clinical innovation in the hopes that they will influence colleagues to adopt it	No formal plan, but anecdotal evidence suggests that internal influencers facilitated adoption of the intervention.
39. Intervene with patients or consumers to enhance uptake and adherence	Develop strategies with patients to encourage and problem solve around adherence	No

SUPPLEMENTAL TABLE 4 Continued

ERIC Criteria		
Strategy	Definitions	TEAM UP Model
40. Involve executive boards	Involve existing governing structures (eg, boards of directors, medical staff boards of governance) in the implementation effort, including the review of data on implementation processes	No formal plan, but anecdotal evidence suggests that leadership teams at FQHCs maintained ongoing communication with senior leadership about progress of the initiative.
41. Involve patients or consumers and family members	Engage or include patients/consumers and families in the implementation effort	Yes, processes to engage patients were tailored to each FQHC. For example, one hosted a community dinner to engage families, a second used a parent group as a forum to solicit feedback, and a third surveyed parents in the waiting room to assess perceptions regarding screening.
42. Make billing easier	Make it easier to bill for the clinical innovation	Yes, all FQHCs participated in revenue optimization activities to monitor and improve BH billing practices. In addition, one FQHC audited coding of BH care and developed a billing report to monitor productivity, and a second FQHC developed a productivity model and tracked claim denials.
43. Make training dynamic	Vary the information delivery methods to cater to different learning styles and work contexts, and shape the training in the innovation to be interactive	Yes, TEAM UP clinical trainings did not rely on didactic instruction but instead used a dynamic format based on principles of adult learning
44. Mandate change	Have leadership declare the priority of the innovation and their determination to have it implemented	Clinical champions at all 3 FQHCs included pediatric department leadership, and periodic updates on progress were provided at department meetings.
45. Model and simulate change	Model or simulate the change that will be implemented before implementation	No
46. Obtain and use patients or consumers and family feedback	Develop strategies to increase patient or consumer and family feedback on the implementation effort	Yes, processes to engage patients were tailored to each FQHC. For example, 1 hosted a community dinner to engage families, a second used a parent group as a forum to solicit feedback, and a third surveyed parents in the waiting room to assess perceptions regarding screening.
47. Obtain formal commitments	Obtain written commitments from key partners that state what they will do to implement the innovation	FQHC senior leaders and governing boards submitted letters of support as part of their application to enter the initiative.
48. Organize clinician implementation team meetings	Develop and support teams of clinicians who are implementing the innovation and give them protected time to reflect on the implementation effort, share lessons learned, and support one another's learning	Yes, all FQHCs participated in events within the Learning Community to reflect on implementation efforts, share lessons learned, and support on another's learning.
49. Place innovation on fee for service lists or formularies	Work to place the clinical innovation on lists of actions for which providers can be reimbursed (eg, a drug is placed on a formulary, a procedure is now reimbursable)	No
50. Prepare patients or consumers to be active participants	Prepare patients or consumers to be active in their care, to ask questions, and specifically to inquire about care	No

SUPPLEMENTAL TABLE 4 Continued

ERIC Criteria		
Strategy	Definitions	TEAM UP Model
	guidelines, the evidence behind clinical decisions, or about available evidence-supported treatments	
51. Promote adaptability	Identify the ways a clinical innovation can be tailored to meet local needs and clarify which elements of the innovation must be maintained to preserve fidelity	Yes, adaptability was promoted through regular steering committee meetings of FQHC leaders. These meetings offered an informed approach to decision-making regarding FQHC-specific plans for training, workflow, technical assistance, and community engagement, as described above.
52. Promote network weaving	Identify and build on existing high-quality working relationships and networks within and outside the organization, organizational units, teams, etc to promote information sharing, collaborative problem-solving, and a shared vision or goal related to implementing the innovation	Yes, TEAM UP facilitated networking through the learning community as well as regular meetings that involved members across the FQHC or academic partnership.
53. Provide clinical supervision	Provide clinicians with ongoing supervision focusing on the innovation. Provide training for clinical supervisors who will supervise clinicians who provide the innovation	Yes, all FQHCs developed mechanisms to provide group and individual clinical supervision to both BH providers and CHWs.
54. Provide local technical assistance	Develop and use a system to deliver technical assistance focused on implementation issues using local personnel	No
55. Provide ongoing consultation	Provide ongoing consultation with 1 or more experts in the strategies used to support implementing the innovation	Yes, FQHCs relied on TEAM UP experts in behavioral health, CQI, and practice transformation to support implementation.
56. Purposely reexamine the implementation	Monitor progress and adjust clinical practices and implementation strategies to continuously improve the quality of care	Yes, FQHCs participated in on-going impact analysis through steering committee meetings. All FQHCs also completed impact analysis as part of annual reporting on early childhood activities.
57. Recruit, designate, and train for leadership	Recruit, designate, and train leaders for the change effort	Yes, FQHCs recruited and promoted leaders to support the change effort.
58. Remind clinicians	Develop reminder systems designed to help clinicians to recall information and/or prompt them to use the clinical innovation	No
59. Revise professional roles	Shift and revise roles among professionals who provide care, and redesign job characteristics	Yes, codeveloping and finalizing job characteristics of new care team members (BHCs and CHWs) was an important element of TEAM UP.
60. Shadow other experts	Provide ways for key individuals to directly observe experienced people engage with or use the targeted practice change or innovation	No
61. Stage implementation scale up	Phase implementation efforts by starting with small pilots or demonstration projects and gradually move to a system wide rollout	Yes, overall implementation included planning, initiation, and maintenance phases.
62. Start a dissemination organization	Identify or start a separate organization that is responsible for disseminating the clinical innovation. It could be a for-profit or nonprofit organization	No

SUPPLEMENTAL TABLE 4 Continued

ERIC Criteria		
Strategy	Definitions	TEAM UP Model
63. Tailor strategies	Tailor the implementation strategies to address barriers and leverage facilitators that were identified through earlier data collection	Yes, FQHCs used evidence to tailor strategies over time. For example, data on the proportion of positive screens that resulted in completed referrals led to the codevelopment of a PCP behavioral health plan, that is, an EMR template to capture PCP's treatment plan when a BH issue emerged. Other examples include tailoring the clinical training content to respond to data in a baseline staff survey that described the clinical team's knowledge and comfort with common BH issues.
64. Use advisory boards and workgroups	Create and engage a formal group of multiple kinds of stakeholders to provide input and advice on implementation efforts and to elicit recommendations for improvements	The funder maintained an external Scientific Advisory Board to provide input and recommendations on the initiative's progress over time.
65. Use an implementation advisor	Seek guidance from experts in implementation	Yes, TEAM UP relies on a expert advisory board comprised of national experts in behavioral health, policy, and implementation.
66. Use capitated payments	Pay providers or care systems a set amount per patient/consumer for delivering clinical care	No
67. Use data experts	Involve, hire, and/or consult experts to inform management on the use of data generated by implementation efforts	Yes, TEAM UP includes an independent evaluation team available for consultation to health centers; Internal IT capacity also exists to manage data generated for the initiative.
68. Use data warehousing techniques	Integrate clinical records across facilities and organizations to facilitate implementation across systems	Yes, while clinical records were not integrated across FQHCs, aggregate level data were pooled and compared across the implementation period
69. Use mass media	Use media to reach large numbers of people to spread the word about the clinical innovation	Yes, FQHCs participated in TEAM UP activities to promote spread of the clinical intervention, including the annual symposium, a video storytelling project, and Web site pieces.
70. Use other payment schemes	Introduce payment approaches (in a catch-all category)	No
71. Use train-the-trainer strategies	Train designated clinicians or organizations to train others in the clinical innovation	No
72. Visit other sites	Visit sites where a similar implementation effort has been considered successful	Yes, FQHCs were invited to visit other TEAM UP sites; also participated in site visits to other FQHCs with integrated care models.
73. Work with educational institutions	Encourage educational institutions to train clinicians in the innovation	No

BMC, Boston Medical Center; PDSA, Plan-Do-Study-Act.