Community Stakeholder's Perceptions of the Core Components of a Pediatric Weight Management Intervention

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Research article

Keywords: childhood obesity, pediatric weight management interventions, stakeholder engagement, implementation science

Posted Date: November 1st, 2019

DOI: <https://doi.org/10.21203/rs.2.16730/v1>

Abstract

Background: Multi-sector stakeholder engagement is essential in understanding what is needed for the implementation, dissemination and sustainability of pediatric weight management interventions (PWMI).

Methods: We sought to examine the perspectives of stakeholders during the pre-implementation period of a two-arm, PWMI randomized controlled trial (RCT) in federally qualified health centers and YMCAs. We conducted the interviews prior to the implementation of the RCT and reached thematic saturation. Interviews were transcribed and coded using the Consolidated Framework for Implementation Research (CFIR) approach as the intent of the trial was to observe implementation and efficacy outcomes. Our aims were (1) to understand the core components needed for a successful PWMI and (2) to identify determinants and barriers to implementation and future wide-scale dissemination. We conducted the interviews prior to the implementation of the RCT and reached thematic saturation after interviewing 26 stakeholders representing 13 groups. Interviews were transcribed and coded using the framework analysis approach.

Results and discussion: We identified themes that stakeholders perceived as core components of a PWMI: a formal curriculum with illustrative examples for patients (i.e. demonstrating how much sugar is in sugary beverages), a patient and family centered program, group visits, and inclusion of high-quality core personnel such as a community health worker, a physician, a behavior health clinician and a dietitian. Determinants of successful implementation and dissemination included partnerships among community and clinical organizations, sustained funding, supportive policies such as insurance reimbursement for community health workers and dietitians, and identifying and addressing needs of dissemination sites, and identifying and addressing patient barriers. These findings helped to identify the core components required for PWMI and how best to address key determinants affecting implementation and dissemination. Trial registration: ClinicalTrials.gov: NCT03012126; registration date: 12 December 2016, <https://clinicaltrials.gov/ct2/show/NCT03012126>

Contributions To The Literature

- Pediatric weight management interventions (PWMI) should engage stakeholders prior to the start of the interventions, however, many do not reach out to potential dissemination sites prior to the interventions completion.
- This clinical trial observed efficacy and implementation outcomes. This study interviewed 26 stakeholders to best understand the core components needed in a PWMI and to identify determinants of and barriers to implementation and future wide-scale dissemination.
- These findings may help others when designing, implementing and disseminating other PWMI in low-income settings.

Background

Childhood overweight and obesity prevalence remains at historically high levels particularly in low-income and Hispanic and Black communities (1–5). Many factors contribute to the intractability of childhood obesity but there are promising ways of reducing overweight and obesity including multi-sector, collaborative, family centered interventions that occur in settings where children and their families spend their time. Understanding the experiences and resources of stakeholders is crucial when trying to implement, disseminate and sustain these interventions.

Implementation science suggests that stakeholders be involved in the design of the intervention to ensure that the end goal of dissemination in under resourced settings is achievable (6). As other studies have noted, qualitative evaluation is a way to develop an understanding of what is needed for implementation, and also highlights the needs of the community to support sustainability and dissemination (7). Furthermore, the use of a theoretical framework in implementation can help identify factors that predict the likelihood of implementation success or failure and may highlight strategies to achieve a successful implementation (8). To guide this work, we chose The Consolidated Framework for Implementation Research (CFIR) based on its comprehensive menu of constructs that are associated with effective implementation (9). CFIR is derived from 19 theories about dissemination, innovation, organizational change, implementation, knowledge translation, and research uptake. This meta-theoretical framework consolidates a wide breadth of terminologies, definitions, and constructions into an implementation framework that comprises 39 constructs sorted under 5 domains: (1) intervention characteristics, (2) outer setting, (3) inner setting, (4) characteristics of individuals, and (5) process (9). In this study, CFIR helped us systematically assess the intervention, the setting, and determinants that influence the implementation and effectiveness of two pediatric weight management interventions (PWMI).

By interviewing stakeholders during the pre-implementation period, our study worked to contextualize individual perceptions into standardized implementation-related constructs that can be applied widely. Our aims were twofold: (1) to understand the core components needed for a successful PWMI and (2) to identify determinants of implementation and future wide-scale dissemination. Stakeholder engagement allowed us to continuously develop the intervention so that the current and future implementation is responsive to patient and provider preferences.

Methods

Participants and Setting

Over the first five months of the entire study period, our study team interviewed a range of community stakeholders from Massachusetts and national collaborators in the first phase of a planned prospective randomized clinical trial. Thereafter, for the entire twenty-four-month study period, we engaged the stakeholders in bimonthly cross-site calls and biannual advisory meetings. The Clinic and Community Approaches to Healthy Weight trial, which is described in detail elsewhere (10), is a randomized controlled trial in two communities in Massachusetts that serve a large population of low-income children and families with overweight or obesity. The two-arm trial compares the effects of Healthy Weight Clinics in

two federally qualified health centers (FQHC) vs. the Healthy Weight and Your Child program delivered in the two local YMCAs among children 6 to 12 years old with a body mass index (BMI) $\geq$ 85th percentile. In both communities, the participant population is predominantly Hispanic (93%), 69% of families made $\leq$ \$20,000 per year and 44 % of parents had less than a high school degree.

Our engagement plan consisted of 3 integrated parts (**Fig 1**), which functioned in an iterative manner to provide input to the team regarding the study design, patient-centered outcomes, intervention structure and content:

1. *Stakeholder engagement*: comprised of twenty-six stakeholders invited to participate in the interviews via email or through intermediary collaborators of the study via a snowball sample approach. All 26 invited stakeholders agreed to be interviewed (**Table 1**). To be eligible, stakeholders had to be affiliated with one of the intervention sites (local FQHC or YMCA). The six non-intervention health centers were chosen at random and varied in terms of the populations they served including differing racial/ethnic backgrounds, urban vs. rural populations and some were affiliated with large hospitals while others were free standing. We also interviewed stakeholders in the policy sector who were identified as critical players in future dissemination.
2. *Target population interviews*: We convened an advisory board of key clinical, public health, CHIP/Medicaid officials, patient, and parent advisors. We spoke to pediatricians, behavior health professionals, community health workers, health clinic program directors, dietitians and patient/parent advisers who had received care in a healthy weight clinic in the past.
3. *State and National Advisory*: We interviewed local YMCA program directors as well as representatives of the national Y-USA. Other stakeholders included members of the Massachusetts League of Community Health Centers (MassLeague) and a Medicaid representative.

We also engaged stakeholders to gather input on future dissemination of the Clinic and Community Approaches to Healthy Weight trial: six additional health centers in Massachusetts were chosen to be interviewed to understand the feasibility of PWMIs in their health center and interest in future implementation of the Healthy Weight Clinic or a collaboration with a Healthy Weight and Your Child program at their local YMCA. We interviewed six physicians at the six non-intervention health centers that could be potential future dissemination sites.

Interview Guide

Our interview guide asked questions related to core components and determinants of implementation and dissemination. With respect to core components, the interview guide addressed intervention characteristics as framed by the CFIR constructs relative advantage, adaptability, evidence strength and quality. This included questions around acceptability, feasibility, adoption and sustainability of past pediatric weight management strategies in their health centers and community; gaps and successes in past and current pediatric weight management efforts; preferred settings for pediatric weight management; the feasibility, acceptability and sustainability of our two proposed interventions. With

respect to determinants of implementation, the interview guide addressed outer setting characteristics as framed by the CFIR constructs patient needs and resources, and external policy and incentives. This included questions around major factors contributing to childhood obesity in their communities, and considerations for packaging a PWMI in a way that is appealing to payers (**Table 2**).

Interview Procedure

Four researchers (LF, CH, GO, KK) conducted the interviews by phone using a semi-structured interview guide. To ensure consistency and depth, two interviewers were present during all conducted interviews. Informed consent was obtained with all stakeholder interviewees and we obtained permission to have the interviews audio recorded. The interviews lasted approximately 30-45 minutes and stakeholders were given \$50 as compensation. The Massachusetts Department of Public Health's institutional review board reviewed and approved all procedures.

Data Analysis

Interviews were audio recorded and transcribed by a professional transcription company (Landmark Associates). We uploaded the transcribed interviews into NVivo QRS 10.0 (QRS International Pty Ltd, Doncaster, Victoria, Australia) for analysis. Two interviewers (CH and GO) read each transcript independently to create codes from the source material based on the interview guide. The double coded interviews were compared in a tabular representation of the data to assure concurrence between the two coders. All researchers discussed discrepancies and agreed upon a final coding table. All research team members convened in larger meetings to review the session content, coding, and emergence of themes. During the meetings the investigators discussed coding discrepancies, reached consensus and ensured consistency in the categorization of the data. Analysis continued until no new major themes emerged. We chose direct quotes from the transcribed interviews to illustrate the findings. Data analysis focused on the main interview topics, with a tailored focus for each interviewee's background.

Results

Interview Themes

The interviews revealed the core components of a successful PWMI and determinants of successful implementation and future wide-scale dissemination. The stakeholders identified the following core components: a strong curriculum with illustrative examples for patients, a patient and family centered program, group visits, and inclusion of high-quality core personnel such as a community health worker, a physician, a behavior health clinician and a dietitian. Determinants of successful implementation and dissemination included partnerships among community and clinical organizations, sustained funding, supportive policies, identifying and addressing both the needs of dissemination sites and patient barriers (**Table 3**). The core components and determinants of implementation identified were taken into consideration, and contributed to the design of a pediatric weight management intervention meant for dissemination.

Core Components

A strong curriculum with illustrative examples of healthy behavior change

Stakeholders cited the importance of a strong curriculum tailored to the participant population that included illustrative examples for behavior change. Most stakeholders particularly the patients that were interviewed highlighted the need for concrete examples and tips to help facilitate healthy behavior changes. These included demonstrations of how much sugar is in sodas or juices to teach the importance of avoiding sugar sweetened beverages (quote 1a) and swapping less nutritious snacks for fruit and vegetables. A patient adviser also highlighted using visuals or instructional aids, clear materials and examples: "Not just pointing pictures at the book, but having the physical food there and the key was, portion control, so seeing what a plate looked like... I was given a sample plate of the size that it should be" (quote 1b). The use of hands on activities such as cooking demonstrations was well regarded by providers attempting to engage participants (quote 1c). Stakeholders noted the incorporation of physical activity and goal setting to be desirable. Goal setting as part of the curriculum was also thought to be important for success both from the patient and provider perspectives. This led to the development and adoption of goal-setting patient handouts to be used as a tool during visits.

A patient centered program with engaging materials and a participant tailored approach

Stakeholders emphasized the importance of a patient centered program that included engaging materials such as food demonstrations and had an individualized approach for the participants. A local YMCA program director spoke about a patient led, as opposed to provider led program, suggesting the importance of involving families to keep them engaged (quote 2a). Medical providers identified the importance of motivational interviewing and the importance of building relationships with the family in achieving a patient led format (quote 2b). Patient centered care also meant setting up the room in a conducive way to engage the children in group settings (quote 2c). This led to the training of all physicians and team staff on motivational interviewing (MI), a patient-centered counselling method for enhancing intrinsic motivation to change health behavior(11). Teams were trained through the Kognito Interactive "Change Talk," an interactive role-play simulation developed in collaboration with American Academy of Pediatrics (AAP) (12).

A family-centered program where all members of the family are involved in behavior change

All interviewed stakeholders agreed that childhood obesity cannot exclude the family members that support a child's lifestyle. They felt that the entire family needed to be involved in behavior change as it is easier for the child to make changes if the entire family is also making those changes (quotes 3a-3c). This contributed to the implementation of measuring parental BMI throughout the intervention and goals directed at all members of the family.

Group visits to help build a support system for participants

Conducting the PWMI in a group setting was a popular idea with interviewed stakeholders. One community health worker expressed doubts about this format, citing that some children might be shy in a group setting and that it could possibly lead to weight related shaming. However, most of the discussion around the group setting for a PWMI was positive. Stakeholders cited the invaluable benefit of a support system from other group members struggling with obesity (quote 4a-c). A patient stakeholder who only experienced individual visits said, “I would've definitely wanted, being in a group setting. Especially [with] kids... around my own age; so, you can relate to them a lot...” (quote 4c). Group visit attendance was highlighted and encouraged as a tool to optimize intervention efficacy.

The inclusion of high-quality core personnel such as a community health worker, a physician, a behavior health clinician and a dietitian

Stakeholders mentioned the importance of having a fully trained team that relied on interdisciplinary team members working together and treating the participants in a compassionate and committed manner. Key personnel listed in the stakeholder interviews included: community health workers, a medical doctor, a dietitian and a behavior health practitioner. The community health worker role was felt to be key as they are from the community they are working in, “I would say, number one, having someone who really knows the community and knows the culture of our patients.... Because if you can't understand our culture and our community, then whoever tries to teach is not going to get any parent to do anything” (quote 5b).

Certain qualities of the personnel in the program were also considered important. Compassion, commitment, cultural sensitivity and empathy were repeated as important traits for providers in PWMI (quote 5c). These qualities were promoted and emphasized consistently through implementation trainings and cross-site check-ins.

Determinants of implementation and dissemination

Partnerships among clinic and community organizations

Interviewed stakeholders highlighted the importance of partnerships between clinical and community resources for childhood obesity. This theme represents the CFIR construct of cosmopolitanism and the importance of a program's external network for program success (9). One local YMCA program director cited the partnership as an important union, “Neither one of us can do this work alone... clinical needs us, and we need clinical. Whether the partnership is around a referral source, or if it's ... collaborative programming. I think we need each other” (quote 6a). A Medicaid official spoke of using community settings as much as possible, particularly in an accountable care model (quote 6b). A variety of different stakeholders described schools as being an important part of the puzzle as children spend much of their time there. One suggestion was to have the providers from the clinic in the school to improve engagement (quote 6c). To support the ongoing addressing of social needs and connecting families to low-to-no cost physical activity resources, we offered actualized community resource guides and ensured continued collaboration of each health center with its local community partners.

Sustained funding for the program with insurance reimbursement

All stakeholders felt that funding was critical consistent with the CFIR construct of external policies and incentives affecting implementation (9). Funding for transportation, childcare, facility space and other financial assistance for the family were noted as significant needs. Sources of funding were also discussed, including grants and insurance reimbursements. However, stakeholders felt that for the programs to be sustained health insurance needed to provide reimbursement. They recognized without reimbursement these programs would not be a priority for the clinics and YMCAs (quote 7a). They also felt that insurance reimbursement particularly for the interdisciplinary team members such as the community health worker was critical. Finally, stakeholders recognized that demonstrating the programs were cost saving was vital to achieving insurance reimbursement (quote 7b and c). As a result, the intervention offered transportation and parking reimbursement for families.

Supportive external policies

The Accountable Care Organization (ACO) model was cited as a model that might allow for programs to be sustainable which is consistent with the CFIR construct of external policies and incentives. One provider mentioned that the ACO model will expand the role of the community health worker, which will be important in the economics of chronic disease management (quote 8a). To ensure ongoing knowledge and consideration of the priorities of the ACO, we invited representatives to participate in calls and accepted guidance for facilitating sustainability.

A Medicaid official mentioned the importance of changing policy to support long term changes in care, and for implementing those changes with clear research and cost analysis. "I think [it] is important... making sure it's evidence-based, which I think goes part and parcel with the cost ... efficiency and quality equation, but then, going that step further to say, "Let's not look at it as a one-year, how much did you save," but I think, in the long run." (quote 8b) Many stakeholders repeated the importance of showing evidence that the programs offered effective pediatric weight management treatment to support larger policy changes. To consider this and further evaluate the return on investment in participation of the program, we collected data on costs of the program, direct additional costs for the family, and examined parent behaviors.

Outside of the clinical or community organization setting, policy changes in schools were also mentioned. Stakeholders felt that it was a priority to create wellness policies in schools that support healthy behaviors such as offering healthy food and more physical activity (quote 8c).

Identifying and developing solutions to patient barriers

We identified multiple barriers in providing effective pediatric weight management treatment reflective of the CFIR construct, patient needs and resources (9). Stakeholders interviewed were cognizant of logistic issues in attending a PWMI. They cited transportation issues for the families (quote 9a and b), lack of childcare for their other children (quote 9c) and the time commitment for the families, which often

conflicts with work or school (quote 9d and 9e). Providers also mentioned that programs are often occurring in tertiary care centers: a setting that is just not possible for all patients with obesity to attend (quote 9g). Many provider stakeholders spoke about cost as a barrier for joining community programs and highlighted that free programs were needed (quote 9i-l). Language barriers were reported by both patients and providers as an impediment to delivering the program and to effectively do motivational interviewing (quote 9 m and n). To address this feedback, we promoted time-efficiency in the programs, created the option for evening and weekend appointments, ensured bi-lingual staff were integrated in each visit, and ensured the completion of motivational interviewing training.

Discussion

In this study of engaging 26 stakeholders in the pre-implementation phase of a clinical trial for efficacy and implementation outcomes, we identified 5 core components of a PWMI: 1) a strong curriculum with illustrative examples of healthy behavior change, 2) a patient centered program with engaging materials and a participant tailored approach, 3) a family centered program where all members of the family are involved in behavior change 4) group visits to help build a support system for participants, 5) the inclusion of high-quality core personnel such as a community health worker, a physician, a behavioral health clinician and a dietitian. Determinants of implementation and dissemination included: 1) partnerships of clinic and community organizations, 2) sustained funding for the program with insurance reimbursement, 3) supportive external policies such as ACO models or school policies, and 3) identifying and developing solutions to patient barriers including issues with transportation, childcare, time and cost constraints. These components were applied to design a clinical trial that optimized the potential for implementation and dissemination.

Stakeholder feedback focused on comprehensive, intensive, interdisciplinary, family-based lifestyle interventions. Despite the low- resourced communities we were working in, stakeholders really felt that these intensive and comprehensive programs were needed and feasible. An interesting aspect of the results was the emerging preference for group visits as this is not typically how Healthy Weight Clinics are structured. While the Healthy Weight and Your Child program already was a group visit curriculum, stakeholder feedback informed the integration of group visits into the Healthy Weight Clinic intervention. Group visits were found to be part of the higher estimated contact hour interventions recently reviewed by the U.S. Preventive Services Task Force (13). These higher contact hour interventions were also found to be more effective.

Each of the program's curricula contains concrete examples of healthy behavior change. This has not been highlighted in previous literature, but the examples our stakeholders provided illustrate how to motivate behavior change through concrete examples. The highlighted importance of partnerships between the clinic and community organizations is something that we will continue to foster and is also consistent with national and international recommendations (14, 15). To ensure communication and collaboration was sustained, we continued to have stakeholder meetings throughout the interventions.

Finally, when barriers were described in the interviews, we worked with the intervention sites to come up with solutions such as transportation vouchers for families in need as well as a list of community resources to address social determinants of health which many of our participants faced. The potential dissemination site interviews highlighted that each practice had a different approach to pediatric weight management and was largely provider-driven, which is consistent with previous literature (16). This emphasizes the need for evidence-based “off the shelf” PWMIs such as the two programs we are evaluating.

Strengths and Limitations

Through an iterative process of a wide range of stakeholder engagement, our study team developed a flexible and patient-centered study protocol that is relevant to partners of multiple dimensions, including parents of children with obesity, local program leaders, providers and decision makers, and researchers interested in understanding how pediatric weight management design affects obesity outcomes of low-income and minority children. In maintaining interview questions that were broad and open-ended, stakeholders were offered the opportunity to provide feedback on the interventions. We succeeded in developing a study protocol that was relevant to community stakeholder feedback. This study provides evidence for the benefits of engagement of stakeholders and use of implementation frameworks, and contributes to the literature of using stakeholder engagement to develop priorities and refine interventions. (17-19) However, this study also has limitations. Since the majority of the stakeholders had a special interest in treating childhood obesity their views may not represent all providers and stakeholders in other low-income communities. This study is also occurring in two low-income communities in Massachusetts, and though this is a population of interest, findings may not be generalizable to other areas of the country.

Conclusion

Our stakeholder interviews identified core components of PWMIs and determinants to successful implementation and future dissemination. The qualitative interviews helped to identify the core components needed for the two programs and gave us insight into the intervention communities. Framing these findings allowed us to understand how best to implement the programs and navigate barriers for implementation. In the future, these core components and identified determinants will help to inform dissemination and implementation of the two programs if proven effective and may be more generalizable to other PWMIs.

Abbreviations

PWMI: Pediatric Weight Management Intervention; RCT: randomized controlled trial; YMCA: Young Men's Christian Association; CFIR: The Consolidated Framework for Implementation Research; BMI: Body Mass Index; FQHC: Federally Qualified Health Center; MassLeague: Massachusetts League of Community

Health Centers; ACO: Accountable Care Organization; CDC: Centers for Disease Control and Prevention; K2A: Knowledge to Action

Declarations

Acknowledgements

The authors thank the families, institutions, faculty, research staff, and students that are participating in the Clinic and Community Approaches to Healthy Weight Trial.

Funding

This study was supported by the Centers for Disease Control and Prevention National Center for Chronic Disease Prevention and Health Promotion (Award no.: U18DP006259). Dr. Fiechtner was supported by grant number K12HS022986 from the Agency for Healthcare Research and Quality and a K23HD090222 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development. Dr. Sharifi is supported by grant K08 HS024332 from the Agency for Healthcare Research and Quality. Dr. Taveras is supported by grant K24 DK1058989 from the National Institute of Diabetes and Digestive and Kidney Diseases. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Centers for Disease Control, Agency for Healthcare Research and Quality, the National Institutes of Health, or any other funders.

Availability of data and materials

Data sharing is not applicable to this article as no datasets were generated during this current study. Interview transcripts were generated and are archived and are available in deidentified form from the corresponding author on reasonable request.

Author's contributions

Dr. Fiechtner designed the interview guide, study protocol, conducted interviews, helped analyze the data and wrote the first draft of the paper. Dr. Kuhlthau designed the interview guide, study protocol, conducted interviews, helped analyze the data and reviewed the manuscript draft. Dr. Sharifi helped design the interview guide, study protocol, helped analyze the data and edited the manuscript draft. Ms. O'Connor, and Harris helped design the interview guide, conducted the interviews, helped analyze the data and edited the manuscript draft. Dr. Simione helped with thematic analysis and helped edit the manuscript draft. Ms. Gonzalez, Perkins, Dr. Torres helped with data analysis and edited the manuscript draft. Dr. Taveras helped design the study, interview guide, informed data analysis and edited the manuscript draft. All authors read and approved the final manuscript.

Ethics approval and consent to participate

All participants provided informed consent. All study procedures were approved by the Massachusetts Department of Public Health IRB.

Consent for publication

Not applicable.

Competing Interests

The authors have no competing interests to declare.

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Tables

Table 1. Participants in the Stakeholder Clinic and Community Approaches to Healthy Weight study (MA-CORD 2.0) qualitative interviews.

Profession/ Title of Intervention Site Stakeholders (N=20)	N
Pediatrician	3
Dietitian	2
Community Health Worker	2
Behavior health professional	2
Health clinic program manager	1
Patient advisor	1
Parent advisor	1
Local YMCA program director	2
MassLeague Representatives	2
National YMCA Representatives	3
Medicaid official	1
Dissemination Site Stakeholders (N=6)	
Profession/Title	
Pediatricians	3
Family Medicine Physician	1
Internal Medicine Physician /Chief Medical Officer	1
Family Medicine Physician/ Chief Medical Officer	1

Table 2. Interview Guide based on CFIR constructs

Construct	Definition
Domain 1: Intervention Characteristics	
<i>Relative advantage</i>	Feasibility of past pediatric weight management strategies in their health centers and community Gaps and successes in past and current childhood obesity control efforts
<i>Adaptability</i>	Preferred settings for pediatric weight management
Domain 2: Outer Setting	
<i>Patient needs and resources</i>	Major factors contributing to childhood obesity in their communities
<i>External policy and incentives</i>	What would a pediatric weight management treatment package look like that would be appealing to payers

Table 3. Illustrative Quotes from Stakeholders**Core Components****1. A strong curriculum with illustrative examples of healthy behavior change**

- 1a "...and what she had in sodas. We eliminated them completely because she had sugar in little bottles. The portions of sugar in bottles, how much sugar sodas have, how they harm us." - *Parent Adviser*
- 1b "Not just pointing pictures at the book, but having the physical food there and the key was, portion control, so seeing what a plate looked like... I was given a sample plate of the size that it should be."
-*Patient Adviser*
- 1c "I think the cooking demonstrations, also have to be about the recipes that would fit into what people are used to in terms of their heritage, and diet, and their diet heritage."
-*Pediatrician*

2. A patient centered program with engaging materials and a participant tailored approach

- 2a "In fact, in our program, they want us to say, "Do this, do this, do this. Go home and eat this. Don't eat that." They think that's what our program is going to be. It's not. Obviously it's not. We're not—it's not within our scope of practice, but furthermore, we are facilitators, and, you know, it's behavior change model, which is "What do you think you can do?" - *Local YMCA program director*
- 2b "[What] I think is a key element to be successful, because if the patient[s] do not feel comfortable with the providers they, you know, will go to listen to you or they [don't make] many changes, you know. So I think the communication, engagement with the family is very, very important." -*Behavior Health Professional*
- 2c "we've really had to learn a lot in this first session of, like, we sort of had the child sitting with their parent, and as we're facilitating the first hour, what we found was that the parents were doing all the talking..." - *Local YMCA program director*

3. A family-centered program where all members of the family are involved in behavior change

- 3a "Certainly one of the things that was abundantly clear to me when I did that first program all those years ago was that you cannot just do a program to change youth obesity with just the children. That's just never going to work. It can't work because they don't - it's a family issue." - *Local YMCA program director*
- 3b "...one thing that is very, very helpful is pay attention to the interest of the family and support them and ask about the question that they had and in my case, one of the thing that is very helpful is connect the families with family partners or community support."
-*Behavior health professional*
- 3c "So I think that there needs to be more focus on the parents and educating them because they're coming from a family, you know, they're in the same situation. So now they're just another generation. So some parenting skills, limit setting, cooking, shopping, and menu planning." - *Dietitian*

4. Group visits to help build a support system for participants

- 4a "I think that group visits work better than individual visits just because of the support system, of you know, the parents with other parents—and also, the kids, as well. They don't feel like, you know, they're the only ones, you know? They have.. other kids with them that are going through the same things that they're going through...So to have that group setting, where they can talk to each other, and the parents can talk about their frustrations, I think is the best scenario" -*Community Health Worker*

4b	"I think the special sauce is the relationships that they build with each other- and then sort of they feel responsible to each other, right? They need to have the readiness to be making these types of lifestyle changes, um, but at the same time, if this sort of power of this group and this group cohesion is helping them come back, then that's a really good thing" <i>-Local YMCA Program Director</i>
4c	"I would've definitely wanted, being in a group setting. Especially [with] kids...around my own age; so you can relate to them a lot..." <i>-Patient Adviser</i>
5. <i>The inclusion of high-quality core personnel such as a community health worker, a physician, a behavior health clinician and a dietitian</i>	
5a	"not just a medicalized approach. I think many of the tertiary care kind of programs around childhood obesity do have a team approach of different specialists. You've got the doc; you've got the psychiatrist; you've got the nutritionist. So I think holistic, in nature and working" <i>- National YMCA Representative</i>
5b	"I would say, number one, having someone who really knows the community and knows the culture of our patients.... Because if you can't understand our culture and our community, then whoever tries to teach is not going to get any parent to do anything." <i>-Community Health Worker</i>
5c	"Be compassionate with people because some of the patients, especially the parents sometimes they come with long faces because of different issues." <i>-Dietitian</i>
Determinants of implementation and dissemination	
Cosmopolitanism	
6. <i>Partnerships of clinic and community organizations</i>	
6a	"Neither one of us can do this work alone... clinical needs us, and we need clinical. Whether the partnership is around a referral source, or if it's ...collaborative programming. I think we need each other" <i>-Local YMCA Program Director</i>
6b	"If an accountable care organization is a group of community provider settings, heavily toward that structure, then the setting of care, at which the care if provided, may be much more effective and appropriate in a community setting because you're there." <i>-Medicaid Official</i>
6c	" I think , to make it work better especially in my community , either the schools after school when you find a place like the nurse's office where the doctor can travel to , the different neighborhoods in the community , to access more people. Buildings where people can go to , where they can get the services because it makes it all difficult to try to get everyone to one central location, , compared to going to different- one-one day go to one location, the other day go to another location. Which would make it easier, for patients, they get out of school and then go straight to the program. They don't physically have to leave the building" <i>-Patient Adviser</i>
6d	" I think with this new wave of quality improvement, and controlling costs. I think that might be the next phase where we try to establish firmer relationships with effective community resources of the YMCA, so I could see that down the line." <i>Internal Medicine Physician /Chief Medical Officer</i>
External Policies and Incentives	
7. <i>Sustained funding for the program with insurance reimbursement</i>	
7a	"I think it's very important that health insurance be providing reimbursement for

	different doctor's offices or community health centers. Because... it would create a priority, for different organizations to provide these services. If they can't find the funding they won't be able to put more into it." <i>-Patient Adviser</i>
7b	"the other piece of that is,... those accountable care organizations are going to focus on the people who are in the emergency room, you know, who are, you know, in the ICU, who are, you know, massive users of healthcare dollars. And our patients with diabetes, right? ...Our kids with obesity, you know, they're invisible, right?" <i>-Pediatrician</i>
7c	"I think you always have to show cost savings, unfortunately. And some years you have to show them more than others, and some year—you always have to argue that." - <i>MassLeague Representative</i>
7d	"I mean, like, health insurance is, I mean, beyond, so, but they should, this is the kind of thing they should be funding, because, all things relative, it's not that expensive, and it's such an investment." <i>-Pediatrician</i>
8. Supportive External policies	
8a	"It's going to be critically important, obviously, to manage chronic diseases as inexpensively as possible, and certainly it is cheaper to have a community health worker touch base with a family than it is to have a nurse or to have, you know, the provider . . . ACO models are probably going to incorporate, you know, more aggressive case management and we'll probably utilize people that are at least referred to as community health workers down the road. And so I think that insurers will pay attention that because I think they're an inexpensive way to kind of in a culturally appropriate, linguistically appropriate way, to have health-related education to people who have chronic diseases." <i>-Pediatrician</i>
8b	"I think is important, and making sure it's evidence-based, which I think goes part and parcel with the cost ...efficiency and quality equation, but then, going that step further to say, "Let's not look at it as a one-year, how much did you save," but I think, in the long run" <i>-Medicaid Official</i>
8c	"I think in schools, I think that we need just policy change in the- and change the way kids spend their days" <i>-Local YMCA program director</i>
Identifying and Developing Solutions to Patient Barriers	
9. Barriers	
Transportation	
9a	"It's tough I think for them to get here, for families to actually come get into the clinic... They might take the bus, which is just a lot for them....They might not have the money to get here" <i>-Dietitian</i>
9b	"There's no transportation option. So Mom or Dad, you know, or whomever that the guardian or parent is, don't have transportation. They don't have a car." <i>-Local YMCA Program Director</i>
Childcare	
9c	"With the families having a lot of children, and these kids having a lot of siblings and lack of babysitters, they're coming here and having to bring them all..." <i>Community health worker</i>
Time Constraints	
9d	"So if there—if there were, like, extended hours or just hours that are later on after school which would allow parents to bring their kids to the doctor to get, you know, the education that they need." <i>-Patient Adviser</i>
9e	"The only problem with the weight clinic, for me, personally, was just—it was very time-consuming for the patients..." <i>-Community Health Worker</i>
Tertiary Care Centers are Often Where Programs are Occurring	
9g	"So that access for those programs are an issue, and when you have a disease that has, you know, has a 40 percent prevalence rate in our community, there is no way that those patients can all be seen at tertiary care centers. It's just not possible." - <i>Pediatrician</i>
Cost	
9i	So anything with a cost, unfortunately parents tend to shy away from. The YMCA is very

	expensive for them, even with the financial-assistance contract." <i>Community health worker</i>
9k	"I did a presentation to the providers, and the first question out of their mouth is "Is it free?" And if it's not free they cannot envision their patients being able to take advantage of the program." - <i>Local YMCA Program Director</i>
9l	"but I think you should do something like that, or to help with obesity, or free groups to do exercise, or for people that don't have resources like me." - <i>Parent Adviser</i>
9m	"I think their food insecurity piece is always the biggest challenge, and so how does that play into the work that you've been doing?" <i>Pediatrician</i>
<i>Language</i>	
9o	"Just being able to speak the same language that the family has, and not just talking to just me as the patient, but just talking to the family, it's a family effort... So it was very difficult for them to go, and not always having a translator or someone who spoke Spanish available" - <i>Patient Adviser</i>
9p	"There's that lag in time of their response and it actually does kind of affect the process not being able to kind of - having that gap in there. It takes twice as long to kind of get back to them with whatever you want to say." - <i>Pediatrician</i>
9q	"Language and culture is the other barrier that we encounter a lot. In a perfect world, we would have in-person interpreters for all these visits. That probably wouldn't happen, so we would need to—we would as much as we can, schedule it ahead of time, and if we can't, we would use the interpreter line." <i>Pediatrician</i>

Figures

Group	Description of Engagement
Local Stakeholders	Ongoing engagement of local providers of medical, behavioral, nutrition, clinic administration, and community health services.
Target Population	Qualitative interview with parent and child with obesity.
National Advisors	Consultation with policy experts in pediatric weight management interventions.

Figure 1

Iterative engagement process. *Figure adapted from Shelef et al.(17)

Supplementary Files

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- [CopyofCFIRCOREQChecklistfinal.xlsx](#)