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IMPROVING PRIMARY CARE WITH HUMAN-CENTERED DESIGN AND PARTNERSHIP-BASED LEADERSHIP

May-Lynn Andresen, DNP, RN, and Teddie M. Potter, PhD, RN, FAAN

Abstract

Objective: The purpose of this quality improvement project was to empower and activate first-line staff (FLS) to improve the six-month depression remission rate in a primary care clinic.

Background: Lack of workforce engagement has been identified as an emerging national problem in health care and health care leaders have urged practice redesign to foster the Triple Aim of improved population health, improved care experience, and reduced cost of care (Berwick et al., 2008). Depression is difficult to manage and often exacerbates chronic illnesses and shortens lifespans, yet despite known effective treatments, six-month remission rates are low and care practices are often inadequate. Engaging in empowering leadership behaviors has demonstrated improvement in motivation, work outcomes, and empowerment in various industry settings across the world. Core approaches include: enhancing staff self-determination, encouraging participation in decision-making, and ensuring that staff have the knowledge and tools to achieve their performance goals, in addition to leadership communications that increase confidence in staff's potential to perform at high levels, and their recognition that their efforts have an impact on improving organizational effectiveness.

Methods: In this outpatient setting, care was siloed, staff were disengaged and a hierarchical paradigm was evident. Human-centered design principles were employed to intensively explore stakeholders' experiences and to deeply engage end users in improving depression remission rates by creating, participating, and partnering in solutions. Leadership was educated in and deployed empowering leadership behaviors, which were synergistic with design thinking, and fostered empowerment.

Results: Pre- and post-surveys demonstrated statistically significant improvement in empowerment. The six-month depression remission rate increased 167%, from 7.3% (N=261) to 19.4% (N=247). **Conclusion:** The convergence of empowering leadership behaviors and human-centered design, offers great promise for improved patient outcomes, staff empowerment, and promotion of partnership.

Keywords: activation; engagement; empowerment; empowering leadership behaviors; health care; human-centered design thinking; leadership; partnership

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INTRODUCTION

In 2008, Berwick and colleagues at the Institute for Healthcare Improvement (IHI) called for diligent quality improvement efforts in health care settings, including a particular focus on primary care redesign. They cited this work as crucial to achieving the Triple Aim: improved population health, improved care experience, and reduced cost of care (Berwick, Nolan, & Whittington, 2008). Given the increasing pressures and demands in health care, a national problem that threatens the three aims is lack of workforce engagement, in which staff do not derive meaning from their efforts (Rishi, Morath, & Leape, 2015). This understanding is not new. The Institute of Medicine [IOM] (1999) cited improved communication, collaboration, and partnership across teams as key to safer health care. More recently the Lucian Leape Institute (2013) found that staff provide safer and more effective care when they are purposefully engaged in their work. Despite these studies, significant resources are invested to address the nation's improvement goals without adequately considering human factors, staff empowerment, and inter-relationships, which are necessary to enable these IOM-recommended strategies.

Recently, a fourth aim, improved care team experience, was proposed as a strategic approach to meeting the Triple Aim (Bodenheimer & Sinsky, 2014). It is based on the premise that changes in the health care work environment are needed to foster deep care team engagement by reigniting the workforce's sense of purpose and meaning in their efforts with and for patients (Rishi, Morath, & Leape, 2015). Literature across various sectors internationally has reported success in enhancing employee engagement through the practice of empowering leadership behaviors (Howe, 2014; Kuo, Yin, & Li, 2008; Laschinger, Wong, McMahon, & Kaufmann, 1999; Martin, Liao, & Campbell, 2013; Martínez-Córcoles, Schöbel, Gracia, Tomás, & Peiró, 2012; Zhang & Bartol, 2010). These behaviors include fostering employees' meaningful engagement as well as their feelings of purposefulness and confidence that what they do makes a difference and really matters. This approach is aligned with the principles of partnership-based leadership (Eisler & Potter, 2014), and may also hold a key for improving the health of populations.

Chronic illnesses, including major depression, account for more than 80 percent of U.S. health care costs and have a profoundly negative impact on population health (Center for Disease Control and Prevention, 2016; Gerteis et al., 2014). Quality improvement efforts focused on increasing empowerment and engagement have the potential to positively influence patient outcomes, particularly when health care challenges are complex, such as improving depression remission.

PROBLEM DESCRIPTION

The project site (Clinic) was one of multiple primary care clinics in a large Midwest health system (System). Their local problem mirrored the national health care challenge: a disengaged, siloed care team. They were also seeing poor patient outcomes related to depression, specifically a six-month depression remission rate of 5.2 percent, which was below the state-wide average of eight percent (MN Community Measurement, 2015), despite numerous efforts to improve it.

The health system participated in a national value-based payment program in which reimbursement was determined by quality metrics and patient outcomes, including six-month depression remission rates. Their low performance created a strong impetus for change among the Clinic's leadership (Leadership) that included the Clinic's medical, clinical, and administrative directors.

The Clinic had three distinct teams, each consisting of approximately three providers, in addition to first-line staff (FLS) members that included three Medical Assistants (MAs), one Registered Nurse (RN), and one Team Coordinator (TC) who focused primarily on secretarial tasks. Leadership described the FLS and most providers as "disengaged and relatively apathetic." They also voiced frustration with lack of teamwork and communication. Although Leadership's original goal for this quality improvement project was to improve depression remission rates at the clinic, it became clear early on that meaningful and lasting change was only possible if the team became fully engaged with each other and their work.

LITERATURE REVIEW

Major depression and chronic illness

Major depression is a serious, debilitating condition impacting more than 16 million Americans, and is characterized by at least two weeks of lost interest or joy in prior pleasures or depressed mood along with changes in daily function (National Institute of Mental Health, n.d.). Achieving remission is crucial, as persons with depression often develop physical chronic illnesses earlier than those without depression, and have a life expectancy that is five to ten years shorter (Katon, 2011; Siu & the US Preventive Services Task Force, 2016). Patients with both depression and chronic illness have significantly lower treatment adherence rates and lower satisfaction with their health care encounters (Katon, 2011). These factors have serious negative impacts on the health and well-being of affected patients, and pose significant treatment challenges in the care environment. Primary care practices are the entry point for most patients with depression, yet many of these practices lack adequate care management processes (Bishop, Ramsey, Casalino, & Bao, 2016). When care and education are provided utilizing a team approach, patients experience improved confidence and self-efficacy, along with higher rates of depression remission (Katon, 2011; Ludman et al., 2013).

Staff engagement

An engaged and empowered team is instrumental in improving care and fostering partnerships, essential for patients with challenging health conditions. In both IOM landmark reports on quality and safety, *To Err Is Human: Building a Safer Health System* (1999) and *Crossing the Quality Chasm: A New Health System for the 21st Century* (2001), partnership principles of collaboration, teamwork, and communication were emphasized as key to health care redesign and improved outcomes. A decade later, in 2011, these core components carried over to the United States' National Quality Strategy (NQS) and remain in place today (AHRQ, n.d.). Despite nearly two decades of national focus, much work remains. Eisler and Potter (2014) describe the health care culture as hierarchical, in which domination relationships are prevalent. This is evidenced through health care team members exerting control over patients, and the

preponderance of hierarchical relationships and domination behaviors amid health care team members and staff. Although partnership with patients is the strategic goal, it is not easy to achieve and must begin at the core, by building teamwork and partnership within the health care team.

Empowering leadership behaviors

Systematic and consistent implementation of an empowering leadership approach, utilizing specific empowering leadership behaviors (ELBs), has proven impactful across a variety of settings. In a nuclear power plant, Martínez-Córcoles, Schöbel, Gracia, Tomás, and Peiró (2012) demonstrated improvement in employees' collaborative learning, proactivity, and safety behaviors and performance. In a study conducted in a large information technology firm, empowering leadership behaviors were linked with psychological empowerment and increased creativity (Zhang and Bartol, 2010). Martin and Campbell (2013) utilized targeted leadership tactics with business leaders from various sectors, and demonstrated a significant increase in proactive behaviors and self-directed actions among employees within a period of several months.

The evidence-based ELBs utilized in these studies include:

- Fostering self-determination and autonomy by encouraging staff members to decide how to perform and carry out their job functions.
- Enabling staff members to participate in organizational decisions.
- Ensuring that members of the workforce have the necessary knowledge and skills to achieve the targeted improvement.
- Engaging in communications that demonstrate leaders' confidence in staff members' competence and capacity for high performance.
- Enriching staff members' sense of purpose and meaning in their work by facilitating their understanding of the impact their efforts have on the organization (adapted in this project to: impact their efforts have on patients and the Clinic's effectiveness) (Martin, Liao, & Campbell, 2013; Martínez-Córcoles, Schöbel, Gracia, Tomás, & Peiró, 2012; Zhang & Bartol, 2010).

These ELBS were adopted as best practices for this project.

NEEDS ASSESSMENT AND PROJECT AIM

Clearly, the Clinic culture was nowhere close to partnership and struggled with chronic staff disengagement. A creative solution was needed to address this challenge. The Clinic engaged an external nurse executive to be the Project Director (PD) for the initiative. She began by applying human-centered design thinking (DT). DT is a “systematic innovation process that prioritizes deep empathy for end-user desires, needs, and challenges to fully understand a problem in hopes of developing more comprehensive and effective solutions” (Roberts, Fisher, Trowbridge, & Bent, 2016, p. 12). Human-centered design and DT principles provided the framework for the assessment and tactical development portions of the project.

Human-centered design needs assessment

The goal of the needs assessment was to develop a deep understanding of the perspectives and experiences of all clinic stakeholders, both as individuals and as a team, in addition to strengths and opportunities for improvement. The PD conducted the assessment, which encompassed approximately 35 hours of observation, shadowing of clinical activities, and stakeholder interviews. A sample of interview responses is contained in Figure 1.

Patients:

- “I feel like I’m thought of as having mental illness. Isn’t that what it is? It’s stigmatizing.”
- “I’ve faked the PHQ-9 so I don’t have to deal with the questions and the embarrassment - nothing changes anyway.”
- “Having somewhere to go where I could be safe and not embarrassed. That’s what would help - where someone would believe me and what I’m feeling.”

First-line Staff:

- “Not even half of the patients call back. And the ones that do are mostly annoyed and some refuse to answer the [PHQ-9] questions.”
- “We never huddle with the providers about patients, we all just do our jobs.”
- “They’ll never let us talk to the patients about depression - no way!”
- “I never know when the patient comes in if we’re in the 6-month window for the PHQ-9.”

Providers:

- “I feel like I’m alone in trying to get my patients into remission.”
- “Patients need more education. We have zero time to do it.”
- “I don’t think the staff is comfortable communicating with me or any of the providers, they never come to us about the patients.”
- “I do give patients the depression care 2-pager. There’s no time to review it. I just expect they will read it. That’s their responsibility.”

Figure 1. Needs Assessment: Sampling of Pre-Project Interview Statements

The findings corroborated Leadership’s observations of siloed care, poor communication, lack of teamwork, and widespread lack of engagement and partnership. Evidence included:

- Patients voiced feelings of stigma and despair, knowledge deficits about the PHQ-9 and depression, and a yearning to feel understood and cared for by the providers and care team.
- Many patients, as reported by MAs and RNS, refused the PHQ-9 both in person at patient appointments, and during follow-up phone calls by the FLS.
- RNs were disengaged from patients with depression; only involved when medication refills were needed.
- MAs had good rapport and connection with patients, yet they didn’t have the knowledge and skills to complete their required tasks (e.g., understanding of depression or the patient perspective, the ability to successfully administer PHQ-9). They felt that Leadership did not permit them to have conversations with patients about depression, nor reinforce the depression education plan with patients, despite this being in their job description.
- Providers voiced a sense of isolation and high stress, frustration that patient visits were short with high acuity, and inadequate time to address patients’ needs related to their depression. Less than half endorsed use of the depression action plan (the Clinic’s depression care algorithm and patient education tool).
- Most of the clinical team was confused about the System’s depression quality measure, how to determine the PHQ-9 Index Date (date of first diagnostic PHQ-9), and how to use the System’s improvement tools.

- Poor communication was observed within teams and between FLS and their provider partners.
- Patients received minimal education or follow up.

Both staff and patients exhibited deficits in knowledge, skills, and confidence, which in the patient literature are considered the building blocks for activation (Hibbard & Gilbert, 2014). Activation begins with knowledge and, consequently, one cannot develop skills without knowledge, nor confidence without knowledge and skills.

For this project, the patient activation concept was adapted for first-line staff, defining activation as having the knowledge, skills, and confidence to participate as partners in the health care team, and sharing responsibility for improving depression remission.

Overall, the FLS demonstrated low activation. They lacked knowledge about depression and its sequelae and did not have the skills to effectively utilize the depression tools necessary for patient care, as measured by the PD's direct observations and staff interviews. These tools included the Patient Health Questionnaire (PHQ-9), the depression education plan, and the Remission Roster, which is a System-created tool to enable the staff to identify the required time window during which they need to conduct the six-month follow-up PHQ-9. Consequently, without the necessary knowledge and skills, they demonstrated lack of confidence.

The assessment also revealed that the clinic's culture was historically based on a hierarchical leadership model, and the staffs' perspectives and input were not encouraged or elicited. This was a primary source of staff disengagement. Another revelation was the need for implementation of empowering leadership (EL) as a tactical approach to foster partnership.

Project aim

The insights gained by the needs assessment informed the approach and interventions utilized in this quality improvement project. The project aim was to empower and

activate the first-line staff to support improved results in the six-month depression remission rate.

METHODS

Development of a Depression Champions team

To positively impact teamwork and improve depression remission rates, an innovative approach was needed. Previous hierarchical, top-down improvement efforts had failed, so Leadership agreed to try a partnership-based approach to empower FLS to ask questions and communicate effectively with their team and patients.

An interdisciplinary group of representative FLS comprising three MAs, one RN, and one TC were engaged to form the Depression Champions (DCs) team. Aligned with the principles of human-centered design thinking, the project was “co-participatory and involve[d] users from the very beginning” (Ferreira, Song, Gomes, Garcia, & Ferreira, 2015, p. 771). The DCs were invited to develop and implement an innovative improvement plan for increasing the depression remission rate.

The effort kicked off with a three-hour Depression Champions session led by the Project Director. Her goals were to establish trust among the DC team and to educate and support them to determine three strategies for improving depression remission rates. Although the DCs worked together at the clinic, they knew very little about each other, and it took time for them to become comfortable enough to interact.

The PD educated them about depression, the importance of achieving remission, and the System’s depression measurement tools and quality goals. The PD also communicated the needs assessment findings, including the observations of and interviews with patients and the perspectives of all stakeholders, and shared the assessed gaps, strengths, and opportunities. After extensive discussion, the DCs formulated what the FLS objectives would be for improving the clinic’s remission rates:

- Increase successful administration of the PHQ-9.
- Learn to use the Remission Roster tool effectively.
- Increase and improve communication with team and patients about depression.

Successful PHQ-9 administration would be demonstrated when fewer patients refused the PHQ-9. Although the clinic hadn't been capturing the overall percent of PHQ-9s completed when appropriate, there was consistent anecdotal reporting of patient refusals by both FLS and patients. During the project's second month, the System began to track the percent of patients with PHQ-9s completed during the requisite six-month re-measurement timeframe.

A one-hour FLS training was held the following week that included dissemination of the DCs plan. It was also communicated to the providers and other staff clinic-wide. Thirty-minute DC huddles were conducted every week during the five-month implementation period. The PD attended these huddles either in person or by phone, along with an on-site coordinator who provided follow-up on various needs that arose. The PD also had a weekly call with clinic Leadership to maintain communication and foster support. The PD provided additional informal trainings for FLS and DCs over the course of the project.

During huddles, the DCs brainstormed potential tactics, approaches, and tools for meeting their objectives. Between huddles they tested the new methods and brought their findings back to the huddle, refining processes until they were effective.

This process embodied human-centeredness and the five core principles of design thinking:

- Empathize: Intensive exploration of the end user experience (Needs Assessment).
 - Define: Compile all information, define problem and aim, build team.
 - Ideate: Formulate ideas and brainstorm.
 - Prototype: Develop innovative models/tools to address need.
 - Test: Test the prototypes to enable modification until effective solution found.
- (Brown, 2008; IDEO, 2015).

Figure 2 shows how the design thinking process was applied in this project.

DT Principle	Application
Empathize	PD observed rooming, provider visits, discharges; Deep listening - all end users: patients, providers, MAs, RNs, TCs, Leadership.
Define	PD assembled data/needs assessment, discussed with Leadership, Depression Champions idea born - engaged FLS to choose best approach, goals, tactics to improve remission rate.
Ideate	DCs convened, brainstormed, prioritized based on findings/ideas, chose 3 targets to address, developed plan for staff training, communicating strategy, tools.
Prototype	DCs created tools, i.e., Remission Roster Guide for timely follow-up 6-month PHQ-9s; PHQ-9 Communication Script (algorithm - included caring language; Quality/Performance Depression Remission Monthly Tracker, Contests (e.g. Give 'Em a Gem' for saying "patient health questionnaire" instead of PHQ-9).
Test	Tool development was an iterative process - tools were developed and tested by DCs, modified, and re-tested until useful, then rolled out to staff.

Figure 2. Project Application of Human-Centered Design Thinking (DT)

The DCs' first aim was to increase the FLS's success in administering the PHQ-9. Over a period of several weeks, the DCs ideated in their weekly huddles, brainstorming ideas that could potentially be effective. Through this work, they recognized that they were uncomfortable talking about the PHQ-9 with patients, and decided they needed a script. The next few weeks were spent prototyping different scripts until they chose a draft that they piloted for a week before unveiling for use by the rest of the FLS. Feedback from their peers indicated that some patients remained resistant to completing the PHQ-9. The DCs ideated further and recalled the stigma that many patients had voiced during the needs assessment. They proposed referring to the PHQ-9 by its formal name, the *Patient Health Questionnaire*, to subtly shift the focus to health rather than depression. They developed a friendly competition to increase uptake of this new language by the FLS, which proved successful. Deep empathy for the end-users, including patients and families, the first-line staff, and providers, is a core component of human-centered design thinking (Brown, 2008; IDEO, 2015). This concept

served as a guidepost; the perspective of stakeholders was fundamental throughout the DCs’ work together.

It is important to highlight that during the first six weeks, members of the DC team were quiet during huddles, contributed little to the process, and often arrived late or missed the huddle altogether. Neither the DCs nor any of the FLS had experience voicing their perspectives or suggesting ideas for improvement. As previously indicated, the clinic leadership did not historically encourage their input.

DCs were also uncomfortable revealing when they did not understand something, and therefore they avoided seeking answers. Alegria and colleagues (2008) described patient empowerment as a “capacity-building process rather than a state” (p. 248). This concept provided important insight into the work with the DCs and FLS. Recognizing that empowerment was a process was important in setting expectations, and allowed the FLS’s empowerment to evolve over time. It also led to the revelation that a targeted approach to empowerment was needed to accelerate progress.

Integrating empowering leadership behaviors

The empowering leadership (EL) behaviors used in this project (see Figure 3) dovetailed well with the human-centered design thinking methodology. The PD combined these approaches into a new application of best practices. This innovative model provides a targeted approach that addresses gaps in activation (knowledge, skills, confidence), and fosters communication, teamwork, engagement, and empowerment.

EL Behavior	Application
Leadership supports and engages staff to make decisions about how they do their job.	<ul style="list-style-type: none"> • Convened DCs, who created the action plan and tactics. • Provided ongoing support and encouragement to DCs through separate weekly DCs and Leadership/project director 30-minute huddles.
Training and tools for success are provided.	<ul style="list-style-type: none"> • 3-hour training and brainstorming kick-off with DCs. • Co-created staff trainings and tools with DCs. • All-clinic non-provider group training.

	<ul style="list-style-type: none"> • Monthly face-to-face individual trainings/check-in's to foster staff activation.
Staff invited to participate in decisions and develop new strategies to accomplish organizational goals.	<ul style="list-style-type: none"> • DCs' decisions and tools were encouraged, respected, and accepted by Leadership. • DCs invited their FLS peers to give input about tactics/tools.
Leadership communications firmly demonstrate their confidence in staff's competence and capacity for high performance.	<ul style="list-style-type: none"> • Leadership attended and opened the kick-off trainings (both DC and non-provider staff training) by stating their endorsement of DC initiative, and confidence that they would be successful. • Weekly all-clinic huddles included status update by DCs and public EL communications. • Leadership voiced EL soundbites with staff in daily Clinic operations.
Leadership communications endeavor to increase staff's sense of purpose and meaning in their work through facilitating their understanding of the impact their efforts have on patients and the Clinic's effectiveness.	<ul style="list-style-type: none"> • Called out achievements in All-Clinic (AC) huddles. • Distributed monthly quality/performance data aggregated by provider team and by Clinic team with efforts and improvements rewarded.

Figure 3. Project-Specific Empowering Leadership Behaviors

Tracking performance

In order to track performance, the PD developed a color-coded, single-page depression quality report that included the prior month's depression remission rate and the percent of completed six-month follow-up PHQ-9s. The data was aggregated by provider/MA/RN clinical team, and the results for all clinical teams were posted on staff bulletin boards.

Reinforcing culture change

The DCs came up with a positive reinforcement plan to foster teamwork and competition. Improved provider/MA/RN teams were announced at all-clinic huddles and

some received small prizes. The most improved team was rewarded with a group lunch of their choice, paid by the clinic administration.

Measures

This quality improvement project applied a mixed methods approach, utilizing both qualitative and quantitative data collection. Qualitative data were collected from clinic staff and patients with depression during pre-project interviews as part of the needs assessment, and from staff members during post-implementation interviews. A first-line staff (FLS) pre-implementation survey was also administered that included statements pertaining to their experiences of partnership and empowerment at the clinic, in addition to their activation (knowledge, skills, and confidence) related to their responsibilities to patients with depression, and the quality program.

A FLS survey was also given post-intervention that included two parts. The first section included a total of eight statements replicated from the pre-survey, related to empowerment, teamwork, and activation. The second part had four additional statements to obtain the FLS's perceptions of changes in their empowerment, team and patient communications, and value of the PHQ-9, compared with pre-implementation. Both surveys utilized a 5-point Likert scale (i.e., Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree). Due to a relatively small n (18), the responses were dichotomized into two categories, Agree and Disagree.

Quantitative data was gathered on depression remission rates and the percent of six-month follow-up PHQ-9s completed. These two quantitative measures were monitored monthly beginning two months after project implementation.

Several measures were utilized to determine whether the project intervention was successful: depression remission rates, percent of six-month follow-up PHQ-9 assessments completed, and the results of pre- and post-intervention interviews and surveys. Depression remission improvement was evaluated by comparing the rates achieved across the project period to the peak pre-project remission rate the year prior

to implementation (2015). The Clinic's overall 2015 remission rate was 5.2%. However, because the System reported gaps in retrieving accurate depression data from the electronic health record (EHR) during the 4th quarter of 2015 and first quarter of 2016, Leadership recommended that the 2015 highest-month depression remission rate (7.3% in September 2015) be utilized as the pre-implementation benchmark. This would reflect a minimum assessment of achievement. Therefore, 7.3% was established as the baseline remission rate for analyzing project success. The monthly depression remission rate trend over the course of the project was also considered.

RESULTS

Quantitative data: Depression remission and six-month follow-up PHQ-9 rates

From September 2015 to September 2016, the six-month depression remission rate increased by an approximate factor of three (Relative Risk = 2.7; 95% Confidence Interval = 1.4, 4.9) from the baseline remission rate of 7.3% to 19.4% (see Figure 4). This 167% increase was statistically significant with a chi-square test p-value of 0.0013. In absolute terms, this was an approximate twelve percentage point increase in the rate of remission (Risk Difference = 12.1%).

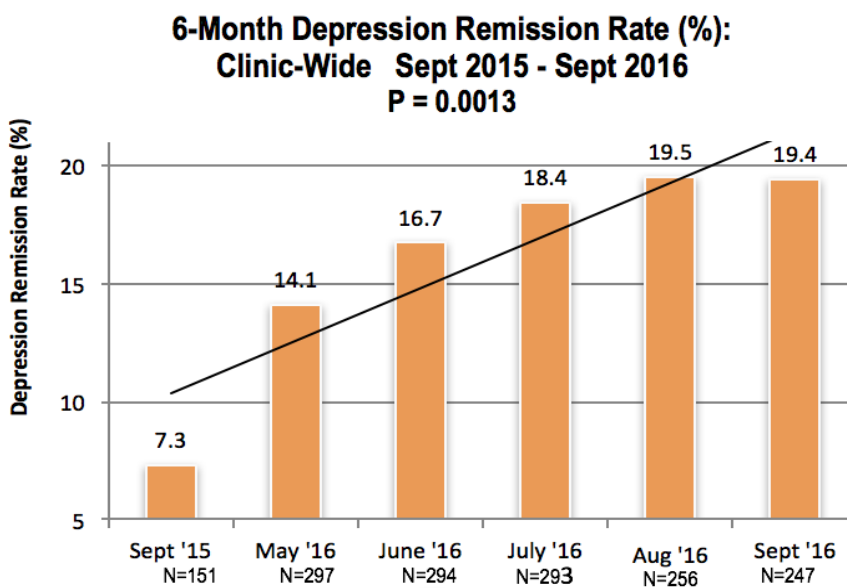


Figure 4. Depression Remission Rate Improvement

Moreover, there was a general trend of increasing remission rates over that period. A Cochran Armitage test for linear trend in proportions was statistically significant ($p = 0.0008$), although there was no change between August 2016 and September 2016, suggesting that the rate may have stabilized.

The percent of patients with depression who completed the six-month follow-up PHQ-9 was also measured. Since the System did not historically track this data in aggregate, there is no pre-project baseline available. Therefore, only May 2016 through September 2016 was reported. During that time, the rate of six-month follow-up PHQ-9 completion increased by a factor of 1.1 (10%) from approximately 60% to 66%. This increase was not significant (chi-square test $p\text{-value} > 0.05$). In absolute terms, this was approximately a six percentage point increase (Risk Difference = 6.1%) in the rate of successful six-month PHQ-9 follow-ups. A general trend of increasing rates was observed; however, a Cochran Armitage test for linear trend in proportions was not significant ($p = 0.09$).

Qualitative data: First-line staff (FLS) survey results and clinic staff Interviews

Figure 5 provides a comparison of FLS statement responses that were collected in the pre-survey, then re-measured in part one of the post-survey. Several activation statements (p -values are bolded), as well as a statement reflecting empowerment, achieved statistical significance. Pre-project interviews and observations demonstrated lack of partnership, poor interdisciplinary communication, and a high level of FLS discomfort when interacting with patients who had depression. A stark incongruence was evidenced between pre-survey FLS responses, which endorsed partnership, and the pre-intervention qualitative data. These findings were consistent with the feedback one might expect from a hierarchical leadership model where partnership is not practiced and staff provides answers they believe are “expected” (Eisler & Potter, 2014).

Survey Statement	*Agree (Pre-) N=18	*Agree (Post-) New =17	Chi Square Test Statistic (p-value)
I feel empowered to co-create an effective health system that meets the Triple Aim.	50% (9)	88.2% (15)	Chi-Square = 5.9 (p = 0.027)
I know/understand the depression quality measures and improvement goals for depression.	38.9% (7)	82.4% (14)	Chi Square = 6.9 (p = 0.012)
I understand how my work impacts Clinic quality goals related to depression care.	72% (13)	100% (17)	Chi Square = 5.5 (p = 0.05)
I am treated with respect as a full partner on the interprofessional team.	77.8% (14)	94.1% (16)	Chi Square = 1.9 (p = 0.338)
My organization supports my development for collaborative practice as a full member of an interprofessional team.	50% (9)	82.4% (14)	Chi Square = 4.1 (p = 0.070)
I have a solid understanding of depression, its impact on patients, and the purpose of regularly administering the PHQ-9.	77.8% (14)	94.1% (16)	Chi Square = 1.9 (p = 0.34)
I have a working understanding of depression, its impact on patients, and the purpose of regularly administering the PHQ-9.	38.9% (7)	70.5% (12)	Chi Square = 3.5 (p = 0.090)
I feel confident to successfully get 6-month PHQ-9 follow-ups completed with patients with depression.	72.2% (13)	64.7% (11)	Chi-Square = .23 (p = 0.712)

Figure 5. Results of FLS Pre-/Post-Survey. *Agree Includes Agree and Strongly Agree

Part 2 of the FLS post-survey contained four statements related to their current perspective on confidence, communication, empowerment, and the PHQ-9, compared with prior to project implementation (Figure 6).

Post- Only Survey Statements (N = 17)	*Does Not Agree: % (N)	**Agree: %(N)	95% CI for Agree
The value I place on the PHQ-9 has increased significantly in the past 6 months.	23.5% (4)	76.5% (13)	(52.7%, 90.4%)
I feel confident approaching/communicating with providers about our patients with depression compared to 6 months ago.	29.4%(5)	70.6%(12)	(46.9%, 86.7%)
I feel significantly more comfortable communicating with patients about depression compared to 6 months ago.	17.6% (3)	82.4% (14)	(59.0%, 93.8%)
Today, I see myself as making a significantly higher difference for patients compared to 6 months ago.	11.8% (2)	88.2% (15)	(65.7%, 96.7%)

Figure 6. Part 2 Post-Survey Results. *Does Not Agree Includes Strongly Disagree, Disagree, and Neither Agree nor Disagree; ** Agree Includes Agree, Strongly Agree

ANALYSIS

Comparisons of the pre- and post- survey data were analyzed to determine the project’s impact on first-line staff (FLS) activation, empowerment, and communication. The part 2 section of the post-survey provided further insights into the FLS’s perceptions. Both pre- and post-surveys had a return rate of 94%. Results were analyzed by relative risk, to provide the ratio of the chances of agreeing in the post-survey to the chances of agreeing in the pre-survey.

In keeping with a somewhat small sample size, there is risk of sample error and the possibility of obtaining a different answer with a new sample of participants. For this reason, the 95% Confidence Interval was included, to provide a measure of precision of the relative risk estimate, referred to as the lower and upper confidence limits. Finally, p-values were also calculated, to test the null hypothesis that the Relative Risk equals one, i.e., no change.

The needs assessment showed that the FLS did not have input into process changes or new initiatives; lacked knowledge, skills, and confidence; and did not ask questions even when they needed clarity. Only one of the fifteen MAs and RNs knew how to use the Remission Roster, necessary for timely six-month follow-up PHQ-9s, yet none divulged their skill deficit or requested guidance. The results of the pre-project survey, however, starkly contrasted with these and other identified gaps. 72% of FLS endorsed feeling confident to successfully obtain 6-month PHQ-9 follow-ups; 78% agreed that they felt comfortable asking for help; and 78% indicated that they were treated with respect as full partners on the interprofessional team. These disparities may bring into question the validity of their responses. It is possible that they answered based on what they thought was expected, rather than from their genuine, lived experience. If the data is genuine, it likely reflects their lack of empowerment in the clinic's previously hierarchical paradigm.

Over the six-month project period, beginning with the initial kick-off Depression Champion meeting and FLS training in April 2016, the staff's activation (knowledge, skills, and confidence) grew and evolved, as did their empowerment. In alignment with these changes, teamwork, communication, and patient outcomes also improved. The part two post-survey results (Figure 6) provide examples of how the FLS's newfound activation and empowerment contributed to improved performance and team communication, and resultant higher remission rates.

Post-project, nearly three quarters of FLS endorsed feeling more confident approaching and communicating with providers about patients with depression, and 82% reported feeling significantly more comfortable communicating with patients about depression. Approximately 90% endorsed the empowerment statements that they see themselves making a significantly greater difference for patients, and that they feel empowered to co-create an effective health care system that meets the Triple Aim. The pre-/post-survey (Figure 5) showed significant improvement in empowerment ($p = 0.027$) among the FLS.

In post-project interviews (Figure 7), the FLS as well as the providers strongly endorsed the belief that meaningful changes had taken place during the project period. All 10 of the providers interviewed (of a total of 12 providers) positively endorsed that team communication had improved. Several providers specifically noted that the FLS had become “more empowered to discuss PHQ-9 follow-up with providers” and were “doing a great job with follow-up”.

FLS - Knowledge/Skills/Confidence:

- “We learned; we now know how to use the Roster and speak with patients about the PHQ-9.”
- “Understanding the patients’ perspectives.”
- “I love seeing the quality charts so we know how we’re doing.”
- “We can open a discussion now with the provider and brainstorm what can work.”
- “I don’t feel incompetent anymore.”
- “We’re more comfortable talking with patients about depression now because we have a better understanding of depression, the care package, and the tools we have to help them.”

FLS - Teamwork:

- “There’s something about being more aware of what work is being done by the rest of the team and being included. As a TC, I had no idea before. I feel like a part of the team now.”
- “We’re working together to make our patients feel better about themselves!”
- “Everyone on the team is on the same page now.”

FLS - Empowerment:

- “Wow, I now believe that anything is possible!”
- “I feel like our voice counts now!”
- “As nurses we’re really stepping up. It’s nice to come to work and know we’re really making a difference”
- “When we started, I was thinking, ‘there’s no way we can do this, they’re never going to let us make these decisions.’”

FLS - Communication:

- “We talk with the providers all the time now! I’m ok with asking questions when I’m not sure about something.”
- “I talk about depression with the patients now, I’m completely comfortable. It’s a huge change for me and I think for patients too.”
- “We’re all so much more comfortable so communication is better for everyone.”

Providers:

- “I’m trying harder now. Had a case whose PHQ-9 was always a 10 or 11. After this project, I decided to talk to him more, I felt badly. It was a lot of work, but we’re working together now to get him down below a 5”
- “The MAs have become proactive. They’re telling us when the PHQ-9 is elevated and huddling with us.”
- “Care doesn’t end when patients leave the appointment now. We’re getting them back in when we rarely were before.”
- “We have partnership in our teams now!”
- “We’re now all comfortable talking with patients about depression and they are too!”
- “I was on maternity leave when this started. It’s a completely different atmosphere here now. I go home and feel good about the day and don’t complain to my husband about work anymore.”

Figure 7. Qualitative Data: Post-Implementation Interviews and Responses to “What’s Different Now?”

DISCUSSION

Powerful change occurred over the course of this project for patients and staff alike. First-line staff (FLS) activation increased. Providers and FLS shifted from a disengaged group of individuals to a fully engaged and empowered team who communicated, collaborated, and grew together into an emerging partnership. Most important, the Clinic’s depression remission rates increased significantly.

Prior to commencement of this project, first-line staff had voiced frustration that many patients were refusing to take the PHQ-9. Through deep empathy and use of human-centered design strategies, the Depression Champions (DCs) better understood their patients’ perspectives, and created a new approach to interacting with them about the PHQ-9, taking into account patients’ feelings of stigma and discord about the process. Through this approach, not only did the DCs and FLS develop empathy, they began the process of partnering across their teams and with their patients. Patients no longer refused to complete the form, and depression-related communication improved among all the stakeholders. On the FLS post-survey, 82% indicated feeling significantly more

comfortable communicating with patients about depression compared with prior to the project.

From the onset of the project, Leadership felt pressured to expedite efforts to improve the clinic's sub-benchmark remission rates. Engaging the DCs as a team and building their trust and comfort level with the process was a slow and deliberate process. Early on, it was tempting for Leadership and the project director (PD) to make decisions for the DCs to accelerate the process. Embracing the developmental nature of empowerment and activation was very helpful, and offered an important reminder to avoid overwhelming the DCs. Instead the PD and Leadership progressively built on small steps to support the DCs incremental growth and capacity.

Empowering leadership (EL) communications were not routinely expressed prior to the commencement of this project; therefore, it took time for Leadership to buy in to the concept and build their skills. Eventually, they became more comfortable and increased EL exchanges with staff, including public acknowledgements, emphasizing their belief in staff's ability to perform at a high level and impact patients and the organization. Over time, EL behaviors became a regular practice at all-clinic huddles in which teamwork and accomplishments specific to the depression improvement initiative were announced and celebrated.

At the end of the project, 88% (15/17) of FLS indicated on the post-survey (Figure 6) that they saw themselves making a significantly greater difference for patients compared with six months prior. As the FLS's activation (knowledge, skills, and confidence) and empowerment improved, they became more comfortable communicating with each other and with patients about depression, and interdisciplinary dynamics, communication, and teamwork shifted substantially. Post-intervention, MAs and providers huddled regularly to brainstorm individualized approaches for their patients. MAs were asking questions and proactively requesting the monthly quality report to track their team's progress. And the nurses began huddling together each morning to better support each other and their teams.

Unintended Consequences

Although this project focused on FLS, there were unintended positive consequences among providers, including their increased engagement in improving depression remission rates. During post-project conversations and interviews (Figure 7), some related a transformed perspective and described working harder, individually and as a team, to get patients into remission. For example, “I’m being more aggressive in treating patients to remission,” and, “There’s now more coordination and effort among all,” and, “We are all trying to teach our patients and each other more.” Another articulated, “Care doesn’t end when patients leave the appointment now. We’re getting them back in when we rarely did before.”

Another surprise was a newfound enthusiasm for performance data. Over time, the FLS began to seek out the monthly depression quality report, which gave them real-time data and feedback on their individual and team performance, as they strove to raise their remission and six-month PHQ-9 completion rates. These reports fostered improved communication and creative strategizing, and encouraged team members to partner in creating solutions. It became a focus of the provider/MA/RN teams and a locus of team competition and celebration of demonstrated improvement.

Limitations

There are several limitations that could impact the interpretation and application of this project’s approach. First and foremost, cultures are local. Therefore, the tactics that worked for this particular clinic may not be directly applicable to other settings. However, this overarching new approach of human-centered design coupled with empowering leadership behaviors has the potential to foster a desired culture change and improvement in quality.

Second, this health system’s quality division articulated that there were inaccuracies in data capture between October 2015 and April 2016. Therefore, data during that period was not considered or utilized during this project and is not included in this analysis. Although the highest one-month depression remission rate achieved in the

year preceding this project was employed as the benchmark, it is possible that the remission rates had improved in the first several months of 2016 preceding project commencement.

When evaluating the impact of this intervention on the staff, it is important to recognize that there were nineteen first-line staff (FLS) at the time of project start-up and eighteen at its completion. This a relatively small number when conducting statistical analyses. Although pre-/post surveys were returned by 18 of 19 FLS and 17 of 18 FLS respectively, three Team Coordinators (TCs) were included in both surveys. At this clinic, TCs do not have any direct patient contact, which could have affected their responses. It is possible that the results of the survey analyses may be minimal estimates of the project's impact on FLS, since several of the survey statements measured items connected with patient care responsibilities.

Finally, the Clinic's nursing director, to whom the entire FLS reported, resigned at the start of the project and was not replaced until its final month. Two months after her resignation, a non-clinical supervisor was temporarily assigned to provide scheduling assistance and other supports to the FLS as needed. She was empathetic and supportive of the project, but may have been less available to the staff than a permanent nursing director would have been. It is possible that the two-month gap in leadership may have slowed progress; a consistent leadership team may have enabled a more rapid and robust improvement in performance.

CONCLUSIONS

Word of the clinic's success spread over the course of the project. A System-level leader paid a personal visit to gain insights into the strategies being employed, anticipating that the best practices could be replicated at other sites. Prior to project completion, the clinic leadership developed a sustainability plan to continue the model and adopt it for their hypertension performance improvement program. Although the project interventions had targeted first-line staff (FLS), providers experienced similar

transformations, illuminating the potential for replication across other disciplines and environments.

The successes of this project can likely be attributed to the synergistic effect of deploying human-centered design thinking together with Empowering Leadership (EL) behaviors to create true partnership-based primary care. Although EL has been described in the nursing literature over decades, few nursing or other health care studies have focused on implementation of the EL behaviors that have been researched and adopted across the global business community. Human-centered design thinking has also experienced some uptake in various industries, but little reach in health care. The convergence of these two best practices offers great promise in support of improving health care outcomes and fostering partnerships, and therefore warrants further exploration and study.

As we strive to achieve the Triple Aim and explore opportunities for primary care redesign, it is important to recognize the impact that empowered, engaged health care team members who partner with each other and their patients can have on patients' experiences and outcomes. Human-centered design used in combination with EL behaviors fostered interdisciplinary teamwork and empathy, as well as engagement, empowerment, and communication. These factors are key to better care, improved performance, and a positive health care environment. This project offers an innovative approach for achieving these important outcomes while improving health care team satisfaction.

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