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Combating Obesity at Community Health Centers (COACH): A Quality Improvement Collaborative for Weight Management Programs

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Abstract

Community health centers (CHCs) seek effective strategies to address obesity. MidWest Clinicians' Network partnered with [an academic medical center] to test feasibility of a weight management quality improvement (QI) collaborative. MidWest Clinicians' Network members expressed interest in an obesity QI program. This pilot study aimed to determine whether the QI model can be feasibly implemented with limited resources at CHCs to improve weight management programs. Five health centers with weight management programs enrolled with CHC staff as primary study participants; this study did not attempt to measure patient outcomes. Participants attended learning sessions and monthly conference calls to build QI skills and share

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best practices. Tailored coaching addressed local needs. Topics rated most valuable were patient recruitment/retention strategies, QI techniques, evidence-based weight management, motivational interviewing. Challenges included garnering provider support, high staff turnover, and difficulty tracking patient-level data. This paper reports practical lessons about implementing a weight management QI collaborative in CHCs.

Keywords

Obesity; weight management; Quality Improvement Collaborative; community health centers; primary care

Obesity is a preventable risk factor for many chronic diseases. Low income and other disenfranchised populations are at significantly higher risk for overweight and obesity;[1] these patients often seek care at community health centers. Health centers present an ideal setting for weight management programs, as they offer continuity of care as well as multidisciplinary teams which can provide nutrition and health education. However, health centers also encounter many competing clinical priorities, and weight management programs must demonstrate impact to justify their expenses; this challenge is particularly cogent in resource-limited community health centers.[2–3] Recent surveys suggest that clinicians are motivated to help patients address weight issues, but many primary care providers do not feel prepared to treat obesity in the clinic setting citing a lack of training and resources.[4] Many primary care physicians are reluctant to spend time counseling for weight loss as they expect their efforts will not lead to desired results. Despite the challenges of competing priorities and lack of provider training, many health centers do offer some type of weight management support.[5]

Quality improvement collaboratives (QICs) support quality improvement (QI) work in community health centers by pooling ideas and best practices across sites to expedite spread of successful interventions.[6] This model was utilized by the Health Resources and Services Administration in 1998 to facilitate the Health Disparities Collaboratives (HDCs).[7] The HDCs aimed to improve care and outcomes for chronic conditions such as diabetes, depression and asthma in underserved populations seeking care at 1000 health centers across the country.[8–12] Weight management programs may require more emphasis on behavior modification than traditional chronic disease care, and little is known about whether QI techniques used for chronic disease management can be translated to weight management programs.

The HDCs offered community health centers financial resources and evidence-based tools to implement QICs to improve chronic disease care. Evidence-based QI techniques offered to health centers included training in rapid cycle QI and tools from the Institute for Healthcare Improvement's Breakthrough Series such as forming effective teams, setting aims, establishing measures, and spreading changes.[13] Participating health centers were given electronic data collection tools, and monthly data reports were required. Without such resources and financial support, it is unknown whether QICs can be implemented at community health centers.

In 2008, the MidWest Clinicians' Network (MWCN), a professional development network of community health center providers spanning 10 Midwestern states, employed community-based participatory research (CBPR)[14] methods and identified obesity as a priority research area based on survey responses from clinician members. A CBPR approach can build upon group members' intrinsic motivation to improve health outcomes; in this case, empowering clinicians to improve weight management programs and outcomes. The

MWCN partnered with [an academic medical center] to develop the Combating Obesity at Community Health Centers (COACH) quality improvement collaborative. Over a two-year period, this pilot study aimed to determine whether the QIC model can be feasibly implemented with limited resources at community health centers in order to improve weight management programs. This study was not designed to analyze patient level outcomes. As health center staff were the primary participants, the study aimed to assess their experience regarding which aspects of the QIC model worked well and what challenges arose in the process. This paper reports on practical lessons learned about developing and running an obesity QIC in community health centers.

Methods

Health center recruitment and participation criteria

A request for applications was circulated *via* the MWCN listserv to recruit health center sites desiring to participate in a weight management QIC. Health centers were eligible to apply if they had an existing weight management program, staff willing to participate in QI activities and collect data, and endorsement of their health center senior leadership for this effort. Each applicant health center was required to designate a team who would attend three learning sessions hosted by the University of Chicago and participate in monthly conference calls. Additionally, applicants agreed to complete human subject research training, comply with Institutional Review Board regulations, elicit informed consent, and report patient-level data, and participate in self-evaluations and interviews.

Learning session structure and content development

Three in-person learning sessions took place in Chicago over the course of two years. Participants received a modest stipend to offset the cost of travel. Incorporating principles from CBPR methodology,[14] clinic teams and the research group worked together to select topics for learning session curricula, in order to address participants' identified interests and needs. The purpose of the learning sessions was to provide timely expert guidance to build self-assessment skills, develop practical QI planning and implementation skills, share best practices, assist with data collection, and promote sustainability planning. An overview of the Diabetes Prevention Program[15] behavioral intervention and strategies for adapting such strategies to practice settings[16] was presented at one learning session, to illustrate process and on-line resources[17] available for evidence-based weight loss approaches.

Learning session evaluation

A survey tool administered immediately after each learning session assessed curriculum acceptability and perceived value. Participants rated each session topic for value (overall importance), content (helpful, practical information) and organization (amount of time dedicated to topic and format), using a five-point Likert-type rating scale. The survey also included open-response options for general comments. This feedback was used to tailor subsequent learning sessions in iterative fashion. Participant engagement was assessed through tracking attendance, participants' completion of prep-work before sessions, and participation in group discussion and exercises during Learning Sessions.

Quality improvement skill development and tracking

Teams learned to implement the Quality Improvement (QI) model, which institutes rapid cycles of change (Plan-Do-Study-Act) framework.[18] To track health center QI project implementation and facilitate peer-learning across sites, a password-protected website was developed and refined based on participant feedback. Teams were asked to enter monthly updates on the website to document their experience and progress implementing rapid cycle

QI within their weight management programs. Monthly conference calls facilitated sharing experience across practice sites regarding QI implementation, challenges and successes.

Quality improvement team self-evaluation

Participants completed anonymous self-evaluations to measure perceptions of QI implementation and success over time during each learning session. Domains included perceived changes in practice (identification of at-risk patients, provider engagement and use of referrals, utilization of motivational interviewing techniques), perceived effectiveness of weight management programs (patient recruitment and retention, weight loss), team dynamics and morale, and health center support (alignment with health center mission, protected time to work on weight management QI, availability of trained staff, staff retention). Responses were recorded using a 5-point Likert-type rating scale, with response options ranging from poor to excellent. Self-evaluations over time were analyzed at the overall collaborative level.

Qualitative interviews to assess COACH QIC Experience

Quality improvement team leaders and key team members participated in semi-structured qualitative interviews at several points throughout the project to assess perceived functioning of the overall collaborative, value and acceptability of specific QIC components, and at the conclusion of the project to gather reflective feedback on the COACH experience. Each interview was pilot-tested with one health center leader before administering to the wider group. Two investigators performed the interviews together by telephone while taking notes. Final interviews were conducted with the team leader and with one other team member from each health center.

Qualitative data analysis

Immediately following completion of interviews, notes were transcribed and then analyzed for themes using grounded theory.[19] Two readers independently identified recurring themes that were then discussed at meetings with other members of the research team and modified by consensus. Themes from semi-structured interviews were combined into broader categories, and frequencies of recurring themes were tabulated. In an iterative fashion, findings from the reflective interviews were discussed to confirm themes with participants at the final learning session.

Results

Health center characteristics and participants

Six health centers initially responded to the request for applications; one subsequently withdrew its application as its staff felt they were not ready to undertake the proposed QI activities. The remaining five health centers, representing diverse settings across the Midwest, enrolled in the COACH collaborative (Table 1). Teams formed at each site including clinical staff (health educators, nurses, providers, and medical assistants) and some administrators (medical directors). The structure of health center weight management programs varied, as did the background and role of team leaders within their health centers (Table 1). Learning session attendance was consistent, averaging at least two representatives from each site.

QI topics and implementation

The first learning session focused on building QI skills. Participants practiced using fishbone diagrams, root cause analysis, process mapping, and other tools to help in identifying appropriate QI targets for their weight management programs. Through these exercises,

participants recognized significant challenges in 1) identifying patients appropriate for weight management programs, 2) flrecruiting patients into weight management programs, and 3) retaining patients in weight management programs over time. Faced with common challenges, participants agreed to focus collaboratively on implementing strategies for increasing patient identification, recruitment and retention, while tailoring specific activities to their individual program needs. Some teams began by improving their process for identifying overweight/obese patients through increased body mass index (BMI) documentation in the patient's medical record. Other common targets included boosting patient referrals into the weight management program from providers and staff by raising awareness, offering creative incentives, or using the electronic medical record to identify and track participants in weigh management programs. Recruitment strategies involved advertisements both within health centers and in the community (e.g., local media, gyms, road signs), use of interpreters or community outreach workers, and linking with other successful community health programming. Retention strategies included use of incentives, reminder phone calls, mailed postcards, log books, and pamphlets.

The second and third learning sessions solicited topics of interest from participating sites while providing QI methodology refreshers. Participants suggested a range of pertinent topics including cultural tailoring, motivational interviewing, and how to acquire additional resources (e.g., education materials, patient incentives, funding; see Box 1). Participants noted on evaluations that most sessions were useful and relevant to their QI work. Topics rated most valuable included patient recruitment and retention strategies, evidence based practices, PDSA (rapid cycle) how-to instruction, motivational interviewing techniques, how to secure additional resources, and facilitating behavior change.

Box 1

LEARNING SESSION CONTENT

Learning Session 1	Learning Session 2	Learning Session 3
Team Presentations: Overview of preexisting weight management program at each site	Team Presentations: PDSA progress and impact on weight management programs to date	Visualizing the Future: Exercise to prompt strategic planning for program success and sustainability
Participant Recruitment: How to recruit patients to your program	Process Mapping: How to process map system flow to identify areas to target with interventions	Assessing and Aligning Systems: How to ensure that weight management programs are supporting organizational missions, think critically about who needs to be on the team
Best Practices: Examples demonstrated effective weight management programs (DPP and other evidence-based programs)	Review of PDSA Methodology: Refresher of how to plan, implement, and measure rapid cycles of change	Planning for Program Sustainability: Identify a concrete "next step" to recruit valuable staff, support, or attention
Plan-Do-Study-Act (PDSA) Methodology: How to write and aim statement and use rapid cycles to implement small tests of change	Motivational Interviewing: Overview of communication skills and strategies to promote patient behavior change	Team Presentations: Practice engaging critical people for continued program support
Small Group Breakout Sessions: Identification of missing elements in current weight management programs	Data Collection: What is "data," how to choose appropriate measures to evaluate the impact of change, examples of well organized datasets and intro to data analysis	Facilitating Behavior Change and Preventing Relapse: A review of behavior change concepts and motivational interviewing; applies theory to patient relapse into unhealthy lifestyles and staff relapse into operating at the status quo

Learning Session 1	Learning Session 2	Learning Session 3
	Cultural Tailoring: How to take into account cultural norms and preferences when designing programming	Program Feedback: Group discussion regarding experiences participating in the COACH collaborative
	Recruiting and Working with People from the Community: Lead by a health center staff participant, lessons learned partnering with community organizations to strengthen weight management programs	
	Engaging Upper Management: Lead by a health center staff participant, lessons learned engaging a new medical director to prioritize their weight management programs	
	Securing Resources: A review of how to apply for grants, where to seek strategic partnerships and how to build in sustainability	

PDSA= Plan-Do-Study-Act

DPP=Diabetes Prevention Program

COACH= Combating Obesity at Community Health Centers

Website, conference calls, and tailored coaching

Participants' use of the COACH QIC Website for tracking QI progress was variable and inconsistent, despite refinement of the Website in response to participants' suggestions. Collecting and reporting data on patients enrolled in weight management programs proved difficult and teams preferred to report anecdotal or patient satisfaction results instead of quantitative outcomes. In contrast, monthly conference calls were well attended and involved peer-learning and project updates from the various sites. Relationships between the academic research group and health center staff participants were further enhanced by coaching sessions, which took place during the monthly conference calls and individually as requested. Participants raised questions during the group conference calls, then scheduled individual calls as needed to explore in more depth with research staff how to apply QI strategies to their individual settings. Research staff conducted approximately one individual coaching call each month during the program in response to these requests. Tailoring questions and advice to each site's unique situation, challenges, and priorities, made it possible to identify barriers and potential solutions to QI implementation quickly.

Collaborative learning across sites

During the monthly conference calls participants identified challenges which were common across sites, such as engaging providers to refer patients and motivating patients to change lifestyle behaviors. Often sites adopted solutions which had worked at one of their peer sites. For example, one site used a contest format with gift certificates and other incentives for providers who referred the most patients to their weight management program; other sites followed suit with similar success. When one health center found sources willing to donate fitness-related items such as exercise bands and water bottles; other sites learned from their example and also expanded their resources. Another site implemented a Biggest Loser contest (based on a weight-loss television program of that name) for patients in the weight management program; this innovation was also adopted across sites. Finally, some health centers started out by offering only individual counseling for weight loss, whereas others were already implementing group classes. Over time, the group class concept caught on and

was implemented at additional health centers as a result of collaborative sharing; specifically, class curricula and structures were shared and replicated across sites.

Team self-evaluations

Team perceptions and experience varied across sites. Over the course of the collaborative, participants reported improved ability to identify overweight patients in need of weight management (Figure 1). Three of the five teams reported an increasing ability over time to engage their providers in order to increase referrals to the weight management program. Only one site reported that their ability to directly recruit patients to join their weight management program increased. Due to the small sample size, it was not possible statistically to compare score changes over time among health centers. The perceived ability of participants to motivate patients to attend the majority of program sessions remained relatively unchanged. Scores trended higher over time regarding ability to identify and contact patients for the weight management programs and the perceived overall effectiveness of the weight management programs, suggesting possible impact of the collaborative in this area.

Participant QIC acceptance and experience

Many common themes emerged across sites (Table 2). Respondents at four of the five health centers reported that the collaborative met or exceeded their original goals. Reported benefits from participating in the COACH QIC included professional support and empowerment. Participants felt *"Excited and energized after the learning sessions, and used the COACH notebook* [QI manual] *at home."* Peer support helped participants normalize challenges but also gain perspective: *"It was great … having the other members give you different outlooks and comparison groups;" "Very helpful to think through the big picture."* Some participants expected COACH staff to provide a specific weight management curriculum for patients, which was not part of the program. However, participants appreciated applying new skills learned from COACH: *"Like motivational interviewing skills … It's a big shift in thinking to go from telling people to having people draw their own conclusions;" "Learned the importance of direct and on-going communication with providers."* The collaborative helped participants support their weight management programs: *"*[COACH] *helped us to maintain a program we might have lost with staff loss;" "A better marketing strategy … thanks to advertising efforts, the [weight management] program is now better known in the community;" "Not sure the* [weight management] *program would be around without COACH … would sign up again for COACH as the gains outweigh the burden … makes it worth it."*

Challenges noted at almost all sites included difficulty garnering provider support and high rates of staff turnover: *"The ongoing challenge is getting the providers to refer." "New doctors stay 2–5 years and then leave, or have little clinic work experience".* Participants from one site described the need to constantly conduct orientation sessions to promote weight management programming to new providers. This stressor was common throughout the collaborative; three of the five sites lost key team members within the two-year study period, which resulted in remaining team members taking on additional duties or recruiting and training new personnel. Leadership changes proved especially challenging: *"The new manager is not fully on board and has another vision for the program."* Sites that experienced higher rates of staff and leadership turnover throughout the COACH collaborative also reported more challenges with sustaining QI interventions.

Time commitment for QI proved challenging for some participants, but was generally seen as worthwhile: *"The experience was good but time consuming, but have developed a good program because of it."* Collecting and reporting patient level data presented significant

challenges; some participants noted during interviews that more clear structure and data reporting expectations established at the beginning of the program would have been helpful: *"Didn't know what we were getting into … didn't expect data collection;" "Stricter deadlines would have been good."* Aspects of the collaborative that participants found valuable were resource and idea sharing: *"I wanted to learn from other health centers with weight management programs;" "Useful for sharing tools, better than Google, a place you trust for resources;"* and monthly conference calls: *"Monthly calls helped us to be more focused, made us more accountable, helped us get ideas from other centers and troubleshoot;" "Could have been waiting or stuck forever; good motivational pressure kept it on the radar;" "Sharing on the monthly calls, relating to other health centers normalized the barriers, and helped to move us forward."*

Sustainability

Participants used part of the third learning session to plan for sustainability of their quality improvement and weight management programs over time. Participants practiced giving presentations to showcase experience and outcomes of their weight management programs for health center senior leaders, explored use of various media to raise awareness and support for their obesity programs in the broader community, and planned partnerships with other local services and organizations to benefit patients in maintaining healthy lifestyles.

Discussion

The COACH pilot project demonstrated that a low cost QI collaborative is a feasible way to improve weight management programs in health centers, and it demonstrated key lessons learned, challenges, and opportunities regarding QIC implementation in this setting. Each of the five Midwestern health centers that participated in the QIC overcame challenges of limited funding, limited time, varying degrees of support from leadership, and frequent staff turnover to focus as a team on improving weight management programming for their patients. Curricular content of learning sessions was selected by participants and research staff together in an iterative fashion over time to meet participants' needs and interests. This collaborative approach helped to establish a trusting relationship and a safe environment in which to discuss QI implementation challenges, and enabled participants with limited or no prior exposure to QI to begin using these techniques. Clinic systems' ability to identify and to contact patients to participate in weight management programs improved over time in concert with QI interventions. However, the perceived ability of participants to motivate patients to join the programs and to attend the majority of program sessions remained mostly unchanged, suggesting more research is needed in patient motivation.

Tailored QI coaching was another significant strength of the COACH collaborative. Quality improvement coaching strategies are now gaining popularity with large QI organizations.[20] Tailored coaching is especially important for resource-limited health centers that enter a QIC with varying backgrounds in quality improvement work. Research staff can meet health center participants at whatever level is appropriate for their experience, needs and local setting. Quality improvement literature supports the need for health centers to tailor QI projects to their own unique needs and circumstances and shifting priorities over time.[21–22] In the COACH collaborative, tailored coaching during group calls with individual follow up as needed proved very helpful to participants in implementing and adapting QI strategies to their own particular settings. It is unclear, however, how best to tailor coaching and what resources are required to optimize this process. Future studies could focus more specifically on culture, needs and priorities of individual health centers to further elucidate the role of QI tailoring.

In the COACH pilot, teams had a great deal of autonomy to choose and implement QI interventions, with the assumption that choices would be made in alignment with their health center goals. Tailoring through shared development of learning session curricula and site-specific coaching strengthened the COACH QIC; however, the flexibility afforded also led to some limitations. An exploratory goal of the project was for participants to collect and share patient level data, but participants found it very difficulty to collect and report patient level data consistently. This experience mirrors reports from some other QICs.[23–24] Programs differed greatly in format and in their practices regarding data tracking. Templates were provided with fields for many clinical variables (e.g., height, weight, BMI, blood pressure, lipids, glucose, and hemoglobin A1c levels over time). Participants were instructed to enter only those variables which were routinely collected in their existing weight management programs; however, this format may have been intimidating or confusing to health center staff. Time was cited by some participants as a barrier to data collection and sharing; estimates of staff time required for these activities should be included in future studies. Moreover, it appeared that data collection, tracking and sharing was not part of the practice and culture of participating sites. More standardized instruction and support for data collection, along with setting clearer expectations in the beginning of a collaborative project, may help to overcome this barrier. Tracking patient level data should be a focus from the outset in developing QI processes,[25–27] for unless health centers can demonstrate effectiveness of their weight management programs, garnering financial support and achieving sustainability will be difficult. Studies showing a clear and logical progression from QI to clinical practice to measurable weight loss are most compelling.[27]

Health centers cited provider turnover as a challenge, requiring frequent trainings and orientation to QI processes. There may be opportunities for health centers to partner with a medical school or local health system to conduct periodic orientation to QI on weight management as a continuing medical education offering. This approach could also set the stage for on-going data collection and review. Likewise, engaging support of health center leadership is key to success. The COACH program required a letter indicating leadership support in the application process, and qualitative feedback from participants suggested how important on-going support of leadership was to the success of their QI projects. The experience COACH and similar QICs[25] suggests involving both leaders and support staff from participating organizations strengthens QI efforts. Shared learning opportunities (in-person learning sessions and monthly conference calls) were highly valued by participants, as in other studies.[25,26]

Several lessons learned from the COACH collaborative can be useful to other groups interested in implementing QICs with health centers: 1) Engage health center leadership at the outset of the QIC and in an on-going fashion, as leadership engagement is key for ensuring successful QI efforts. 2) Set clear expectations for data collection up front and facilitate data collection and sharing, perhaps in partnership with a local medical school or health system. Tracking data can help participants document changes in clinical practice and actual weight loss in patients, demonstrating their programs' effectiveness and improving potential for sustainability. 3) Build in adequate opportunities (in-person or by phone) for sharing experience across sites; such sharing is fundamental to the QIC model and facilitates learning and adoption of practice improvements. 4) Tailor coaching to support health center staff at different levels of QI experience and facilitates adaptation to local needs, settings and cultures.

Conclusion

The COACH pilot successfully demonstrated implementation of a QI collaborative in a resource-limited setting to improve weight management programs at community health centers. The small size of the QIC allowed for extensive tailoring and co-development of the

learning session curricula, QI goals, and priorities and also helped maximize the potential benefits of a collaborative approach. Shared resources and ideas were valued by all of the teams, along with a sense of improved morale and group accountability to drive projects forward despite challenges and competing priorities. Over time, the QIC experience provided an opportunity for health center staff to learn how to critically look at clinic processes, design interventions, test them and provide support to peers engaged in similar QI efforts. Two years, however, may not be sufficient for clinic staff to fully master, integrate and benefit from new QI skills; longer-term follow-up may reveal more robust trends. This pilot experience offers practical lessons for health centers seeking to implement QI initiatives, and can serve as a model for larger-scale QICs to address weight management in community health centers.

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Table 1

COMMUNITY HEALTH CENTERS ENROLLED IN THE COACH PROGRAM

CHC	Type	Estimated Number of Patients	Baseline Weight Management Programs	Team Leader(s)
A	Urban FQHC, Minnesota	3,600	One- on- one counseling, some small group meetings (5–10 participants) off site.	Registered Dietitian
B	Urban FQHC, Ohio	22,500	Preexisting group class (12 week session with 2–5 participants).	Dietitian/Health Educator, Clinical Services Manager
C	Rural FQHC Look-Alike, Missouri	4,200	Both individual nutrition counseling and group counseling offered.	Community Health Education Manager
D	Urban FQHC, Illinois	40,000	Adult and pediatric weight management programs as individual meetings. Group exercise programs for patient and family (2–3 families per session, no limit).	Nurse Educator
E	Urban FQHC, Indiana	55,800	Individual weight management counseling, number of sessions varies.	Medial Director, Quality Assurance Director, Health Educator

COACH= Combating Obesity at Community Health Centers

CHC= Community Health Center

FQHC=Federally Qualified Health Center

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