Performance Improvement

Inducing Sustainable Improvement in Depression Care in Primary Care Practices

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Depression is a common condition, responsible for an estimated economic cost of more than $40 billion annually, a large impact on quality of life and productivity, and indirect impacts on other health states including cardiovascular disease.[1–5] Although depression is treatable in primary care settings,[6] trial-based gains seen from comprehensive efforts at improving recognition and treatment have been difficult to sustain.

Despite the intensive and promising trials to increase primary care clinicians' recognition and treatment of depression, routine screening and depression management interventions have not successfully penetrated everyday primary care practice.[7] A systematic review of 36 studies of educational and practice organizational interventions to improve primary care depression management found that the benefits of complex interventions combining clinician education with systems of follow-up and management were superior to purely educational or guideline implementation interventions.[8]

Implementing depression enhancements in small primary care practices has been challenging. Traditional quality improvement (QI) interventions have yielded mixed results for improving depression care in primary care practices within managed care organizations[9–13]; however, there are few trials of QI activity in small, mixed-payer practices. QI activities for depression are difficult to implement and sustain in small practices and may be less effective in settings with lower levels of organizational capacity to manage change.[14,15] Our team's previous work led to an understanding of small primary care practices as complex adaptive systems.[16–19] Stated briefly, complex adaptive systems exist in a constant state of change in response to both internal and external forces. Because these forces are often under- or unappreciated, complex adaptive systems are often observed to change and respond to interventions in unpredictable ways. Understanding primary care practices in this way has guided development of interventions that involve diverse stakeholders in the practice and place equal emphasis on a coherent change management strategy as on the clinical care

Article-at-a-Glance

Background: Improving primary care depression care is costly and challenging to sustain. The feasibility and potential success of a modified improvement collaborative model to create sustained improvements in depression care was assessed.

Methods: Sixteen practices from the American Academy of Family Physicians National Research Network and the American College of Physicians Practice-based Research Network completed a nine-month program. Two practice champions (PCs) from each practice attended three two-day learning sessions, where practice change strategies and key depression care elements were discussed. The nine-item Patient Health Questionnaire (PHQ-9) was used for screening, diagnosis, surveillance, tracking and care management, and self-management support. Pre- and postintervention depression care survey data were gathered from all practice clinicians, and qualitative data were collected via interviews with PCs and field notes from learning sessions.

Results: On the basis of PC reports at nine months, 16 practices had implemented the PHQ-9 for depression case-finding and 13 for monitoring severity; 5 practices had implemented tracking and care management and 1, self-management support. At the 15-month follow-up, nearly all changes had been sustained, and additional practices had implemented tracking/care management and self-management support. Significant pre-post improvements were reported on several subscales of the clinician survey, demonstrating substantial diffusion from the PC to other clinicians in the practice.

Discussion: The program led to measurable improvements in implementation of office procedures and systems known to improve depression care. The improvements were both sustained beyond the end of the program and substantially diffused to the other clinicians in the practice.

changes themselves.[20] The challenge remains to translate both depression care and change management strategies into practical, feasible, and sustainable programs that can be widely implemented in community-based primary care practices.

In 2005 the American Academy of Family Physicians, American Psychiatric Association, and American College of Physicians launched a National Depression Leadership Initiative to test strategies to achieve broad improvements in depression care. This report describes the use of a modified improvement collaborative to improve primary care of depression that emphasized change management strategies for small primary care practices. Our modification of the Institute for Healthcare Improvement (IHI) collaborative model[21] emphasized use of a practice change management strategy consistent with a complex adaptive system model for primary care practice.

Methods

The Improving Depression Care project was designed to test the feasibility and effectiveness of a modified improvement collaborative approach to improving depression care that equally emphasized important principles of change management for small primary care practices.

Practice Recruitment

Eighteen primary care practices were recruited from the American Academy of Family Physicians National Research Network (NRN) and the American College of Physicians Practice-based Research Network (ACPNet) in January 2005. General recruitment e-mails were sent to practices in the networks regarding the project, and interested practices were contacted via telephone by network staff to further describe the project and confirm interest. Interested practices then received a letter describing the study procedures and the need to travel to learning sessions. Finally, the investigative team members [D.E.N., P.A.N., W.P.D., D.G.G., K.M.G., D.S.M.] called each practice to discuss the study and learn more about its interest. Although the program focused on small, mixed-payer practices, we sought to select practices that represented a variety of sizes, organizational structures and affiliations, and populations served. Although some practices were affiliated with larger organizations, only those were included that reported adequate local autonomy to engage in practice change without higher approval. No other systematic exclusion of practices occurred. Table 1 (above, right) displays the characteristics of the nine family medicine and nine general internal medicine practices.

Table 1. Practice Characteristics

	n	%
Type of Practice		
1. Solo practice	5	27.8%
2. Single specialty group	5	27.8%
3. Multispecialty group	8	44.4%
Owner of Practice		
1. Individual physician	7	38.9%
2. Medical group practice	4	22.2%
3. Hospital or health system	2	11.1%
4. Federal, state, or local government, community board, etc.	5	27.8%
Community Type*		
1. Urban	14	77.8%
2. Large rural city/town	2	11.1%
3. Small rural town	2	11.1%
% Patients of Minority Status		
1. 0% to 20%	3	16.7%
2. 21% to 40%	5	27.8%
3. 41% to 60%	5	27.8%
4. 61% to 80%	3	16.7%
5. 81% to 100%	2	11.1%
Number of Clinicians		
1. 1 (Solo)	3	16.7%
2. 2 to 4	7	38.9%
3. 5 to 6	5	27.8%
4. 7 or more	3	16.7%
Number of Staff		
1. 1 to 4	3	16.7%
2. 5 to 10	4	22.2%
3. 11 to 20	7	38.9%
4. 21 or more	4	22.2%

* Designated according to U.S. Census Rural Urban Commuting Area Codes.

Intervention Design

The intervention used a modified improvement collaborative approach to assist practices to develop a change management strategy and leverage the strategy to implement depression care improvement changes. The change management strategy taught in the learning sessions was broadly structured around the principles of the Reflective-Adaptive Process (RAP) used in earlier work[20] and summarized in Table 4 (page 253). The RAP incorporates a rapid-cycle test of change and is based on a practice commitment to articulating a shared mission and vision, protecting time and space for reflection and

Implementation and Sustainability of Depression Care Improvements

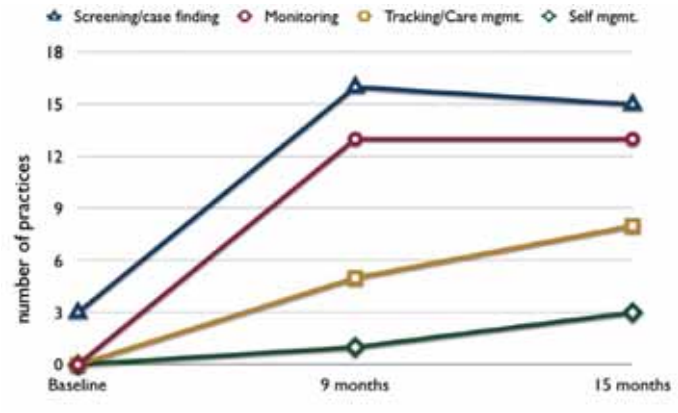

Figure 1. *The figure displays the progression of use of the nine-item Patient Health Questionnaire (PHQ-9) at baseline, 9 months (end of third learning session), and 15 months (representing follow-up six months after the intervention ended). Mgmt, management.*

learning, managing inevitable tension and conflict associated with change, and providing supportive leadership that is involved in the change process.

We also instructed practices in a staged process of depression care improvement adapted from the MacArthur Foundation's Depression in Primary Care project[22] (see Table 2, page 250). The stages were structured around the use of the 9-item Patient Health Questionnaire (PHQ-9)[23] and encouraged RAP cycles to first test the use of the PHQ-9 for screening, diagnosis, and monitoring depression severity. The second stage encouraged practices to begin proactively tracking patients to monitor severity and assure adherence with visits and medication. Finally, practices were presented with materials for assisting patients in setting and pursuing self-management goals. Following the first learning session, the project champions (PCs) returned to their practice to establish an improvement team and act as the facilitators of change. Although changes in depression care were the focus of the intervention, PCs were encouraged to also use the improvement teams to deal with other improvements in practice operations, such as telephone call management and prescription refills. The second and third learning sessions revisited the RAP and depression care principles and provided opportunities for PCs to share experiences and to joint problem-solve the challenges they faced.

The learning sessions were held in Chicago on April 8–10, June 24–26, and November 4–6, 2005. Two PCs, including one physician and one nonphysician, selected by each practice, participated in each of the learning sessions. The curriculum was designed to present change management principles in a series of didactic, seminar, and interactive sessions. The learning sessions also presented principles and tools for depression care improvement. The project was structured such that roughly three fourths of the first learning session focused on the RAP model and one fourth on tools for depression care. The second learning session was roughly evenly split between the two, and the final learning session was divided into approximately one-fourth RAP principles and three-fourths depression care.

At all learning sessions, the practices were divided into three groups, with two of the study team members assigned as coaches for each group; the same groups and coaches worked together throughout the project. The learning session agendas were explicitly designed to permit flow between large group presentation and discussion and sharing of ideas and experience among the six practices in each small group, facilitated by the study team coaches. This approach served to maximize the potential for PCs to interact and reflect on how the change management principles might be implemented in their own practices. Each learning session concluded with the PCs from each practice jointly developing an action plan for their own practice to implement during the period of time between learning sessions (action phase). In the majority of cases, each PC was able to attend all learning sessions, and practices occasionally elected to bring an additional staff member at their own expense. During the action phases, the coaches completed at least one check-in call to provide additional support and conduct interviews with both PCs to describe practice progress and challenges.

Quantitative Measures

The clinicians in each participating practice completed an Assessment of Clinician Depression Management in Primary Care (ACDM) survey at baseline and shortly after the final learning session. The ACDM is a 22-item measure designed to measure aspects of the Chronic Care Model as applied to depression in primary care. The ACDM has the following five subscales:

1. Relationships with consultants (alpha = 0.74)
2. The use of a standardized questionnaire to assess and monitor depression symptoms (alpha = 0.82)
3. The utilization of information systems to support depression care and QI (alpha = 0.71)
4. The provision of patient self-management support (alpha = 0.76)
5. The utilization of a team approach to depression care

Table 2. Staged Process of Depression Care Improvement

Stage 1	Use PHQ-9* to identify	■ PHQ-9 ■ administration aids ■ scoring instructions
Stage 2	Use PHQ-9 to monitor during return visits	as above plus... ■ guidelines for tx
Stage 3	Use PHQ-9 to proactively manage	as above plus... ■ care management forms ■ manual tracking
Stage 4	Use PHQ-9 and registry to optimize care	as above plus... ■ registry database

* 9-item Patient Health Questionnaire (PHQ-9); Kroenke K., Spitzer R. L., Williams J. B.: The PHQ-9: Validity of a brief depression severity measure. *J Gen Intern Med* 16:606–613, Sep. 2001.

(alpha = 0.73).

Three additional single-question subscales cover the clinician's use of depression guidelines, the ongoing depression QI efforts, and the overall level of commitment to improving depression care.

Qualitative Data

Qualitative data gathered by the study team was based on (1) semistructured telephone interviews at baseline and during each of three action phase calls and (2) field notes from learning session discussions gathered by the study team and consultants. We also completed follow-up interviews with the PCs six months after the end of the program to determine how well the practice changes were sustained and diffused to other clinicians, with particular attention to use of the PHQ-9, tracking and care management, and patient self-management support.

Data Analysis

The analysis focused on the measures of practice change for depression care that derived from the ACDM surveys and the extensive qualitative data.

Quantitative Data. ACDM descriptive statistics for the pre- and postintervention surveys were calculated, and mixed-effects repeated measures models, adjusting for clustering effect at the practice level using SAS 9.1 (SAS Institute; Cary, North Carolina), were used to evaluate changes in scores over time.

Qualitative Data. The qualitative data (interview transcripts and extensive field notes from the learning sessions) were transcribed and analyzed with Atlas.ti (Atlas.ti Scientific Software Development GmbH, Berlin). For this analysis, a template approach[24] was used that established codes for elements of the change process (improvement ream activities and RAP cycles) and for depression care (use of PHQ-9, tracking and care management, and self-management support). All coded data were read by three authors [D.E.N., P.A.N., A.J.B.), and discrepancies were discussed and resolved by examination of the data. Where the data were ambiguous about the presence of a change in depression care, it was assumed that no change had occurred.

For each practice, the analysis then determined the use of the PHQ-9 (specifically for screening, diagnosis, and monitoring), use of a tracking or care management function, and provision of self-management support at baseline (February 2005), 9 months (at the time of the third learning session, November 4–6, 2005), and 15 months (telephone interviews during May 2006).

The study was reviewed and approved by the American Academy of Family Physicians, University of Missouri–Kansas City Social Sciences, Colorado Multiple, University of Michigan Medical School, State University of New York–Upstate Medical University, and University of Illinois College of Medicine–Rockford Institutional Review Boards.

Results

Eighteen practices (nine internal medicine and nine family practices) began the project. Two solo practices withdrew (one internal medicine and one family practice) after the first learning session with mutual agreement that the scope and goals of the project were not a good fit for the practices. In addition, one practice had nearly complete turnover of its clinicians during the project, and we were unable to obtain before-after ACDM surveys. All 16 remaining practices were able to provide interview data.

Depression Care Improvements

Figure 1 (page 249) displays the progression of use of the PHQ-9 at baseline, 9 months, and 15 months. At baseline, only three practices had any experience with PHQ-9 use, while at 15 months, all but one practice were using the PHQ-9 in some fashion. Thirteen of the 16 practices were using the PHQ-9 for depression monitoring, and 8 were using some form of PHQ-9–facilitated tracking or care management. All but one practice sustained use of the PHQ-9 beyond the active intervention. Tracking/care management and use of self-management support actually increased after the active intervention as practices implemented information systems that facilitated depression care.

Diffusion of PHQ-9 Use in Participating Practices Beyond Practice Champion

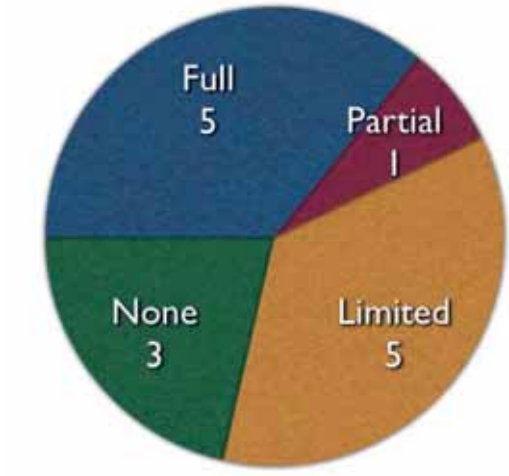

Figure 2. *More than one third of the non-solo practices (5 of 14) experienced diffusion to all clinicians, meaning that all the practice's clinicians were engaged in actively using the nine-item Patient Health Questionnaire (PHQ-9) in routine depression care. Limited, fewer than half of practice using; partial, half or more.*

Figure 2 (above) displays practices according to the degree to which PHQ-9 use diffused beyond the PCs. Two practices were solo practices; therefore, this outcome is not particularly meaningful. Among the remaining 14 practices, however, all but 3 experienced some diffusion of PHQ-9 use.

Assessment of Clinician Depression Management (ACDM) Results

The response rate for the ACDM was 89% for the baseline survey and 60% for the follow-up survey. Thirty-six clinician surveys were available for matched pre- and postproject analysis. Table 3 (page 252) displays the results of the ACDM analysis. All individual subscales except those measuring "use of consultants" and "self-management support" showed significant improvements from baseline. In addition, two single-question items, "I use evidence-based guidelines for depression…" and "Quality improvement…(addresses depression care)" showed significant improvement from baseline. Another single item, "My level of commitment to improving the management of depression in my practice is…" failed to show improvement, possibly because it was the highest single rated item at baseline. Overall, ACDM scores showed a significant improvement during the project, moving from an average of 2.63 to 3.12, based on weighted analysis.

Analysis of ACDM scores to determine whether PCs' improvements were greater than their practice peers showed significance for "use of a standardized questionnaire" (p = .004), "information system support", (p = .014), "teamwork" (p = .007), and "self-management support" (p = .013). "Teamwork" appeared to have improved equally among PCs and their peers in contrast to the other items, where the PCs demonstrated greater degrees of improvement than their peers. Site-level analysis checked for bias in overall improvements accounted for by disproportionate improvements in practices with larger numbers of returned surveys, and found none.

Case Studies

These case studies were chosen to illustrate practice factors that either enabled or kept practices from using the intervention to improve their depression care processes.

1. Change Ripples Through a Small Practice. One practice in our project demonstrates how the change management strategy and depression improvements rippled through practices. This practice serves a rural community and had no experience with use of the PHQ-9 or any concentrated efforts at improving care for chronic conditions. Their comments during learning session 1 reflected the struggles of a small private primary care practice attempting to provide quality care for depression in the face of uncertain reimbursement. Initial efforts at using the PHQ-9 were positive, with their nurse practitioner expressing interest in being able to use the form to track patients with depression. Both of the PCs acknowledged during the first learning session that "systems issues" were going to need to be addressed by their improvement team.

As this practice began improvement team meetings, ripples arose quickly within the office regarding the purpose of the team and how it would affect the practice. One team member expressed doubts about her ability to provide meaningful input but with encouragement became a valuable contributor. The office manager had recently gone for "team building" training, which created tension around the role of the project improvement team relative to what she had learned and wished to bring back to the practice. Tensions also existed with the senior clinician being relatively disconnected from the improvement team process.

Until these tensions created by the improvement team were resolved, the PHQ-9 was put into use for screening and monitoring, but expansion of the improvement process to tracking and care management could not occur. During learning session 3, specific sessions were held that gave the PCs suggestions and strategies for dealing with the tensions that often arise through

Table 3. Assessment of Clinician Depression Management (ADCM) Analysis (N = 36)

Scale (ordered by level of change among all respondents)	Mean baseline response (change during project)			p for change pre vs. post*	p for time* PC†
	All respondents	Practice champions	Others		
Use of standardized questionnaire	2.66 (0.93)	2.93 (1.55)	2.67 (0.45)	**<.0001‡**	**0.007**
Information system support	1.73 (0.64)	1.86 (1.23)	1.78 (0.24)	**.0003**	**.00130**
Use of depression guidelines§	2.89 (0.60)	2.95 (0.89)	2.95 (0.22)	**.0021**	**.039**
QI efforts§	2.74 (0.59)	3.21 (0.58)	2.83 (0.38)	**.0016**	**.037**
Team approach	2.31 (0.28)	2.65 (0.42)	2.24 (0.14)	**.02**	.21
Self-management support	2.43 (0.28)	2.53 (0.74)	2.37 (0.03)	.09	**.02**
Relationships with consultants	2.64 (0.17)	3.19 (0.24)	2.59 (0.13)	.24	.64
Commitment to working on depression§	3.68 (0.07)	3.69 (0.53)	3.67 (-0.17)	.62	**.02**
Weighted total‖	2.63 (0.49)	2.77 (0.74)	2.63 (0.20)	**<.0001**	**<0.001**

* Pre- and postchange levels are the estimated mean scores per item for each scale (1 minimum, 5 maximum).
† Time PC represents the change in scores pre- versus postintervention for practice champions compared to that for other practice clinicians.
‡ p values <.05 are boldfaced.
§ Single items.
‖ Weighted total gives equal weight to each individual subscale.

the implementation of a change management strategy. The champions left learning session 3 with plans to address the tensions head on. The concerns of the office manager were addressed by affirming the importance of her role in the practice, and the participation of the senior clinician was also addressed. The office began holding a forum where everyone's concerns regarding the practice could be addressed. PHQ-9 use diffused to all clinicians, and all depression care improvements were implemented with the exception of regular use of self management. At the final 15-month interview, one of the champions commented:

> On the whole, things have gotten much better in the practice since implementing the RAP in this way. Each person in our office has a way to be heard, and the office meets as a whole, which has never happened before, but was much needed.

In this practice, having the RAP change management process markedly facilitated the practice's ability to adaptively cope with the ripples generated by implementation of the depression care improvements.

2. The Collaborative-Experienced Community Health Center. This practice had extensive experience with learning collaboratives around diabetes and came to our project expecting a similar process, just focused on depression. Early on, the mental health professional who was one of the PCs acknowledged the challenges of using a team approach in a practice that had often handled depression through referral to her:

> It will be a lot of work, figuring out how to get it done, there will be a lot of excuses. It sounds like a good idea; the question is how to implement it, how to get buy-in and commitment, how to sustain it.

This practice addressed the issue of buy-in directly by bringing the medical director to the second learning session, which resulted in his buy-in and convening of a weekly improvement team.

There was an additional sense of resistance in the practice to implementing changes as part of another collaborative. Indeed, the project seemed at risk early on because of the negative feelings that carried over from the practice's participation in the diabetes collaborative. However, one of the PCs stated that our approach allowed them to anticipate these sorts of obstacles:

> I remember some of the conversations of individuals who put forth concerns prior to even delving into this process, and they're all true. I just found myself smiling. Because most of the things we talked about as obstacles have materialized. But that was helpful too because I didn't feel like we were different or strange. Or it wasn't something that others were not going through.

During the 15-month interview, the medical director of this practice commented:

Table 4. Guiding Principles of the Reflection-Adaptation Process (RAP)

- Having a vision, mission, and shared values will guide a practice in making ongoing improvements. A practice vision and mission focuses the improvement team on defining what the practice wants to become and how to get there.
- Improvement teams need to meet at a regularly defined time and place to reflect on and learn from their activities. Effective meetings allow teams to define how the practice currently works and the types of changes they want to undertake.
- Tension and conflict are normal during practice change. Improvement teams must set ground rules to encourage all opinions to be heard and to handle resulting conflicts.
- Including diverse members on the improvement team broadens the skills and opinions that contribute to practice change. Improvement teams should include representatives from the practice's different functional areas and should invite patients to participate as well.
- Practice leaders need to actively support and be involved in a change process, endorsing the improvement team goals and protecting time and resources the team needs for the process to flourish.
- Core improvement team goals include:
  - Relationships within the practice should be built on trust, honesty, and self-respect, with all perspectives valued.
  - Practices should be open to self-reflection and new ideas.
  - Practices should acknowledge how all parts of the practice are dependent on each other to produce a well-functioning practice.
  - Practices should appreciate the value of diversity in practice roles and staff backgrounds. Differences of perspectives strengthen the practice's internal and external connections.
  - Practices should employ both formal and informal means of communication, determining when each is most appropriate.
  - Practices should have a balance between strong and weak connections both internally and externally to allow for innovation and the adoption of new ideas while maintaining interconnections among staff.

> I think it (the change management strategy) gave us a certain degree of freedom for us to be able to create something that worked in our particular environment. Because in other studies, collaboratives that we have participated in before, there was always a format that you had to apply that was given to you. And there's little flexibility and it's more about measurements and outcomes and not so much about process. And I see that in those cases its sustainability is not very likely in the long term.

By the time of the 15-month interview, this practice successfully implemented all depression care improvements, with the exception of regular self management instruction, and had diffused the care improvements to all clinicians.

Waiting for the Electronic Medical Record (EMR). Several practices were hampered in their efforts by ongoing or imminent EMR implementations. One practice was particularly illustrative of these difficulties because of its high level of commitment for the project as a whole. It sent an additional, third, member to each learning session at its own expense because of its commitment. Early on the issues related to electronic systems were foreshadowed:

> We're going to an EMR next month. There's a question if we're going to an EMR if it won't provide a flow sheet. I asked Information Systems. We cannot implement a flow sheet until it's an official health system document. It's a catch-22. We won't have scanning capability for four years.

As the project continued, the EMR project began to overwhelm the PCs' and improvement team's efforts. The practice administration tasked the improvement team to put depression on hold and work on the EMR implementation, as one of the PCs stated:

> The improvement team has continued to meet, but our focus has been on the EMR. The administration has wanted to incorporate the improvement team with the CQI group. (It's a mess.) Dr. X met with them and pleaded for the improvement team to have our own time at least twice a month. This request for time was brought up to the administration hierarchy last month. It's still a process, the focus on EMR, it's been kind of crazy. I don't feel like we've done a whole lot, we've tried. But with everything else, it's been hard.

Despite these issues, following the second learning session there was still positive regard for the RAP process:

> Overall, RAP has been very beneficial to our practice, it gets everyone's input, we find resolution, then move on, we don't have to muddle through. It's a great asset to the practice to have Improvement Team.

The PCs continued to work through issues with the EMR implementation, and their integration into this process was felt at the final interview to have been helpful in getting the PHQ-9 integrated in to the EMR. Although tracking was never implemented, when the office went entirely paperless, having the PHQ-9 available within the EMR allowed the practice to sustain its use in some fashion and diffuse it out to the entire group. One of the PCs summed this up in the final interview:

> We have had people using the EMR or documenting their scores and follow up on the EMR, which is the only way that we're going to be able to do it in the future because we're virtually completely paperless at this point and it's really great if we were to use it on a more systematic basis it would be a wonderful way to keep up and to share information with other practitioners.

Discussion

The intervention enabled most of the practices to implement the change management strategy and use it to deploy depression management tools and processes known to lead to improved patient outcomes. Furthermore, our analysis suggested that (1) practices were able to sustain improvement changes after the intervention ended and in some cases continue to enhance improvements and (2) the change strategy led to diffusion of improvement changes among the other (nonPC) clinicians in the practices.

The intervention design purposefully emphasized development and maintenance of a specific change management strategy in the participating practices. Although we did not discourage practices from jumping immediately to making changes in depression care, we encouraged them to take the time and effort during the first action phase to form an improvement team, develop ground rules, improve communication, and begin testing small changes in practice operations. We believe that starting with a change management strategy allowed most practices to implement depression changes, expand them after the intervention ended, and successfully diffuse depression care practices to other clinicians. However, without a direct comparison with other approaches, we are limited in the confidence with which we can attribute our results to the change management strategy.

Previous evaluations of QI collaboratives have produced mixed and somewhat modest results for various chronic diseases.[25,26] For example, two evaluations of collaboratives that focused on improving depression care found some uptake of chronic care model elements but with less documentation of improvement in patient process of care measures or patient outcomes.[27,28] Recent commentaries have questioned the widespread acceptance of QI collaboratives as a change model and have suggested a strong need to be more rigorous in the evaluation of outcomes, as well as further investigated the strengths, weaknesses, and potential improvements of the prevailing collaborative model and how different collaborative models might be useful for various initiatives.[29–31] Our study adds to this literature with a modified version of a national QI collaborative that emphasizes a change management strategy before implementing depression care.

Our project was limited by the use of self-reported measures of change inherent in the ACDM and interviews of PCs. Although there may have been reporting bias among the PCs, it would be expected to be less pronounced among the other clinicians in the practices that were completing the ACDM. In addition, the longitudinal qualitative data allowed a "story of change" for each practice and a case study approach that confirmed changes reported by the individual clinicians. The 15-month study time frame permitted an additional point of observation (with the qualitative data) approximately 6 months after the intervention ended. Although we were encouraged by the evidence of sustained change in most practices (and a few improvements in some) we do not have information about the long-term sustainability or deterioration in the intervention effect. In addition, we did not measure direct patient outcomes in this project. Rather, we chose to focus on implementation of systematic depression care processes that have been shown to affect patient outcomes.[22,32–34] This project was designed to test the use of an implementation strategy for these depression care processes. Future work should further examine direct outcomes in patients receiving care in practices participating in such a program.

Conclusion

We believe that the modified improvement collaborative approach, when combined with an equal focus on increasing practices' capacity to implement change and a specific strategy for improving depression care, shows promise and could be scaled for regional delivery. Further confirmatory work is needed to compare this approach to other QI interventions. J

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