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Advanced Access: Creating an Infrastructure for Success in Primary Care

Kimberly D. Perris

University of San Francisco School of Nursing and Health Professions, kdperris66@gmail.com

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Advanced Access: Creating an Infrastructure for Success in Primary Care

Kimberly D. Perris, DNPc, RN, CNL

University of San Francisco

School of Nursing and Health Professions

Advisor/Chair:

Juli Maxworthy DNP, MSN/MBA, RN, CNL, CPHQ, CPPS, CHSE, FSSH

Committee Member:

Elena Capella EdD, MSN/MPA, RN, CNL, CPHQ, LNCC

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Five short years ago, as an ADN RN embarking on advancing my education through USF's Master's in Nursing, Clinical Nurse Leadership program, I would never have imagined that journey would include achieving a Doctor of Nursing Practice degree. My experience at USF has challenged me beyond my expectations, has presented more opportunity than I could have ever imagined, and opened doors I never dreamed I would walk through. Someone once said, no one walks this road alone, and I believe that to be true. This accomplishment would not have been possible without the support, love, and patience of my family and friends or without the encouragement and guidance of the USF faculty.

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Table of Contents

Section I. Title and Abstract

Title	1
Acknowledgements	2
Abstract	8

Section II. Introduction

Problem	9
Significance/Background	10
Available Knowledge	12
PICO Statement	12
Review of Evidence	12
Critical Summary and Appraisal of Evidence	13
Appraisal Tool	13
Traditional versus Same-Day Scheduling	13
Third-Next-Available	14
The 10 Building Blocks	15
The RN Role	16
The Quadruple Aim	17
Empowerment and Staff Satisfaction	18
Patient-Centered Care	19
Framework	22

Sustaining Improvement 22

Kotter’s 8 Steps to Change 23

Adult Learning Theory 25

Aim Statement 26

Section III. Methods

Project Overview 28

 Setting 29

 Barriers to Implementation 30

Plan for Project Controls/Authority/Responsibility..... 32

 Protocol Development Team 32

 The QI Team 34

Statement of Proposed Work 35

Work Breakdown Structure 36

 The 10 Building Blocks 36

 The Foundation for Success..... 40

Project Phases 41

Project Resource Requirements 43

Information Flow Requirements 43

Time and Cost Summary 44

Budget 44

Cost Avoidance 45

Section IV Results

Outcomes Metrics	49
Staff Training	51
Staff and Provider Satisfaction Surveys	52
Survey Results	53
Practice Transformation Assessment	54
Advanced Access Reports.....	55

Section V Discussion

Limitations	56
Interpretations and Next Steps	58
Conclusion	58

Section VI References..... 61**Section VII Appendices**

Appendix A. Evidence Table.....	67
Appendix B. Framework for Change.....	80
Appendix C. Agency Statement of Support.....	81
Appendix D. SWOT Analysis.....	82
Appendix E. Framework for Developing Standardized Procedures.....	83
Appendix F. GANTT Timeline	87
Appendix G. Work Breakdown Structure.....	88

Appendix H. Responsibility Matrix	89
Appendix I. Communication Matrix.....	90
Appendix J. 10 Building Blocks Newsletter.....	91
Appendix K. Staff Training-Budget	93
Appendix L. Cost Avoidance.....	94
Appendix M. Summary of Variables	95
Appendix N. Proficiency Training Assessment Tool	96
Appendix O. UTI Protocol & Triage Algorithm	97
Appendix P. Staff and Provider Survey Results	105
Appendix Q. 10-BB Assessment Tool.....	107
Appendix R. 10-Building Blocks Assessment Results.....	110
Appendix S. Supply and Demand Report.....	111
Appendix T. DNP Statement of Non-Research Determination.....	112

Abstract

The Humboldt Independent Practice Association (IPA) has sought to improve the health of Humboldt County through practice transformation efforts. To date, Humboldt IPA's primary care practice, the Priority Care Center, is building a foundation toward an Advanced Access model of care with an overarching aim of effectively improving access to quality care in Humboldt County. The 10 Building Blocks of High Performing Primary Care Practices framework set the stage for the intervention and was used as a roadmap to build an infrastructure for success. Team-based care was highlighted as the project relied on having systems and processes that empower the entire care team to expedite or provide care whenever possible. Without systems in place to support and guide staff in caring for patients, providers are held responsible for the bulk of patient care. This project posed a solution to the inefficient use of health care staff in a provider-centered model. We used a mixed-methods approach to measure success; aggregate data was collected in the form of Likert style surveys and staff were surveyed informally through face-to-face interviews. While the necessary steps were taken to create a robust infrastructure for team-based care, there is still much work to do to reach the overarching goal of Advanced Access. Innovative practices have demonstrated improved access, efficiency, and overall satisfaction among staff and patients, however, restructuring primary care practices to support a team-based model can be daunting. It is imperative that misconceptions about role and scope of practice are addressed, and that systems are put in place to safely allow for more expanded roles for healthcare staff.

Key words: *advanced access, team-based care, 10-building blocks, access to care*

Advanced Access: Creating an Infrastructure for Success in Primary Care

Section II. Introduction

Problem

There is an urgent need to reinvent the healthcare system to one that is more efficient, sustainable and cost-effective (Smolowitz et al., 2015). Humboldt County ranks 47 out of 57 counties in overall health in California (Robert Wood Johnson Foundation [RWJF], 2017). According to a report to the California Center for Rural Policy developed by the Pacific Business Group for Health (2015), Humboldt County is challenged to provide needed health services for several reasons. The net number of physicians has declined dramatically in part due to an aging physician population compounded by the difficulty in recruiting and retaining providers, and, thus, access to primary care providers has become increasingly difficult. Additionally, there are limited specialty services available, so patients are forced to seek such care out of the area (Pacific Business Group for Health [PBGH], 2015).

The Humboldt Independent Practice Association (IPA) has sought to improve the health of Humboldt County through practice transformation efforts. Early efforts to fill gaps in Humboldt County's health system began with Humboldt IPA's Priority Care Program, which was a primary care initiative that provided care coordination and case management for a high-risk population with multiple chronic and poorly managed acute conditions (PBGH, 2015). The multidisciplinary support team consisted of nurses, social workers, and behavioral health practitioners to support the IPA's primary care providers. The pilot program paved the way for the IPA's Priority Care Center (PCC), a newly emerging primary care center that offers an innovative patient-centered model of care. The clinic is staffed with an interdisciplinary team that includes a medical director who oversees the clinic and an acute care nurse practitioner who

functions as a primary care provider and inpatient transitionalist. Additionally, the team is comprised of three RNs with expertise in diabetes education and intensive care coordination, two medical assistants, two wellness coaches, one behavioral therapist, a receptionist, and an office manager.

The mission and vision for PCC, developed in collaboration with administration and the entire Priority Care team is: “To help people move to their highest level of personal wellness through teamwork, support, education, and prevention so that ultimately we become unnecessary” (PCC Team, 2017). The vision is for all people served through the Priority Care Center to receive the right care, at the right time, by the right provider

Significance/Background

The National Academies of Sciences, Engineering, and Medicine (the National Academies), renamed the Health and Medicine Division (HMD), and formerly known as the Institute of Medicine (IOM), released a hallmark report in 2001, *Crossing the Quality Chasm: A New Health System for the 21st Century*. The report addressed the rapidly changing healthcare landscape and a need to translate knowledge into practice and to apply new technology safely and appropriately (IOM, 2001). While the report was released over 15 years ago, the recommendations are still relevant today. The IOM report proposed six aims for improvement that should serve as a guide toward reducing the burden of illness and injury and toward improving the overall health for the people of the United States (IOM, 2001). The six aims recommend that healthcare be safe, effective, patient-centered, *timely*, efficient and equitable. To achieve these aims, 10 rules for redesign were proposed. In summary, the 10 rules encompass:

1. Timely and innovative access to care that does not rely on face-to-face visits with a single provider,

2. Customized care based on the most common needs,
3. Patient control and shared decision-making,
4. Effective and accessible communication between patients and clinicians,
5. Evidence-based decision-making,
6. Prioritized safety and systems set up to prevent error,
7. Transparency that includes system performance,
8. Evidence-based practice and patient satisfaction,
9. Decreased waste, and
10. Cooperation and exchange of information among clinicians (IOM, 2001).

The healthcare industry continues to be in desperate need of transformation to meet the growing demands of the population. These rules for redesign continue to be linked to successful primary care practices; however, more often lack of attention to these rules hinders practice transformation.

Access to primary care has been a problem for decades. In 1999, a survey of insured individuals 65 and younger revealed that 27% of patients surveyed had difficulty accessing timely care with a provider (Murray & Berwick, 2003). Conversely, these authors noted that 40% of emergency room visits were non-urgent and many of those visits occurred because of lack of access to primary care appointments. With Advanced Access, patients are empowered to make decisions regarding when they would like to be seen with the provider of their choice. Authors refute the misconception that waits, and delays result from lack of resources because on the contrary, research has demonstrated that wait times reflect a mismatch in supply and demand. The mantra for Advanced Access is “do today’s work today”; thus, it applies queuing theory along with principles from industrial engineering (using current resources) to

streamline access to care by eliminating waste and potentially harmful delays in care (Murray & Berwick, 2003).

Current literature continues to reflect on the IOM's report *Crossing the Quality Chasm* (2001). The report became the focus once again, considering a high-profile crisis involving the Veterans Health Administration of the Department of Veterans Affairs (VHA/VA) that implicated access to care as a causal factor; the IOM was commissioned by the VA to study and report their findings around this issue (IOM, 2015). Essentially, waits and delays in a Phoenix VA clinic allegedly resulted in the death of 40 veterans waiting for care. The committee found there was considerable variability across the system with regard to timeliness of care, and that these delays negatively impacted patients in outcomes, satisfaction, and utilization. The report concluded that there were system-wide issues, and in response, a major quality improvement project was launched (IOM, 2015).

Available Knowledge

PICO Statement

Will the implementation of a team-based model of care improve access to care for patients at the Priority Care Center, compared to traditional models of care, where 100% of patients will receive an appointment if they choose to, with the provider of their choice on the day they call for an appointment?

Review of Evidence

PubMed was used to search keywords and phrases: *advanced access, primary care, empanelment, and long wait times*; this yielded 257 articles. The search was further refined by including authors known for research in redesigning primary care and yielded 118 articles. Using the ancestry approach helped link articles to the initial question. Most of the articles meeting

search criteria were non-research literature reviews and case studies. In an effort to find more rigorous studies the search history was limited to 5 years, searching academic and peer-reviewed journals in the English language. Search terms were expanded to include *practice transformation, advanced access schedule, primary care, improved patient outcomes, improved patient experience, decreased healthcare cost*, and this search resulted in an additional 257 articles. Several articles were included that addressed implementation of Advanced Access models of care, case studies done by experts in the field, research studies to address outcomes, effect of team-based care on staff, and effect of team-based care on patient outcomes. Articles were excluded if they did not demonstrate expertise or structured, reproducible methods. Ten articles were chosen for review.

Critical Summary and Appraisal of Evidence

Appraisal Tool

Johns Hopkins research and non-research evidence-based appraisal tools were used to evaluate 10 articles (Appendix A.) This model to appraise the literature was chosen because of its applicability to assess research as well as non-research articles. Since current healthcare demands challenge traditional models of healthcare delivery, there is a growing body of literature to evaluate new models of care. Johns Hopkins appraisal tools can help researchers to determine their quality and thus inclusion to practice (Dearholt & Dang, 2012).

Traditional versus Same-Day Scheduling

Robinson and Chen (2010) used marginal analysis to compare the performance of traditional appointment scheduling to open-access scheduling. Authors specifically sought to identify provider idle time associated with patient no-shows, the time patients spend waiting to see a provider, and number of hours in the provider's day accounting for overtime charges when

the standard day is exceeded. Authors noted a great deal of variability occurs in relation to patient volume in the two models. With traditional scheduling, patients may not show for an appointment, and with Advanced Access, the number of patients who call for an appointment will vary (Robinson & Chen, 2010). For this study authors chose to focus on two aspects of variability related to doctors' operating costs and to scenarios where either model would be preferred.

Authors concluded that with the traditional model, the risk of no-shows increased the variability in patients seen that day and contributed to increased costs related to provider idle time (Robinson & Chen, 2010). Open-access or same-day scheduling was shown to eliminate physician idle time and decrease patient wait times. Additionally, panel size could be increased by up to 30%, allowing providers to see more patients (Robinson & Chen, 2010).

Third-Next-Available

Tantau (2009) highlighted the success of two clinic case studies using an Advanced Access model of care. The author reported that key elements found to make Advanced Access successful are: capacity, continuity, and demand and supply equilibrium. A metric known as "third-next-available" was used to identify delays in appointments to reduce backlog appointments to zero days. Prior to the study, there was a false assumption that demand outweighed supply, when in fact, with elements in place guided by Advanced Access, the opposite was true: Patient delays to see a provider were significantly reduced. One practice reduced wait times for routine care from 28 days to see a provider, to an average of eight days, with most providers at zero days' delay (Tantau, 2009).

The 10 Building Blocks

Two studies were chosen to articulate the phases of the 10 Building-Blocks framework that includes elements to support advanced access to care. The authors Willard and Bodenheimer (2012) studied and coached 25 primary care practices recognized for excellence in practice delivery. The authors sought to identify elements for success with a vision of providing a roadmap toward achieving the triple aim of health reform: better health, improved patient experience and more affordable costs (Willard & Bodenheimer, 2012). Through evaluation and feedback from the practices, authors determined there were limitations with current frameworks that prompted the development of the *10 building blocks for primary care*. This roadmap builds on a foundation of four crucial steps beginning with engaged leadership and consecutively followed by using data to drive improvement, empanelment, and team-based care (Willard & Bodenheimer, 2012).

In another article, Bodenheimer, Ghorob, Willard-Grace, and Grumbach (2014) identify advanced access to care as a key component of successful primary care transformation. While the 10 building blocks can help practices in their improvement journey, authors recognized limitations of their study. For example, small private practices have been underrepresented and are significantly different from large or federally qualified health centers. Additionally, authors noted that payment reform that moves away from a fee-for-service model to one that is value-based (rewarding practices for improved care and outcomes) will provide incentives for all practices to move toward patient-centered, meaningful, team-based models of care (Bodenheimer, Ghorob, Willard-Grace, & Grumbach, 2014).

The RN Role

Two articles were selected for their research demonstrating the value of the RN for improving access in the primary care setting. While nurses are becoming recognized as partners in health care and leaders of care teams, ambulatory care nurses face challenges with this transition. In the first article authors Oelke, Besner, and Carter (2014) noted that while nurses recognized they could provide a major contribution to the health of the population, they may not feel supported in doing so. These authors conducted a yearlong case study during the implementation of a Primary Care Network (PCN) model of care in Alberta, Canada. Three diverse PCNs participated. Through their research (using a mixed-methods approach) authors noted that overall the RN role and contributions to practice evolved substantially; however, these authors found several themes across clinics that limit RN role progression. Ambiguity and lack of role clarity among RNs and across disciplines, a fee-for-service model of payment, lack of supportive management to support RN role progression, and confidence among RNs who had not been empowered in prior settings to fully utilize their knowledge and expertise were reported as challenges during the implementation phase.

In the second article, authors of *The RN Role Reimagined: How Empowering Nurses Can Improve Primary Care*, conducted a case study across high-functioning primary centers to identify practices that were using RNs to maximize team-based care models (Bodenheimer, Bauer, Syers, & Olayiwola, 2015). Authors interviewed 21 clinics known for having a successful team-based care model, 11 of which were using RNs in innovative roles. These 11 clinics became the focus of their study. Study findings revealed the potential for nurses to fill gaps in primary care practice, strengthen care teams, take on more expanded roles, improve access, and allow providers to see more complex patients. Authors uncovered a need for primary

care residency programs, noting that most of nursing education is geared toward hospital care—authors further note that there is a shift away from hospital care and a need for expertise and an increased workforce in primary care.

The Quadruple Aim

Bodenheimer and Sinsky (2014) proposed that addressing the triple aim (enhancing patient health, improving population health, and reducing healthcare cost) comes at a cost to providers and their workforce. Provider burnout imperils the triple aim; thus a fourth component called improving the work life of health care clinicians and staff must be added to succeed in population health. This article does not directly answer the clinical question; however, it is closely tied to findings from the literature that support the need to address provider and staff satisfaction to achieve success with patient-centered models of care.

Key elements in the fourth component include team documentation, which has been associated with improved staff satisfaction, improved revenues, eliminated waste, and the capacity to manage larger panel sizes. Authors demonstrated that a significant amount of provider time could be saved—up to five hours per week—through system changes such as pre-visit lab orders, use of physician-written standing orders to allow staff to work to the top of their license, and standardized workflows for prescription refills. Additionally, co-locating team members and physicians were shown to increase efficiency and save 30 minutes of physician time per day. Authors caution that to avoid a shift of burnout from physician to staff, leaders must ensure that staff are well-trained and understand their contribution to the health of their patients. The core message of the fourth aim is that provider and patient relationships must be symbiotic for both to survive (Bodenheimer & Sinsky, 2014).

Empowerment and Staff Satisfaction

Two studies examined the effects of Patient-Centered Medical Home (PCMH) models with regard to staff empowerment and morale. In the first study, Solimeo, Ono, Lampman, Perez, and Stewart (2015) used a convergent mixed-method design to evaluate work role challenges and engagement among patient-aligned care teams in clinics that have adopted a PCMH model. Twenty-two teams were selected with a total of 96 out of 97 participants who remained in the study by the end of year 1. Quantitative and qualitative data were collected pre- and post-implementation of a PCMH model. Quantitative data were collected using a Likert scale survey to measure work role challenges and work engagement using statistical analysis. One-way ANOVA was used to evaluate experiences across roles, and a t-test was performed to compare baseline and follow-up findings within each role. A field approach was used to collect in-person interviews for qualitative data. Authors expected implementation of a PCMH model would improve staff satisfaction and empowerment, when in fact results from all participants indicated a decreased sense of empowerment from the baseline. Qualitative findings revealed a perception of “work overload” with the new model. Despite work overload, staff had difficulty delegating to other staff members.

Conclusions from this study reflect what Bodenheimer and Sinsky (2014) cautioned against with regard to transferring burnout; a shift from a hierarchical model of care to one that is team-based may not initially improve perceptions of workload and satisfaction in the workplace. Future studies will need to evaluate ways to overcome this aspect of practice transformation. Additionally, transitioning to a team-based model disrupts the hierarchy within clinical teams, causing an empowerment paradox; consequently, team members have difficulty sharing and delegating tasks that are not aligned with traditional hierarchical roles (Solimeo et al., 2015).

In the second article, Lewis et al. (2012) conducted a cross-sectional study to determine the effects of PCMH among providers and staff. A sample of 391 providers and 603 staff members was surveyed to examine culture, teamwork, and leadership. Researchers evaluated outcome criteria using three questions to address morale, satisfaction, and burnout within a control and intervention group. Control variables were used to address factors authors found to be associated with morale, satisfaction, and burnout, such as having an electronic medical record (EMR) system in place, work environment, nursing shortages, and years since training. If there was an EMR in place, a binary variable was used. Authors used rigorous statistical methods, including univariate and multivariate analyses, to validate and report quantitative findings. Access to care, patient communication, and quality improvement subscales were linked to better morale and job satisfaction.

Authors noted that while a cross-sectional study could reveal correlations, causation could not be proven. Additionally, the clinics were not randomly selected; the authors also noted that the response rate was high and may have indicated response bias. Overall, findings indicated hope that PCMH models may not only improve care and outcomes for the patient but may improve the work life of healthcare professionals.

Patient-Centered Care

Two articles were chosen for their focus on access to patient-centered care associated with the patient experience and healthcare outcomes. Koslov et al. (2015) describe the process and challenges of trying to achieve the triple aim by aligning and redesigning three primary care departments in a large academic health center. A needs assessment was conducted revealing outdated compensation plans and problems with performance and staffing, as well as marked variation in publicly reported healthcare outcomes between clinics and providers that were below

expected benchmarks. The reorganization included: defining panel size, developing a common job description, redesigning the primary care compensation plan, redesigning the care model, and standardizing staffing (Koslov et al., 2015). Quantitative methods were used to measure patient experience, patient safety and three preventive quality metrics comparing 2009-2010 (baseline) and 2012-2013 (post intervention). Qualitative methods included 9 stakeholders (leaders in the field). Participants wrote down thoughts, broke into groups, and then shared their thoughts with the group at large. The data were analyzed using crystallization immersion—e.g., two researchers to code key themes and the analysis was presented back to stakeholders for validation and for clarification.

After the redesign, patient care experiences as well as preventive care outcomes were improved. Qualitative results represented key themes for success of a PCMH. Because this study was conducted across a large academic setting there may be factors that do not translate to other facilities. Limitations for future studies suggest that resources may add challenges authors did not encounter, such as variation due to close collaboration between the authors and clinics. Additionally, there was strong support from leadership and financial resources that may have contributed to the success of the project (Koslov et al., 2015).

Maeng, Davis, Tomcavage, Graf, and Procopio (2013) surveyed patients whose primary care practice had been transformed to Geisinger's version of PCMHs, referred to as Patient Health Navigator (PHN) sites. The five core components of PHN are patient-centered primary care, population management, medical neighborhood, quality outcomes, and value-based reimbursement. Researchers conducted a comparison survey of members who were part of Geisinger's Health Network; 1262 PHN respondents and 1415 non-PHN respondents were

selected to form an intervention and control group, respectively. Once selection criteria were applied, there were 499 PHN respondents and 356 non-PHN respondents remaining in the study.

To reduce the effects of potential bias, researchers used a propensity score matching system. Covariates, such as age, sex, and satisfaction with the quality of care were included. Researchers hypothesized that PHN members would be more likely to respond to the survey; thus the aforementioned were used as covariates rather than outcome data to minimize response bias (Maeng et al., 2013). Authors acknowledged that at the time of the study a validated patient experience survey did not exist to evaluate PCMH; they suggest that future research include a validated tool. This study revealed that patients at PHN sites were significantly more likely to perceive positive changes in terms of care, care coordination, and services, and were more likely to report improved quality of care (Maeng et al., 2013).

In summary, research demonstrates that Advanced Access models of care surpass traditional models of care by improving access and decreasing waste in care delivery systems. Success is attributed to having a strong infrastructure to optimize care teams to work to their maximum scope of practice and to continuously monitor supply and demand to achieve balanced capacity. Collaboration, models for improvement, using strategic implementation processes, leveraging leadership and financial resources, and using the quadruple aim as a guide can position practices for success in their efforts to transform practice. Conversely, despite evidence that supports improved outcomes using patient-centered models of care, the literature also cautions that there may be challenges with this transformation, such as staff resistance and ambiguity to taking on new roles. Likewise, authors caution that achieving the quadruple aim may initially come at a cost to staff's well-being, as burnout is transferred from providers to support staff.

Framework

Multiple frameworks were used to guide this intervention. The 10 Building-Blocks approach (Bodenheimer & Willard, 2012) was used as a foundation and as a conceptual roadmap to empower staff to provide team-based care in order to improve access to care in one primary care practice. The team developed multiple tools such as standing orders and standardized procedures to empower staff members and to support a team-based care model. This model demonstrated cost savings and supported a patient-centered model of care with the potential to improve quality, patient safety, and staff satisfaction. Ultimately, there is an opportunity to model and spread best practice to improve access to care across Humboldt County.

Sustaining Improvement

Sustaining Improvement is a conceptual framework designed to assist healthcare organizations in sustaining improvements in safety, effectiveness, and efficiency of patient care (Scoville, Little, Rakover, Luther, & Mate, 2016). Three theoretical concepts were used to inform the work of sustaining improvement: Healthcare as a System, the Juran Trilogy, and elements of Lean Improvement. William Edwards Deming, as cited in Scoville et al. (2016), described healthcare as a “system”: people and processes working toward a common purpose. Because healthcare is a complex adaptive system with multiple roles overlapping to provide patient care, to carry out the organization’s mission everyone must know precisely what to do, why they are doing it, and how and when to do it (Scoville et al., 2016).

Sustaining Improvement is focused on creating high-performance management systems with quantified improvements and outcomes (Scoville et al., 2016). This framework operates from the bottom up rather than top-down by means of quality planning, quality control, and quality improvement as a guide. Quality planning (QP) is focused on the needs of the patient,

using the triple aim as a framework toward conceptualizing those needs. This first stage is where all aspects of the infrastructure are planned, where gaps are identified along with improvement projects to close those gaps (Scoville et al., 2016). Quality control (QC) focuses on the operations of the system and measures performance—essentially this phase is about ensuring “control” of processes maintained over time. Quality improvement (QI) identifies areas for improvement; the QI team uses various tools and methods to systematically drive the process of change. QC follows QI to monitor the new process. These elements helped to build a foundation, providing standardization for managers and front-line staff.

As project manager, it was essential to provide the team with concrete and systematic tools so they could recognize the need for and initiate QI projects. Developing protocols and standing orders was one of the key elements needed that benefited from this kind of structure. Recognizing the need for a protocol to expedite care represents quality planning; developing and implementing the protocol and working out any issues represent quality improvement; and sustaining a standardized and safe process represents quality control. The components of the framework were referenced and highlighted throughout our QI efforts to reinforce the importance of the process.

Kotter’s Eight Steps to Change

Kotter’s eight steps to change were used to establish the urgency of the project in a community challenged with poor health and limited resources as well as to identify the “big opportunity” (Kotter International, 2016). The eight steps to change are:

- 1. Establish urgency:** Humboldt County has poor health, ranking 47th out of 57 counties in California. Residents are challenged to find medical care due to limited access to primary care providers.

2. **Build a guiding coalition:** The Priority Care Center (PCC) aims to improve access to care with an innovative approach and is working toward advanced access through a team-based model of care.
3. **Form a strategic vision:** The vision is for all people served through the PCC is to receive the right care, at the right time, by the right provider.
4. **Communicate the vision for buy-in:** The vision is displayed in the clinic in every office and is highlighted in QI efforts.
5. **Enable action by removing barriers:** Workflows were evaluated and staff surveys were utilized to identify areas of concern, such as staff satisfaction, proficiency and burnout.
6. **Generate short-term wins:** Celebrating early wins—we acknowledged all improvements and efforts in QI meetings and in announcements during huddles and staff meetings.
7. **Never let up!** Our leadership team will not let up. We continue to evaluate cycles of change, and while we recognize progress, there is still much work to do to reach our goal.
8. **Incorporate change into the culture:** Standardized procedures and standing orders as well as proficiency trainings and pre-post proficiency surveys are examples of anchoring the change.

The eight steps aligned well with the 10 building blocks framework and the model for improving and sustaining change. Each of the frameworks was complementary in cultivating a culture of innovation through our meetings and communications. All of the components of Kotter's framework provided this project manager and the leadership team with a vision and outline to motivate and engage our QI team. These eight steps were integral toward providing concise snapshots to conceptualize our vision and the steps necessary to get there. The "guiding coalition" and the "volunteer army" represented the people (from reception to top leadership)

who were involved in moving the project forward and with sustaining momentum and change. (See Appendix B.)

Adult Learning Theory

The *Foundations of Dialogue in Education, From Principles to Practice* were used to guide our journey or staff education and training ("Global Learning Partners," n.d.). Jane Vella, the author of the book *Learning to Listen, Learning to Teach* (2002), is the founder of Global Learning Partners (GLP). Based on her book and life's work she and a team of designers have codified a set of practices to form a theoretical framework based on the needs of adult learners and created a course to guide adult learning education (Vella, 2002). The program is based on a framework to include structured components for success:

1. Principles to Practice Framework-Dialogue: education principles (learning needs assessment, learning design, learning facilitation, learning evaluation).
2. Learning Needs and Resources Assessment (LNRA): establish a relationship, draft learning objectives, determine comfort level and emotions, solicit input into the design (increase "buy-in"), identify and acknowledge learner's knowledge and experience.
3. Six Core Factors to Learning: safety, respect, inclusion, relevance, immediacy and engagement.
4. Teaching Holistically, based on Benjamin Bloom's three overlapping domains for learning: cognitive (head learning), affective-attitudes/beliefs (heart learning) and psychomotor domain-skills (body learning).
5. Use the 8 Steps of Design to lay the foundation, identify: the people (who), the situation (why), the anticipated change (so that?), the time (when), the place and space

(where), the content (what), the achievement-based objectives (what for), the learning tasks (how).

6. The 4-A's Learning Sequence:

- a. Anchor (learner reflects on own experience or knowledge),
- b. Add (learner performs a task relative to the learning, e.g., Prezi film clip),
- c. Apply (the learner does something, e.g., asks to make a suggestion relevant to the learning task),
- d. Away (the takeaway: learners connect learning to future use and application to practice). (GLP, 2013)

The team used the components of dialogue education to set the stage for a safe and collaborative learning environment where adult learners could reflect on and employ experience by using methods to maximize learning potential, retention, and application of information. We used these principles as a guide for structuring our QI meetings and proficiency trainings. For example, during our first QI team meeting the entire team was introduced to the 6 core principles of learning. These were written out on white paper to demonstrate the expectations of the group and frequently posted during QI meetings. These three chosen frameworks conceptualize the journey toward improving access to care, provide a structure for staff engagement and provide a system for developing a standardized team-based program.

Aim Statement

By May 2018, develop, implement and evaluate an infrastructure to support team-based care in a rural health clinic.

To date, PCC is building a foundation toward an Advanced Access model of care, with an overarching aim of effectively improving access to quality care in Humboldt County. Team-

based care is a key element of an Advanced Access model. Without systems in place to support and guide staff in caring for patients, providers are held responsible for the bulk of patient care. With current primary care shortages in the United States, RNs who are highly skilled are being looked upon as one solution to practice independently to meet the needs of patients (Bodenheimer et al., 2015). Likewise, as nurse practitioners take on more complex primary care patients, new RN roles are emerging; nurses are assuming the role of chronic disease management. In this role RNs work closely to coordinate care for patients. Examples of care coordination might include titrating their patient's hypertensive and diabetes medications (using physician-written RN protocols), working to decrease the costs for patients by managing complex care for high users with multiple comorbidities, and helping patients navigate transitions between primary care, hospital, and home (Bodenheimer & Bauer, 2016).

Team-based care relies on the notion that all staff understand their role and scope of practice and have the tools and support to expedite care wherever they are skilled to do so. To accommodate PCC's growing panel of patients, it was essential to establish systems such as workflow and protocols to streamline care so that staff could function to their highest level of license and training. While the research demonstrates that team-based care can improve capacity, sharing the care represents a shift in culture among clinicians and non-clinicians that may trigger insecurities leading to resistance, and thus staff may need additional training to take on new tasks (Willard & Bodenheimer, 2012). We recognized that careful consideration to staff comfort, skill set, support systems, and training needs would help establish accountability across disciplines and help to avert resistance to change.

A discussion of team-based care is found in the work of Bodenheimer et al. (2015) who asserted that empowering RNs and providing them with tools and training to practice

independently demonstrated a model of care with great potential to improve healthcare systems, build a team approach, improve the patient care experience, and, as they said, restore joy and satisfaction in the practice of primary care. This work inspired the PCC's quest to incorporate team-based care, co-locate interdisciplinary teams, develop standardized procedures and standing orders, and in developing workflows that would foster partnerships by empowering the patient and the care team in all aspects of care delivery.

While current research demonstrates that team-based care can improve capacity, "sharing the care" represents a shift in culture among clinicians and non-clinicians that may trigger insecurities leading to resistance. Staff may also need additional training and support to feel confident in taking on new tasks (Willard & Bodenheimer, 2012). Most of the focus in nursing schools emphasizes hospital care, and nurses are often unprepared to function to their full potential in primary care settings. Moreover, primary care nurses represent a small portion of nurses with just 7% of nurses working in physician offices while the majority of nurses (61%) work in hospital facilities. Since nursing education is geared toward acute care in hospitals, nurses have often been an overlooked and underutilized resource in primary care settings (American Academy of Ambulatory Care Nurses [AAACN], 2014).

Section III. Methods

Project Overview

The conclusions derived from multiple studies illuminate the need to transform primary care practice. Waits and delays for patient care are associated with poor quality of care and waste. Moreover, a shift from the physician-centered model of care to one that is team-based will widen the net for practices to meet the complex care needs of today and expedite access to care. The premise of advanced access is that patients get the care they want when they want and

need it. Interestingly, when patients have access to continuous services, demand for services decreases and clinics are able to maximize their practice, see more patients, and work less hard (Tantau, 2009). The key to advanced access is to empower patients as well as the entire care team to form a partnership.

Without systems in place to support and guide staff in caring for patients, providers are held responsible for the bulk of patient care. This project posed a solution to inefficient use of health care staff in a provider-centered model and to improving access by empowering a care team. Likewise, as nurse practitioners take on more complex primary care patients, new RN roles are emerging. In these new roles, nurses are providing chronic disease management for patients with complex needs. An example of the care these RNs provide include activities such as titrating their patients' hypertensive and diabetes medications (using physician-written RN protocols). Additionally, by managing complex care for high users with multiple comorbidities, and helping patients navigate transitions between primary care, hospital, and home, these nurses work to decrease costs for patients and the burden of cost to the healthcare system (Bodenheimer & Bauer, 2016). In addition to these services, using standardized procedures, nurses at PCC can offload work from the primary care provider by delivering care in an RN only visit.

Setting

This project took place in a rural primary care practice in Humboldt County, California, where the population is approximately 135,000. While access to health care in Humboldt County is challenged for a number of reasons, compounding the issue is the county's remote geographic location. Patients seeking care outside of the area must travel several hours through winding mountain roads to reach a major city. The Priority Care Center, located in Eureka (Humboldt County's largest city), in addition to the IPA's provider network, serves the IPA's member

population of approximately 18,000 members (HMO and PPO lives). Few practices can currently accommodate new patients and primary care providers are declining rapidly as physicians reach retirement age. The Priority Care Center, supported by the IPA's administration and the board of directors, aimed to fill this gap by providing IPA members (the patients) the option of choosing the Priority Care Center to provide their care. Humboldt IPA's Chief Operating Officer has authorized the project and is an actively engaged stakeholder who is invested in successful implementation and success toward advancing access to care for Humboldt County (Appendix C.)

Barriers to Implementation

A SWOT analysis conducted early on in the project articulates strengths, weaknesses, opportunities, and threats. (See Appendix D.). This exercise illustrated characteristics tied to the 10 building blocks of primary care and highlighted gaps in our team-based care project that would need to be addressed.

Strengths: Visionary leadership with expertise in quality improvement was at the top of the list of internal strengths. Strong leadership support is essential to practice transformation and the IPA's willingness to put resources and systems in place, such as time for meetings and a functional EMR system with strong internal IT support, were critical to ensure the clinic could function to maximum capacity. Additionally, PCC staff represented an engaged and cohesive team with diverse mix of experience and skill set.

Weaknesses: As a new and emerging practice there was a great deal of pressure to rapidly implement systems and processes that would allow PCC to break away from the status quo of care delivery. The team was small, and while this project manager and the leadership team were believers in the mission and vision, many of the staff were new the idea of team-based

care and had not worked in that capacity. Internal weaknesses and frustrations were noted in the lag-time for policy development and staff training. Having had experience with developing and implementing protocols and standing orders, this project manager was cautious in moving too quickly with this step of the process. This initially limited staff performance in the early days as PCC emerged as a practice. Likewise, this essential element of team-based care requires a significant amount of time for collaboration and for staff training. As mentioned in the literature, training and support are critical for staff's ability to work to the top of their license. It was evident through interviews and staff comments that fear of failure and rapid change were triggers that caused discomfort and resistance to new ideas that needed to be acknowledged and addressed.

Opportunities: Poor health and limited access to care in our community presented an opportunity that required a new approach to patient care. The ultimate hope and goal was to achieve successful implementation of an infrastructure with clear and reproducible processes along with demonstrated improved outcomes that could be used to model and spread best practice across Humboldt County. Efforts were centered around improving access to care through a team-based care model. Research demonstrates, and we believed, that by taking the steps we outlined to achieve advanced access, we would improve patient satisfaction and demonstrate cost avoidance by having wider net to offer services to patients with a team-based “share the care model.”

Threats: Redefining roles and systems to expand access to care for our patients could affect reimbursement (a potential financial threat). Shifting the thinking away from a fee-for-service model to one that focused on value of care, our mantra became *do the right thing*. This means patients are sometimes served without a face-to-face encounter or may be seen by staff

members who are unable to bill for services. With the triple aim for health (improved delivery of care, improved health outcomes, and decreasing overall cost of care) as our guide, we identified value through cost avoidance. Capitation from HMO plans funds a portion of PCC, and decreasing HMO lives represented a financial threat, though further supported the need to put systems in place that lower the cost of care by improving the health of the population through prevention, health, and wellness efforts. While PCC felt the pressure from a community limited in its ability to provide access to care, it was essential to find creative ways of serving our patients to prevent unnecessary or delayed care.

Plan for Project Controls/Authority/Responsibility

Protocol Development Team

Critical to our journey was to have clear and reproducible processes to allow staff to function to their maximum capacity. Priority was placed on developing protocols to allow these functions as they were a key element to our model of care and to achieving our vision. Standardized procedures and standing orders were developed in collaboration with the PCC team to support front-line staff in expediting patient care.

Standardized procedures (SPs) are a set of protocols designed to allow a nurse to perform a procedure with a higher level of complexity that would normally be considered part of the practice of medicine. For this reason, SPs must be developed in accordance with guidelines set forth by the Board of Registered Nursing (BRN). The California BRN recognizes that nursing is a dynamic field and that overlapping functions between registered nurses and physicians exist (California BRN, 2011).

The California BRN has developed a concise set of guidelines and an algorithm to direct when a standardized procedure is needed that outlines the required elements to be acceptable.

Despite a thorough explanation and providing resources for writing an SP, the process remains complex on multiple levels with regard to scope of practice; there are overlapping roles that produce ambiguity and confusion for translating SPs to practice. An example of this lies in the provision of a prescription by an RN. Since it is out of the RN's (non-nurse practitioner's) scope of practice to prescribe medications, a standardized procedure approved by the medical director or supervising MD is needed.

While the SP provides the RN authority to perform a given task—in this case, a prescription there is not clear language to support “how” the nurse can deliver the prescription. For example, in 2012 AB 2348 was passed into legislation in California allowing RNs to “dispense” hormonal contraception in primary care clinics (BRN, 2012). The term “dispense” limits the RNs function as it implies the RN must have the medication on hand to give to the patient. To cover this point and to clarify scope of practice boundaries, the Pharmacy Law Book (2015) states the RN may act as a “prescribing agent” and dispense, phone in, or transmit a prescription under the name of the supervising physician, if delegated to do so (California Board of Pharmacy [CBOP], 2015). Likewise, standing orders allow for medical assistants to facilitate pre-written orders that expedite tasks such as preventive screening measures (vaccinations), lab tests such as HgA1c point-of-care testing, and even patient-specific medication refills.

A detailed framework for developing nursing protocols and standing orders was used to guide the team through this element of standard workflow development. (Appendix E.) The framework provides a systematic format for developing standardized procedures and standing orders, based on a vision for staff empowerment, that defines key terms and articulates scope of practice boundaries. Additionally, the document specifies requirements for protocol

development such as the use of evidence-based practice and adherence to regulations set forth by governing bodies, e.g., the board of nursing, board of pharmacy and the board of medicine. The protocol development team represents a multidisciplinary collaboration; roles and responsibilities are further articulated under “Project Resource Requirements.”

The QI Team

The QI team has been and continues to be the guiding coalition for this project. This project manager worked directly with the QI specialist to strategize and select the QI team. In addition to having a strong QI background, the QI specialist was also the PCC operations manager and worked directly with the staff on a daily basis. Leveraging her expertise and insight to the daily operations and morale of the team, we were able to work closely to strategize and form a team and to co-lead our QI meetings. As QI leaders, we worked with the chief operating officer (COO) to identify skills, roles, and responsibilities for the team, create a timeline for the project, and establish a mechanism of communication to keep the team informed and on track through regular updates. (Appendix F.)

The QI team was selected carefully to ensure they held the necessary characteristics and that team members represented diverse skills across the organization. We felt strongly that team members should be compatible and should be “believers” in the project’s mission and vision. Additionally, we hoped that early adopters would ensure forward movement of the project. The QI team met every other week for 90 minutes.

Steps were taken to facilitate cohesive relationships through group exercises. As an example, a collaborative brainstorming exercise was facilitated to illustrate the position and skills that each member brought to the team, and to collectively draft a purpose and ground rules for our committee. Each team member was provided with a QI binder that contained articles

related to the project, the project prospectus, IHI's Quality Improvement Toolkit (IHI, 2017) and copies of staff responses to surveys. As co-facilitators, we used Adult Learning Theory to embed the six core principles as part of the culture of the team and team meetings.

Statement of Proposed Work

The Humboldt IPA used the 10 Building Blocks for successful primary care as a roadmap toward advanced access to care. The 10 building blocks set the stage for the intervention with an emphasis on block four that completes the foundation (each successive block relies on the structure and stability of this fundamental piece of the journey). The 10 building blocks model, as evidenced in the literature, served as a guide for developing our infrastructure to support team-based care, with the overarching goal of providing prompt access to care. As outlined in the 10-Building Blocks of Primary Care Assessment tool, key components to achieving success in block 4, team-based-care, are achieved by having:

1. Non-physician team members who perform duties that match their credentials
2. Providers and support staff that are assigned as a team and work with the same team daily
3. Documented and standardized workflows that are routinely assessed
4. A practice that ensures staff are trained appropriately and that they are cross-trained to ensure consistency in meeting patients' needs
5. Standing orders that can be acted on by non-clinician staff for many conditions and that are used extensively
6. Hiring and training processes that support and sustain improvements in care through trainings and incentives focused on rewarding patient-centered care.

Work Breakdown Structure

All 10 building blocks represent components for successful primary care transformation. Successful implementation of the activities associated with each block allows for progression from one block to the next. A detailed work breakdown structure (WBS) illustrates the activities that needed to occur in block 4, team-based care (Appendix G).

The 10 Building Blocks

The 10 Building Blocks provided the ability to organize this project.

1. **Engaged Leadership.** Support and engagement from top leadership was essential toward ongoing success and empowerment of frontline leadership and staff. Leaders served on several committees, such as the Protocol Development team, Advanced Access committee, and the Quality Improvement team. These committees provided the leadership team with a forum to strategize, debrief, and gain a clear picture and understanding of how each phase of the project was progressing in order to plan next steps. We were fortunate to have an engaged leadership team who regularly attended staff and QI meetings and presentations; this was key to building relationships across disciplines and to establishing a culture that embraces change and improvement. Conversely, our executive leader needed to be kept apprised of progress and completion dates in order to approve time for staff development and trainings.

2. **Data-Driven Improvement.** We used metrics such as “supply and demand” to track the clinic’s capacity for patient appointments. This metric provided data to identify staffing needs and prevent pre-booking appointments so that we could accommodate same-day access for our patients. Reports were provided weekly to identify these trends. In addition to monitoring

capacity, we knew that understanding our panel size and population's needs would drive protocols to maximize the care team.

3. **Empanelment.** Identifying panel size is a key element of an Advanced Access model. As the project unfolded our team grew to understand the significance of this key building block. Essentially, when a patient is empaneled they and the team they are assigned to have a keen understanding of who their team members are. Patients identify with the roles of their team members and panel leaders take charge of the needs of their panel. In the early stages of the project we identified the provider as the lead and point person. However, as the project evolved, staff turnover led to a shift in roles, for medical assistants in particular. Medical assistants are now gatekeepers, charged with managing a subset of their provider's panel of patients.

4. **Team-Based Care.** Team-based care is the hallmark for the success of advanced access, where all staff are partners of the care team and are empowered to participate in and expedite patient care wherever possible. Incorporating key elements for success was essential for this fourth foundational block. As mentioned, each successive block relies on the strength, engagement, skill set, and camaraderie across disciplines and requires a clear understanding on the part of each staff member with regard to their and other individuals' roles and expectations for PCC.

5. **Patient-Team Partnership.** Patients are partners in their care and are also provided with tools for prevention, self-care, and disease management. Patients were invited to evaluate their care through patient comment cards and were recruited as patient advisors for our QI team. The purpose of the patient partner is to participate in evaluating processes and the patient experience at PCC. Additionally, and in line with the mission of PCC, patients were provided with tools and

support to make informed decisions through shared decision-making and were encouraged to access their records and to communicate with the care team through the patient portal.

6. Population Management. Managing the needs of the population is the responsibility of all team members who interact with the patient. Population management is the process of identifying and tracking needs and outcomes of the population assigned to the PCC. There is still great potential to optimize PCC's robust EMR system to maximize preventive screening efforts and outreach for PCC patients to improve quality metric scores.

7. Continuity of Care. Patients are assigned to a panel—one team—that may include the provider, RN care coordinator, diabetes educator, MA, wellness coach, and behavioral therapist. The goal is to have our team trained to work to the maximum scope of their practice, which means they need to have the tools to meet the needs of patients at the point of care and to provide continuity of care. For example, our MAs and RNs now have a standing order for HgA1c point-of-care testing. Staff were trained and provided written criteria and a standing order to allow them to initiate point-of-care testing when a patient met the criteria outlined without waiting for a provider to order the test. Over time we anticipate that with this and other standing orders, quality metrics will improve as will the health of our population.

8. Prompt Access to Care. Team-based, patient-centered care—where all staff are empowered to meet the needs of patients within their scope of practice using protocols and standing orders—will facilitate access to care. Older, physician-centered models of care rely solely on the knowledge and direction of the physician, oftentimes causing avoidable delays in care. The preceding building blocks set the foundation for prompt access to care.

9. Comprehensiveness and Care Coordination. Interdisciplinary team huddles in the morning and in the afternoon, as well as ongoing care coordination meetings, have been critical,

particularly for high-risk and high-needs patients. These routine meetings provide accountability on multiple levels and have helped build trust and support among the team.

10. Template of the Future. The 10 building blocks, based on systematic implementation that begins with a foundation, provide a roadmap toward a standardized model for successful primary care practice. The template for the future will provide patients alternatives to face-to-face visits with providers and success will be measured by the overall health of the population rather than volume of patient appointments.

Team-based care was highlighted as the project relied on an infrastructure that empowers the care team. The structure began with implementation of the QI team. The team consulted with leadership and leveraged data and statistics used to identify the patient population and its needs, steps taken during blocks 1-3. The consultation informed the need for staff development and training aimed to empower staff to work to the top of their license and training. The team conducted a needs assessment in the form of a staff satisfaction survey and through personal interviews. Protocols and standing orders were developed to support staff in expediting care; these protocols were aligned with the identified needs of the patient population as they established care at PCC. Staff proficiency training was developed and conducted to support a safe and standardized process.

As mentioned, having staff proficient in working to the top of their license and training is a critical element to improving access to care. To ensure that staff felt proficient a great deal of attention was given to developing these processes. Standing orders and protocols, proficiency checklists, and protocol-specific trainings were developed and facilitated by this project manager. In addition to having a hands-on training day, staff were provided with written resources easily accessible for reference in areas where care was delivered

The Foundation for Success

A major component of successful implementation was to create an infrastructure to support (block 4) team-based care. The vision was to create an environment where all staff have the tools they need to provide care independently, and who are supported to work to the maximum scope of their practice so that patients can be cared for at the right time by the right provider. As mentioned, developing and implementing standardized procedures and standing orders were key.

Preceding block 4 are blocks 1-3 (engaged leadership, data-driven improvement, and empanelment). Data was a foundational driver for change and improvement; accurate data collection and analysis are an essential building block toward advanced access and to a successful and sustainable system. IT staff continue to play a major role in supporting the team's success with this project. Our IT team extracts data from multiple sources, internally and externally, to identify volume and healthcare needs of the population and gaps in care. Reports run by the IT group have been instrumental toward matching supply and demand for PCC. IT, along with other identified super-users, have become experts in learning the new EMR system eClinicalWorks (eCW). These staff lead the team and clinic and provide support as challenges and needs arise. At the heart of advanced access and patient-centered care is accurate collection and dissemination of data.

Through empanelment, panel size is established by a team of healthcare providers assigned to that panel of patients. As mentioned we have determined that the MA is well-positioned to be the team lead for a panel of patients. The third-next-available metric was used to determine patient wait times, with a goal of the third-next-available appointment being on day zero. This metric was performed electronically, and we continue to monitor current trends in

available appointments from day 1 to the third-next-available appointment. While there is still work to do to accomplish advanced access, this information provides a mechanism to eliminate “backlog” appointments. By eliminating the backlog, we will have the capacity to provide patients who call for an appointment on any day with the ability to provide a patient with an appointment, with their provider or the most appropriate person on the care team to meet their needs, on that day.

Project Phases

There were several phases of this QI project:

Phase 1: In Phase 1 this project manager strategized with the QI specialist to select staff members for the QI team. This process began with a needs assessment to evaluate the staff and clinic strengths, weaknesses, opportunities, and threats (SWOT). Staff and provider satisfaction and burnout surveys were selected, formatted using Qualtrics software, and distributed by this writer. During QI meetings we facilitated exercises and brainstorm sessions to evaluate current workflows and to encourage the team to identify areas for improvement where staff could maximize their role and contributions to care for patients. Adult learning principles were used to introduce and engage staff to the concepts related to advanced access, the 10 building blocks roadmap, and the framework for sustaining improvement. This framework was also used to facilitate QI meetings and to organize QI agendas.

Phase 2: Several areas were identified by this writer and the leadership team where standardized procedures and standing orders could be developed to allow staff to function to top of their license and training wherever possible. For example, a standardized procedure was developed for RNs to triage and treat uncomplicated urinary tract infection in non-pregnant females. A standardized method for communication and finalization and implementation of

standing orders and standardized procedures was developed. Adult learning principles were used to guide and develop a series of staff trainings associated with protocols and standing orders. Additionally, this writer attempted to keep staff engaged through monthly 10 Building Block meetings and a 10 Building Blocks newsletter. The newsletter was co-written with the QI specialist and with contributions from select team members. These tools were valuable for providing staff education and helped illustrate the components for a successful transformation; however, were not sustainable with the resources we had for the duration of the project.

Phase 3: Competency training checklists for each standardized procedure/standing order were developed by this project manager and reviewed by the team leads. Proficiency logs were developed to track staff authorized to use new protocols. Next steps will involve ongoing proficiency audits using Failure Mode Effects Analysis to create audit tools to evaluate individual encounters within the EMR to ensure our processes are standardized and safe.

Phase 4: In this phase the progress and success of the intervention were evaluated. To achieve advanced access, reports were developed by IT to identify third-next-available appointments with a goal of comparing this metric at the end of the project to baseline. Our IT team continues to run these reports; however, Advanced Access has not been achieved as of yet. Setbacks related to staff turnover have slowed this progression. Proficiency surveys submitted and collected on proficiency training day demonstrated proficiency across all disciplines for those who received the training. This writer and the leadership team continue to work closely to review and utilize the quality metric reports provide by our EMR in order to identify gaps in care, and to empower staff with skills to fill those gaps through education, training, and

optimizing the EMR. Over time we anticipate that we will see improvement in quality metrics as a result of having widely utilized standing orders and protocols in place.

Project Resource Requirements

Project resource requirements have been articulated in a responsibility matrix (Appendix H). The protocol development team represented key staff and stakeholders that held integral skills necessary for building an infrastructure for team-based care. We felt that workforce diversity would be essential as each team member would view new processes through a different lens and allowed for a team approach toward quality improvement and staff development. The team collaborated routinely to review new protocols, provide input, and organize staff trainings.

Information Flow Requirements

Multiple modes of communication were necessary to keep stakeholders and the PCC team updated on progress to ensure that the project moved forward in a timely and efficient manner. These modes have been illustrated in a communication matrix. (Appendix I.) Protocol development and implementation dominated a large portion of the project. This process required that the writer of the protocols have a system for collaboration with the supervising medical doctor and nurse practitioner. As noted in the framework, this process took place initially through email using the document review functionality for editing and feedback. Face-to-face meetings were scheduled as needed when steps for a particular protocol needed dialogue among the team. Once protocols were approved, proficiency trainings were scheduled with the PCC team and conducted by this project manager, the PCC RN, and the PCC NP.

Initially, a monthly building block series geared toward PCC staff was conducted by the QI specialist (office manager) and this project manager. The COO participated in the series of

trainings when her expertise was required. Weekly ongoing meetings were conducted with this writer and her professor via Zoom. Additional communication was provided to PCC and IPA staff via a bi-monthly newsletter. The newsletter was distributed electronically via company email every other week. (Appendix J.)

Time and Cost Summary

Implementing an advanced access model was a lofty proposal, not the norm for healthcare systems in Humboldt County. However, research demonstrates that this model of care is one that proves to surpass traditional models of health care delivery in overall outcomes and cost-efficiency. The chief executive officer, chief operating officer, and board of directors held the power to approve the project going forward. Additional stakeholders were the medical director and lead nurse practitioner. Gaining buy-in and engagement from the medical leadership staff was essential for supporting the infrastructure needed for a sustainable patient-centered model of care.

Budget

There were multiple layers to consider in the early phases of project planning with regard to budget. Strategic planning and cost breakdown helped determine the financial needs of the new center, operating costs as well as personnel needs. The Priority Care Center is currently funded through revenue from the Humboldt IPA as well as insurance reimbursement and private pay patients. These funds supported the physical building, facility, and equipment fees, as well as salaries. An essential component of team-based care is to have adequate time for staff training and updates. Staff needed to have opportunities to build skills, receive updates on progress, provide input, and to celebrate short-term wins. Several areas were identified where staff would

need to be reimbursed for time spent in planning meetings, planning for and participating in proficiency trainings, and in time for review of new policies.

As mentioned, protocols and standing orders were needed to support staff in the delivery of patient care. This required time to research the literature, develop protocols and to collaborate, and review and finalize draft versions. Once protocols were approved, time was set aside for staff development and training. There was a great deal of time invested in staff engagement and communication updates-such as the 10 Building Blocks meetings and the 10 Building Blocks Newsletter. Additionally, resources were allocated for leadership training for this project manager and the QI Specialist that included a 4-day workshop on Dialogue Education, as well as dedicated time for meeting preparation. Aligned with the project timeline is a proposed budget to reflect time for staff training and meetings (See Appendix K.)

Cost Avoidance

With a focus on value of care, a systematic QI project aimed to reduce cost by improving access and avoiding unnecessary care was proposed. With implementation of our advanced access model, return on investment (ROI) would be achieved through outcomes aimed at accomplishing the triple aim. For example, acute uncomplicated urinary tract infection (UTI) in females is common and represents over 7 million office visits per year at a cost of over \$1 billion (Michigan Medicine University of Michigan [UMHS], 2016). When access to primary care providers is limited, patients' only other option may be to seek more costly care at an urgent care facility or emergency department (ED). Consequently, patients may delay care altogether, potentially leading to more severe and costly complications such as pyelonephritis or even sepsis (Sepsis Alliance, 2018).

PCC has developed an RN protocol to address this problem; "Triage and Treatment of Urinary Tract Infection in Non-Pregnant Females." Under this protocol, the RN can assess and treat the patient using a standardized procedure which authorizes the RN to provide appropriate antibiotic treatment if indicated. This change represents a significant cost savings on multiple levels. IPA claims for UTI were submitted by a local hospital emergency room facility for \$1,623.00, along with a professional charge from the emergency room doctor for \$970.00—a total of \$2,593.00 in billed charges for one patient. Patients seen at PCC for a UTI by the primary care provider ranged from \$69.00 to \$320.00 depending on the level of complexity and if the patient was a new or returning patient.

Preventing unavoidable ED visits alone represents \$2,593.00 in avoided costs per patient. In one calendar year, 15 female patients were treated for a diagnosis of UTI by PCC's provider. This represents significant cost avoidance (approximately \$38,895.00) when compared to treatment in the emergency room. Further cost will be avoided when the RN provides care in an expanded role that allows her to deliver treatment. Under our protocol, the patient may be able to avoid a visit to the clinic altogether or may be able to see the RN in an RN-only visit. An RN-only visit is one where the patient does not see a provider beyond the RN because the RN has been trained and provided a protocol to perform a particular function. Having RN-only visits opens up provider time for more complex visits, prevents delayed care that can result in more costly complications, and saves cost in provider salary by over 50% when the RN provides the care.

Incidentally, over the course of eight months, from July 2017-March 2018, Admit, Discharge, Transfer (ADT) reports provided by the IPA's IT department identified 29 unique patients who were admitted to local ED's with a chief complaint of UTI. If we factor in the 29

patients who could potentially have been treated by a PCP, we would see additional cost-avoidance of \$75,197 based on recent billed charges for the same diagnosis (See Appendix L.) Conversely, 15 unique patients were admitted to local hospitals with a diagnosis of pyelonephritis and or sepsis. Further research is needed to determine precipitating factors, total cost of care, and outcomes for the patients who were hospitalized, however, nonetheless represents a considerable increase in potentially avoidable negative outcomes and healthcare cost.

In considering the aforementioned to support our quest to improve access to care three options were proposed, with option 3 being the model we have adopted:

Option 1: Maintain the status quo. Clinic operations would follow traditional primary care practice where the primary care provider is the gatekeeper and directs all patient care.

Option 2: Team-based care. Teams would be co-located (NP, RN, MA) and represent primary care providers for PCC's primary care patients. Staff would be trained to address the patients' needs prior to seeing a provider or to provide care independently under a standardized procedure.

Option 3: Team-based-care. The primary care team would be co-located with the NP and two MAs. The panel of patients would be divided amongst the two MAs, who would be the gatekeeper of their assigned panel of patients. They would be responsible for initiating orders for population health measures and would have the tools to do so wherever possible, at every encounter, with their assigned patients. PCC RNs would perform more complex care to a panel of patients, including patients with complex conditions and multiple co-morbidities, provide acute care to patients with uncomplicated conditions, such as sore throat, colds and flu, and uncomplicated UTI. The team would work closely with wellness coaches and the behavioral

health therapist to address the social determinants of health and offer support for lifestyle changes. Likewise, the team would work with community primary and specialty care providers and other agencies as needed to provide comprehensive care for the patients served.

While the first year of implementation was dependent on a significant amount of time and cost dedicated to development and training, year two promised to reap significant savings through multiple measures. The cost of having a registered nurse see patients in an RN-only visit for example represented a 57% cost savings, compared to having the same patient seen by a nurse practitioner and medical assistant. Expanding on this example there were multiple opportunities to decrease cost across health care. For example, as mentioned, female patients presenting with symptoms of a UTI could be safely treated using a standardized procedure by an RN over the phone, saving the patient a visit to the clinic, opening up appointment time for providers, and averting potential (costly) emergency room visits.

Likewise, having staff prepared to address health care screenings and offer point-of-care testing, alternatively or prior to seeing a provider, can decrease time for patients in the clinic and ensure that overall preventive screening measures meet health plan benchmarks. Under value-based reimbursement, ROI will be seen in shared savings and decreased use of high-cost health care such as poorly controlled chronic conditions, hospital admissions and re-admissions, and unnecessary use of the emergency room. This model supports our efforts to uphold our Accountable Care Organization (ACO) agreement to lower the overall cost of care. Under this agreement, we have the opportunity to receive a portion of the savings if we meet or exceed agreed-upon benchmarks. Thus far, we have achieved shared savings for the past two measurement years.

Section IV. Results

Outcomes Metrics

This pre-post intervention aimed to demonstrate improved access to care for patients as a result of having a robust team-based model of care in place. Primary and secondary sources of data were used and were collected electronically by this writer in the form of surveys and audits. A chart table articulating variance control can be reviewed in the appendices. (Appendix M.)

We used a mixed-methods approach; aggregate data was collected in the form of Likert style surveys by this writer and, they were administered electronically using Qualtrics software. In addition, staff were surveyed informally through face-to-face interviews. Each of these methods provided staff with an opportunity to provide a narrative to questions posed. This qualitative information was helpful in identifying the staff's concerns with barriers to success, with frustrations they experienced, and with general comments about their perception of the work. Themes from respondents are noted in the following excerpts from the Qualtrics staff and provider satisfaction surveys:

1. While we regularly take time for improvement ... oftentimes staff go to trainings where information is not disseminated back to the rest of the team.
2. PCC is a great and innovative place to work. We have our struggles, but we work as a team to address them. I am proud of the work we do.
3. Staff turnover is hardship when the team is small; it puts a burden on other team members.
4. I can appreciate the phrase "work to the top of your license," but some simple tasks are not necessary to put on the shoulders of lower staff ... the problem arises when there are multiple little things to do and not enough time to do them ... the reality is

that a person will stay at their job if they feel well supported ... sprinting every day is not sustainable.

These comments reflect the pride in the work as well as the struggles we encountered throughout our implementation process. Throughout the project, there was a significant amount of staff turnover. This issue will be discussed in further detail but should be mentioned here as well. Regardless of the reason for attrition (which overall represented reasons that were related to personal or life events) staff turnover presented a challenge for the sustaining momentum of the project.

Primary methods, such as proficiency audits and staff satisfaction and practice transformation assessments, were evaluated at baseline, and at the end of the project. Results guide training and resource tools aimed to improve staff confidence and autonomy when using standing orders and standardized procedures and help gauge staff's perception of and attitudes about the effects of our team-based care model. These tools will be ongoing as we continue our practice transformation journey.

Secondary sources of data help to identify supply and demand ratios, third-next-available appointment metrics and population health data—such as number of patients with diabetes who need Hemoglobin A1c testing. A detailed protocol was developed to allow the RN to provide treatment for UTI in non-pregnant female patients. While the protocol is in place, we have not had consistent RN staff to provide the service independently. When we do, it will be critical to utilize an audit tool to assess the safety of this process. Likewise, as the team becomes more proficient in initiating population health screening measures, we will utilize reports within our EMR to measure success through quality metric (HEDIS) reports.

Staff Training

As mentioned, multiple standardized procedures and standing orders were established to support and empower staff. We developed standing orders and standardized procedures to allow trained staff to initiate designated procedures for the following functions:

A. Standardized Procedures (RN function)

1. Triage and Treatment of Uncomplicated Urinary Tract Infection in Non-Pregnant Females
2. Triage and Treatment of Positive Strep Throat
3. Medication Refill

B. Standing Orders

1. Urine Pregnancy Test
2. Hemoglobin A1c
3. Urine Micro Albumin

Additionally, we provided staff education for these procedures as well as training for skills and functions that are provided routinely for all patients or that a provider may request on an individual patient basis, such as:

C. Skills and functions

1. ECG
2. Blood Pressure
3. Ear Lavage
4. Blood Glucose Point-of-Care Test
5. Rapid Strep Point-of-Care Test
6. Urine Collection and Dip Point-of-Care Test

7. Urine Pregnancy Point-of-Care Test
8. Urine Micro Albumin Point-of-Care Test
9. Hemoglobin A1c Point-of Care Test

Proficiency training for standing orders and skills and functions occurred with all clinical staff on a designated day when there were no patient appointments. Staff completed a pre- and post-proficiency assessment on the day of the training to demonstrate learned skills. Staff traveled in groups through each station and were required to watch the procedure, do the procedure, and then teach the procedure to their peers. Station leaders were experienced RNs who initiated teaching, answered questions, and evaluated proficiency.

Results from the surveys demonstrated improved proficiency with all staff. Scoring was based on a scale of (1-5) with 1 being not proficient and 5 being very proficient. Based on self-assessment each staff member improved their score with the lowest post-assessment being a 4. (See Appendix N.)

As mentioned, due to panel size and staff turnover, we have not had enough volume to measure success with the two standardized procedures. These protocols are designed for the RN to function independently once they are trained and feel confident; however, nurses continue to work collaboratively with the nurse practitioner using these procedures. (See Appendix O.)

Staff and Provider Satisfaction Surveys

System Transformation Evaluation Surveys, developed by the Center for Excellence in Primary Care, were submitted on two occasions. These surveys were used to evaluate staffs perceptions of a team-based care model. A staff satisfaction survey was submitted in February 2017 and then again in February 2018, and a provider survey was submitted in August 2017, and again in February 2018. As discussed in the literature review, while practice transformation aims

to address and improve provider burnout, these authors caution that a shift from provider burnout to staff burnout should be monitored and addressed. To evaluate burnout, we used a non-proprietary single-item metric that has been shown to be a reliable tool when compared to the more commonly used Maslach Burnout Inventory (MBI) metric (Dolan et al., 2014).

Survey Results

As mentioned, we submitted staff and provider surveys electronically at two points during the intervention. In the first staff survey we had a 100% response rate, N=9 respondents, and in the second staff survey, we had a 77% response rate, N=7 respondents. Questions were scored 5-point and 10-point Likert scale, respectively, with room for a narrative response at the end of the survey. Results were compiled based on mean scores from the group and ranked on an Excel spreadsheet according to the degree of change.

We saw improvement in the areas where staff need tools and training, such as recognizing when a patient is due for screening, the ability to provide a procedure such as a flu shot without waiting for a provider order, and in staff's confidence with answering clinical questions. There was a decrease in scores with questions that addressed support, culture, and teamwork in survey 2 and burnout was higher among these respondents. The provider survey, N=1, seemed to contradict staff's perception of their ability to perform some clinical skills; scores in some of these areas decreased. The provider's responses to questions that addressed support, teamwork, culture, and burnout improved. (Appendix P.) Interestingly, the provider, who had been part of the project from the beginning, expressed less burnout, but also less confidence in staff's ability to perform tasks independently, and the scores that addressed teamwork and culture improved. The staff's responses mostly represent staff new to the practice, who did not participate in the first survey. Satisfaction may be a reflection on the part of this

project manager and the leadership team. We must question whether we took the steps necessary for onboarding new staff early on to engage them in the mission and vision of the project to inform next steps.

Practice Transformation Assessment

The 10-Building Blocks of Primary Care Assessment tool, developed by UCSF Center for Excellence in Primary Care, was designed to assess a primary care practice's change as compared to the 10-Building Blocks of High Performing Primary Care. We felt this tool was valuable to demonstrate the components of success with each of the 10 building blocks and to serve as a measurement of our progress. This project manager, the QI specialist and the COO served on the Advanced Access committee and completed the surveys independently using a hard paper copy of the survey. Those results were then reviewed by the committee, discussed, and then averaged to represent a cumulative score. This assessment was completed twice, in July 2017 and again in February 2018. Each block demonstrated progression toward the highest level, a score of 1-12, with a score of 10-12 (level A) being the highest score. This tool was useful for illustrating success to our staff and for identifying areas where we still have work to do.

The assessment revealed improvement in each building block. In the foundational blocks (blocks 1-4) we saw the most improvement in block 3 (Empanelment). To achieve success in this block, patients are assigned to a specific practice panel and assignments are used for scheduling purposes and to monitor supply and demand.

Since the first assessment there has been a concerted effort to achieve success in this area. As mentioned, the MAs are now the lead and point person for their panel of patients. Within the QI committee we have focused energy toward engaging MAs in this new role and established a

process where the MA provides the patient with their contact information—they have been provided with business cards—and they have a scripted message to inform of patients of their role. This message is reinforced at the front office and through other staff, such as wellness coaches and the nurse practitioner during various other encounters. Further criteria for success in blocks 1-4 can be found in the appendices. (See Appendix Q.)

Advanced Access Reports

Data is essential to our practice transformation journey. Supply and demand reports have been created by our IT department and are provided weekly to the Advanced Access committee. These reports represent the number of appointments scheduled on a given day. Over time, this data allows us to predict staffing to match the supply. We can see which days we need more staffing based on the reports and even predict seasonal peaks. (Appendix R.) In addition to supply and demand we track third-next-available appointments. This provides a report that indicated the number of days from the first available appointment to the third-next-available appointment. This data provides us with an opportunity to work down backlog of patient appointments to zero days, which will allow us to achieve our goal of same-day appointments for our patients.

Section V. Discussion

This quality improvement intervention was not without challenges. With the prospectus as a guide we made every attempt to take the steps necessary to create an infrastructure for success in one primary care practice. That said, there were unforeseen circumstances, such as staff turnover, that limited resources, stalled progression of the project, and affected the ability to meet the overarching goal of “advanced access.”

Limitations

Having a small population of staff to work with has its pros and cons. It is easier to build relationships, which is key to team-based care; however, staff are oftentimes required to wear multiple hats and shift roles in the absence of a teammate. The latter is essential to any successful team and allows for contingency planning when unforeseen circumstances do arise. However, when working in a new and developing infrastructure it may be contradictory to having clear roles and responsibilities and be confusing for staff who are new or inexperienced.

While our surveys provided us with key information, they are limited in that the two staff surveys represent different staff members. As mentioned, during the first year of the intervention we lost several staff members who left for various reasons. Two of our medical assistants were accepted to nursing school, one left the area altogether, and the other was not able to sustain a full-time job along with full-time school. All three of our nurses, the diabetes educator, and the RN coordinators moved on to accept positions elsewhere for individual reasons. Our two care coordinator RNs proclaimed to love their work and were invested in the mission and vision; however, each had life circumstances that required them to take a different path. These changes were significant to the morale and to momentum as remaining staff were charged with taking on new duties and roles in addition to training new staff.

As facilitators we underestimated the lack of QI experience of the team members. While we provided reference tools, introduced QI concepts, 10 building blocks theory, conducted staff interviews, and facilitated QI and 10 building block meetings, it was clear that the staff were frustrated by the process and with the meeting time that interrupted their daily work. Finding a balance between theory and “doing the work” became evident early on in our QI journey. This message was heard loud and clear during one QI meeting and that feedback from the team

became a critical juncture toward keeping the team engaged and motivated to tackle QI projects independently.

A turning point in our journey occurred with the success of one team member (a wellness coach) who spearheaded a smoking cessation project. Smoking cessation is a metric we are held accountable to through our ACO contract, so this is relevant not only to addressing prevention of disease but to upholding our ACO agreement. The project illustrated several PDSA cycles that began with a question, followed by data, and thus provided a starting point toward improving smoking cessation efforts. The following is an example of the first cycle:

Cycle 1:

P: She asked the question: Are we documenting correctly? Are we asking at every visit?

D: She worked directly with eCW's support team to determine where to properly document smoking status and smoking cessation intervention.

S: She determined there were no consistent documentation methods amongst all staff members nor was there a standardized process for asking the question at each visit.

A: Next steps ... more education/demonstration were needed.

Through education and training and establishing a standardized process for optimizing data collection in the EMR through proper documentation, the coach was able to demonstrate improvement in identifying smokers and in efforts to intervene by offering smoking cessation. This project was used to demonstrate the link between QI efforts and toward driving home the value of QI processes and frameworks during a QI meeting. Conversely, several months after the training, the coach reported that the numbers for staff documentation of both smokers and smoking intervention had declined. Discouraged, she brought this information to the QI team. This presented another opportunity to highlight our framework "Sustaining Improvement" and

illustrated the components of quality planning, quality improvement, and quality control for ongoing sustainability.

Interpretations and Next Steps

As we continue to develop and refine processes at the Priority Care Center, a common theme we try to impress on staff is to embrace “failure.” Failure is a necessary part of change and understanding failure is critical (Heath & Heath, 2010). Leaders at IDEO Design recognize that every design process will go through foggy periods. Initially, improvement teams may be filled with optimism and hope and in the end with confidence. The middle (the trenches of improvement), however, is filled with “insight” attempts to integrate new and fresh ideas into a coherent design—this phase often feels like failure (Heath & Heath, 2010).

This project has presented many learning opportunities for this writer and for our PCC team. Going forward it will be essential to keep our vision at the forefront. Onboarding efforts will need to include our journey thus far and provide a clear picture for new staff of where we want to be in the future state. Next steps will include more concerted efforts toward staff training. While multiple standing orders and policies have been put into place, there is still work to do to ensure that staff feel confident, proficient, and empowered to initiate care independently when appropriate. The 10 building blocks will continue to serve as a roadmap as we strive to accomplish the elements required for success in each block.

Conclusion

The premise of Advanced Access is that patients get the care they want when they want and need it. Furthermore, research demonstrates that systematic implementation of an advanced access model will improve quality and patient safety through coordinated and timely access to care. Key elements of advanced access cross over to other patient-centered models of care, such

as open-access scheduling, the 10 building blocks for high-performing primary care practices, and the patient-centered medical home. A foundational element for success of Advanced Access is team-based care. While innovative practices have demonstrated improved access, efficiency, and overall satisfaction among staff and patients, restructuring primary care practices to support a team-based model can be daunting. It is imperative that misconceptions about role and scope of practice are addressed, and that systems are put in place to safely allow for more expanded roles for health care staff.

We, the leadership team, need to persist and assist the team in their efforts, and to find and celebrate small wins and tie those to our mission and vision of PCC: “To help people move to their highest level of personal wellness through teamwork, support, education and prevention so that ultimately we become unnecessary.” The vision is for all people served through the Priority Care Center to receive the right care, at the right time, by the right provider. To accomplish this every staff member needs to have the skills, tools, and support to work to the top of their license and training. This is the mission for the QI team, to identify areas for improvement and work together to put systems in place to accomplish the mission for the clinic. Joel Barker said “Vision without action is merely a dream. Action without vision passes the time. Vision and action can change the world” (Grossman & Valiga, 2013, pg 90).

The 10 building blocks will continue to provide us with a roadmap that incorporates elements designed to create a sustainable infrastructure for success, ultimately leading to block 10, the template for the future. Block 10 epitomizes the triple and quadruple aim to address population health, delivery of quality care, cost of care, and joy in practice. Achieving this block allows practices to optimize the delivery of care to one that promotes and achieves improved health and wellness by offering multiple modalities to deliver care. Team-based care is the

foundation where teams share the care to improve access. Expanding on this model, patients will also have improved access through group visits, peer-led support groups, telehealth access and minute clinics, and prevention will be imbedded in all encounters.

Section VI.

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Section VII. Appendices

Appendix A
Evidence Table

CITATION	CONCEPTUAL FRAMEWORK	DESIGN METHODS	SETTING SAMPLE/POPULATION	MAJOR VARIABLES STUDIED WITH DEFINITIONS	MEASUREMENT OF MAJOR VARIABLES	DATA ANALYSIS	STUDY-FINDINGS	APPRAISAL OF WORTH TO PRACTICE-STRENGTH OF EVIDENCE (STRENGTHS & WEAKNESSES)
<p>Tantau, C. (2009). Accessing patient centered care using the advanced access model.</p>	<p>Conceptual-Quality Improvement</p>	<p>Case study, Statistical analyses-Demand supply analysis</p>	<p>Health care organization</p>	<p>Independent variables: Advanced access model Dependent variable: patients/patient volume/2 medical practices</p>	<p>Non-research design. Third next available metric is used to identify delays measured as time to third next available appointment, run charts are used to show improvement</p>	<p>Decreased patient wait times from 35 days to zero, and from 78 days to zero for next available appointment</p>	<p>A comparison of two diverse organizations demonstrated significant decreased wait times by implementing key comments of advanced access, with success in decreasing no show rates, and decreasing wait time for appointment to zero days in most cases.</p>	<p>Level IV-A Use of third next available formula to identify and match supply and demand was shown to be successful in this study. This tool could feasibly be implemented to any practice who seeks to expand access to care.</p>

<p>Bodenheimer, T., Ghorob, A., Willard-Grace, R., & Grumbach, K (2014), The 10 building blocks of high-performing primary care.</p>	<p>Conceptual-Quality Improvement</p>	<p>Systematic Review, Case Study, Observational, experience, quality improvement</p>	<p>Primary Care Practices/Healthcare teams</p>	<p>Independent-23 Primary care practice, healthcare staff Dependent variable-Building blocks model for improvement</p>	<p>Non research design. Building blocks assessment tool has been established to measure to benefits for the building blocks model for practice transformation. transformation- Not yet validated.</p>	<p>This article did not pose strong statistical data. Literature reviews by authors demonstrated improved outcomes, specifically with continuity of care.</p>	<p>Through an iterative field approach, authors collaborated findings and vetted with the studied practices, incorporating feedback to formulate the 10 building blocks-that provides a roadmap for primary care practice transformation</p>	<p>Level V-A Author well recognized in the field, with ongoing research to determine the outcomes for using the building blocks model. This roadmap represents a tool with advanced access to care as a component towards its success.</p>
<p>Bodenheimer, T., & Sinsky, C. (2014, November/December). From triple aim to quadruple aim: care of the patient requires care of the provider.</p>	<p>Triple Aim, Quality Improvement</p>	<p>Expert opinion, observational, experience, literature review</p>	<p>Physicians/care teams</p>	<p>Independent: Primary Care Providers/Physicians Dependent: steps to address the fourth aim</p>	<p>Non research design. Literature demonstrates high staff burnout related to efforts to accomplish</p>	<p>This article did not demonstrate rigorous statistical analysis, rather, a representation of current analysis</p>	<p>Steps towards the fourth aim; team documentation, pre-visit planning, expand roles, standardize workflows, co-locate teams, ensure</p>	<p>Level V-B Expert in the field with steps for improvement that correlate with advanced access models and with practice transformation. Including this element</p>

					<p>the triple aim-48% of US physicians. Major contributions to stress include: Paper work and administration-63% Administrative tasks-43% (accounts for 30% of day) Alerts and task-80% were reported to be unnecessary ER physicians report 44% of day spent doing data entry.</p>	<p>from literature review. No specific formulas other than steps toward addressing the aim-based on literature was proposed.</p>	<p>that staff are well trained and understand their contribution to avoid assuming the burden of burnout.</p>	<p>strengthens the overall goal of providing patient centered care by also addressing the struggles for providers and practices to do so.</p>
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<p>Robinson, L., & Chen, R. (2010, Spring). A comparison of traditional and open-access policies for appointment scheduling.</p>	<p>No Conceptual model was identified</p>	<p>Systematic Review</p>	<p>Health care organizations</p>	<p>Independent: Open access model, traditional access model Dependent Effects of number of calls for an appointment that day. No shows- in traditional model patient may not show for an appointment</p>	<p>Marginal analysis to examine no show probability -p, length of day-T , and overtime surcharge B</p>	<p>30 % increase in Panel size with open access scheduling, elimination of physician idle time due to no show</p>	<p>Waste that occurs in a traditional scheduling model eg. physician idle time due to no shows. Open-Access or same day scheduling eliminated physician idle time, patient wait time caused by overbooking policies. Panel size can be increased 30% with open access.</p>	<p>Level IV-A Authors used rigorous methods to quantify the benefits of an advanced access model. Complex statistical data further supports qualitative evidence in the literature.</p>
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<p>Solimeo, S. L., Ono, S. H., Lampman, M. A., Perez, M. B., & Stewart, G. L. (2015). The empowerment paradox as a central challenge to patient centered medical home implementation in the veteran's health administration.</p>	<p>IHI model for Improvement</p>	<p>Convergent mixed method to examine role change associated with patient aligned care teams (PACT's) pre and post implementation of PCMH model. Quantitative data to measure work role challenge and engagement Qualitative to measure contextual factors that apply to role changes. Quantitative -Team and individual role perception</p>	<p>High performing primary care staff. 22 teams, 97 participants</p>	<p>Independent variable- PCMH model Dependent variable- multidisciplinary staff-work role challenge and engagement.</p>	<p>one-way analysis of variance (ANOVA). Due to small sample, p value of 0.10 for omnibus analysis was adopted to identify general trends. Positive omnibus tests were followed by Fisher's least significant difference tests adapting a p value of 0.05 to determine specific groups that differed from each</p>	<p>Quantitative and qualitative data were analyzed separately then combined to gain a contextual understanding. Differences in roles were analyzed by taking survey data by professional role to calculate means and standard deviations for each of the 4 role groups.</p>	<p>Qualitative results- perception of high work role challenge for PCP's Follow up T Test to compare scores at baseline and follow-up : Role ambiguity-no difference among roles pre and post intervention Role conflict-increase in role conflict Role overload-marginal increase Engagement-higher for PCPs, lower for Clerical staff. Less empowerment and</p>	<p>Level III-A Rigorous use of qualitative and quantitative analysis from this study support the need to consider effects of practice transformation on staff and suggest having a plan to divert or address this paradigm.</p>
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		<p>survey (TIRPS) measured using 3 scales-3 item role overload scale, 6 item role ambiguity scale, and 8 item role conflict scale. Each measure used a Likert Scale. Qualitative - in person one hour discussion groups divided by role. experience facilitators used semi structured interview. Used anthropologic field</p>			<p>other. T test was used to compare scores at baseline and follow-up</p>		<p>engagement from RN and clerical staff Qualitative Findings-RN's and other staff did not take ownership of new roles, difficulty delegating to other staff I.e. RN to MA, or PCP to RN. Perception of increased workload</p>	
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		approach to maximize confidentiality.						
Lewis, S. E., et al. (2012, January 9). Patient centered medical home characteristics and staff morale in safety net clinics	Change concept, specific framework not identified.	Quasi-experimental. Cross-sectional study, Quantitative -Self-administered survey among 65 clinics safety net clinics, across 5 states. Likert scale measuring 5	391 providers and 382 clinical staff. 603 (78%) responded.	Independent Variable-PCMH setting and characteristics Dependent variable-PCMH-staff perception of PCMH on morale	5 PCMH subscales to measure access to care and communication with patients, communication with providers, tracking data and care management, and quality	Univariate analysis-mean of individual level values for each clinic). 18 univariate models total-measured 5 PCMS (independent variable) Multivariate analyses,	79.8% response rate for providers and 76.2% from staff. 53% rated job satisfaction as very good. 49 % under stress sometimes but not burned out. Morale and burnout correlated with each other. Mean(SD)	Level II-A Rigorous methods were used to quantify the effects of PCMH on safety net clinic providers and staff., demonstrating hope for improving provider and staff morale with this model. Authors note limitations in transferability due to specify

		subscales.			<p>improvement. Work environment subscale-Covariate subscale consisted of 5 questions examining culture, teamwork, and leadership, 3 questions on morale, satisfaction and burnout were used to measure outcome variables. 4 clinics did not have emr, had nurse shortage, number of years since training.</p>	<p>for subset-access to care, communication, care management, quality improvement. Multivariate and Univariate analyses were reported using odds ratios (95% CI), reflecting 10% increase in variables coded on scale of 0-100</p>	<p>overall work environment=68. Multivariate models-4 control (presence of EMR, presence of nursing shortage, years since ended clinical training). 10 increase in quality improvement subscale implies mean increase of 0.18 and 0.23 in the probability of higher morale for providers and staff respectively</p>	<p>characteristics of these clinics. Cross sectional study cannot prove causation. Clinics were not randomly supplied.</p>
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<p>Mean, D. D., Davis, D. E., Tomvage, J., Graf, T. R., & Procopio, K. M. (2013). Improving patient experience by transforming primary care: evidence from messenger's patient-centered medical homes.</p>	<p>No Conceptual model was identified</p>	<p>Quantitative study- Comparison survey of Patient health navigator (PHN), Giesenger version of Patient Centered Medical Home & traditional primary care practice- intervention -implement PHN across 43 sites</p>	<p>Participants(3 6 Messenger owned and 7 contracted primary care practices within the Giesenger network). PHN group =1262 patients, 1415 in the non PHN control group.</p>	<p>Independent variable- PCMH model Dependent variable-patients in messenger network experience of care (PHN & non-PHN respondents)</p>	<p>Patient experience : perceived changes in care delivery, usual source of care, access to care, PCP performance. PHN vs Non PHN sites</p>	<p>Descriptive Statistic and logistic regression coefficient estimates to disguise patient experience among pts included in study based on specific criteria, eg education level, specified chronic dx, age. Propensity score was used to reduce impact of bias.</p>	<p>Response rate 15% higher in PHN sites than non PHN sites-the study confirmed PHN and non-PHN respondents are different from each other. PHN respondents were older, more likely to be satisfied with care, and more educated. PHN also differed in categories of dx included in the study. Final sample included 499 PHN and 356 non-PHN respondents</p>	<p>Level II-A Researchers used rigorous methods to analyze survey statistics with consideration to confounding variables related to inclusion criteria with measures to decrease the impact of bias on the study.</p>
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<p>Koslov et al. (2015), Across the divide: primary care departments working together to redesign care to achieve the triple aim</p>	<p>No Conceptual model was identified</p>	<p>Cross clinic implementation strategy to pilot redesign.</p>	<p>3 Academic health centers</p>	<p>Independent variable-Redesign features Dependent variable-patient satisfaction, healthcare measures, clinical safety metrics</p>	<p>Quantitative methods used to measure patient experience, safety and preventive health measures Qualitative methods were to evaluate thoughts and perceptions from stakeholders</p>	<p>Crystallization immersion was used to analyze quantitative data. Quantitative methods included a survey of randomly selected patients. Clinical safety was measured using pre and post intervention data, and preventive care outcomes were measured pre and post intervention.</p>	<p>Improvements were seen across all metrics, additionally, staffing ratios improved with addition of NP- which freed up physicians to see more complex patients.</p>	<p>Level V-B Because the study was specific to well-funded and supported academic health center, authors note results may be transfer to other systems. Methods and goals however are in line with literature to support the chosen interventions authors used to achieve the triple aim.</p>
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<p>Oelke, N. D., Besner, N., & Carter, R. (2014). The evolving role of nurses in primary care medical settings. <i>I</i></p>	<p>No Conceptual model was identified</p>	<p>Case study, qualitative and mixed methods,</p>	<p>3 primary care networks (PCN)</p>	<p>Independent variable-primary care network redesign. Dependent variable-effect of (PCN) on RN role enactment-role ambiguity, role optimization, provider understanding of RN scope and cooperation with expansion of role</p>	<p>Research design- Qualitative & mixed methods (interviews and document review-RN job descriptions)</p>	<p>Phase 1- Qualitative interviews (30-90 min long) across disciplines were recorded and coded. Phase 2- mixed methods. Qualitative dated were analyzed using inductive thematic analysis. Data were coded and categorized using Nvivo 7 software. Job descriptions were analyzed manually</p>	<p>Study findings revealed significant evolution of the RN role, overall, over the course of the 1 year study. Authors noted that with the new PCN model, role ambiguity and trust between providers was a consistent theme that contributed to nurses not feeling supported in expanding their role. Because</p>	<p>Level III –A Authors reputable and have done extensive research in this area of study with commitment to strengthening the RN role in primary care. A large sample size was used and selection of variables were in line with those recognized in multiple studies. Their methods were clear; limitations and recommendation were stated.</p>
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						<p>for themes, and common themes were identified. Quantitative data (job shadow, patient surveys health utilization data were analyzed using SPSS 13.0 statistical software.</p>	<p>nurses were not collocated, initially, authors noted that collaboration and care coordination was fragmented and often duplicated. Barriers to optimization included fee-for-service payment model, management and processes that prohibited nurses from working to top of</p>	
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							scope, lack of access to EMR, lack of prior experience using their nursing knowledge and experience in prior settings contributed to lack of confidence in asserting a new role.	
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Appendix B

Framework for Change

Kotter's 8 Step Process



1. **Establish urgency:** Humboldt County has poor health, 47 of 57 counties in California, residents are challenged to find medical care due to limited access to primary care providers.
2. **Build a guiding coalition:** PCC Aims to improve access to care with an innovative approach and is working towards advanced access through a team-based model of care.
3. **Form a strategic vision:** ‘To help people move to their highest level of personal wellness through teamwork, support, education and prevention so that ultimately we become unnecessary.’ The vision is for all people served through the Priority Care Center, to receive the right care, at the right time, by the right provider.
4. **Communicate the vision-for buy in:** The vision will be displayed in the clinic and communicated during each monthly building block meeting.
5. **Enable action by removing barriers:** Identify and address/remove barriers
6. **Generate short-term wins:** Continuously celebrate early wins—acknowledge all improvements (not only measures), but adaptability to change, etc.
7. **Never let up!** Do not let up, continue to evaluate cycles of change, DO NOT declare victory to soon.
8. **Incorporate change into the culture:** Anchor the change—Standardize, policies, performance and accountability system. Ensure leadership personifies the change.

Appendix C



USF School of Nursing and Health Professions
2130 Fulton St.
San Francisco, CA 94117-1080

Regarding: Kimberly Perris, MSN, RN, CNL

Dear USF School of Nursing Faculty,

The Humboldt IPA fully supports Kimberly's Advanced Access: Creating an Infrastructure for Success in a Rural Primary Care Practice project. In conjunction with her role as the Population Health and Utilization Management department manager at the Humboldt IPA, this project supports our goals to provide comprehensive population health service to our community through a team based care approach.

Humboldt County like many rural communities faces tremendous challenges including timely access to health care. Through this project, Kimberly has outlined an approach to implement an effective team based care infrastructure that may lead to an improvement in access. If successful, this model will be promoted to other practices within Humboldt County.

Please contact me if you have any questions or need any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Den Ouden".

Rosemary Den Ouden
Chief Operating Officer

Humboldt Independent Practice Association

2662 Harris Street • Eureka, CA 95503-4856 • www.humboldtipa.com

P: 707.443.4563 • F: 707.443.2527

Appendix D

SWOT Analysis

<p style="text-align: center;">Strengths-Internal</p> <ul style="list-style-type: none"> • Leadership • Vision • Quality Improvement Specialist • Strong IT • Pop health interfaces with practice • Functional EMR • E-prescribing • Diverse and experienced staff • Engages and motivated team 	<p style="text-align: center;">Weakness-Internal</p> <ul style="list-style-type: none"> • Infrastructure to support expanded roles not in place (standing orders/standardized procedures) • Time for development and training- • Rapid change • Small team • Fear of failure • Staff resistance to change (empowerment paradox)
<p style="text-align: center;">Opportunities-External</p> <ul style="list-style-type: none"> • Spread the model to other local practices • Improve access to care for patients • Improve patient satisfaction • Demonstrate value (ROI) from staff working to top of license • Maximize patient panel size by expanding staff roles (sharing the care, decreasing load for provider) 	<p style="text-align: center;">Threats-External</p> <ul style="list-style-type: none"> • Lack of reimbursement for RN visits • Decreasing HMO population=decreased capitation that helps fund PCC • Limited access to care in community=pressure to accommodate patients at PCC

Appendix E

Framework for Developing RN Standardized Procedures and Standing**Orders:**

Purpose: To facilitate and expedite patient care by providing licensed and non-licensed staff with tools to function to the top of their top of their license and training. PCC standing orders and standardized procedures are created through a collaborative, multidisciplinary process to allow appropriately trained staff to provide safe, standardized, patient-centered care.

Definitions:

Standing Order: Written orders used in absence of a specific order for a specific patient by licensed health care providers within their scope of licensure. A standing order prepared by a supervising physician, NP, PA or nurse midwife, acting within his or her scope of licensure, may authorize basic functions to be carried out by the MA per a standing order, provided the standing order is consistent with medical practice (CHA, 2012).

RN protocol: A detailed set of instruction designed to guide a qualified RN in dealing with a defined health problem. RN protocols can involve functions which are customarily performed by RNs, or can involve less traditional functions which overlap the practice of medicine: the latter requires development of a Standardized Procedure

Standardized Procedure: A defined procedure, developed through collaboration among registered nurses, physicians and administrators in the organized health care system in which is to be used, which authorizes performance of a medical function by a registered nurse. Such functions overlap the practice of medicine, and are permitted under state law-as directed by the California Board of Registered Nursing.

Framework

1. Identify & state need for SP as succinctly & clearly as possible;
2. Specify purpose of SP
 - a. Written description
 - b. Should be evidence-based, using current literature and best practice.
 - i. Main sources of evidence cited
3. Identify personnel (eg.RN, MD, Admin, IT) on Development Team;

- a. Makeup of team must be approved by Medical Director and Chief Operating Officer or their designees.
- b. If additional personnel are added to the Development Team, add to document.
 - i. May add to SP prior to initial approval as needed;
 - ii. May add to updated SP as mentioned in 7 as below

4. Write Protocol, ensuring that:

Standardized procedures are written to include:

- a. The eleven Guidelines from BRN in section 1474 numbered (1) – (11) are addressed-
<http://www.rn.ca.gov/pdfs/regulations/npr-b-03.pdf>,
- b. The RN Functions (“who/what/where/when/why”) in SP are specified.
- c. The Protocol is as brief, clear & “user friendly” as possible
- d. Collaboration among nurses, medical director, providers, administration and IT.

Standing orders are written with consideration to scope of practice, for example:

- a. Under the direct supervision of the physician, a medical assistant may call in routine refills that are **exact and have no changes in the dosage levels**. The **refill must be documented in the patient's chart as a standing order, *patient specific***. Medical assistants may not call in new prescriptions or any prescriptions that have changes.

(Medical Board of California, 2016).

5. Review and editing by Development Team members

- a. Working draft documents will be stored in the shared folder under P&P, Priority Care
P&P>> >>Drafts & Archive protocols.
- b. Providers and team should be informed of progress and their input solicited via

meetings, email, or similar (Draft versions will be routed via email by the owner, reviewers will make changes using “track changes” and forward suggestions back to owner).

c. Once edits have been made, owner will send document for final review. Final approval of standardized procedures and standing orders by Team Members, should be clearly recorded in meeting minutes and standardized procedure or standing order.

6. Finalization of SP:

- a. Hard copy of Final Version should be signed by Medical Director and Supervising NP and scanned and stored in shared docs>> P&P>> Approved protocols/standing orders-PDF . PCC’s clinic manager will keep hard copies.
- b. Copy of final version (word doc) should be placed in shared folder >> P&P >>Priority Care Center, Policy & Procedure Manual.
- c. Date of implementation should be stated.
- d. The final approved document will be routed to appropriate staff for review and signature via IPA’s Document Review.

7. Additions or changes to SP

- a. If changes or additions become necessary, the composition of the Development Team should be reviewed and updated by Medical Director and Chief Operating Officer or their designees;
- b. Changes or additions to SP should be reviewed & edited by the Development Team as above, put in the form of an updated policy, approved by Development Team members, and placed in Policy & Procedure in Shared Docs.

- i. Review and Update annually, and as needed, and save in shared docs and bring forward to current year annually.

8. Implementation

- c. Inform pertinent staff of new protocol
 - i. Such information will be done via presentation, and document review.
 1. Document the time date and place of presentation
- d. A hard copy of the current version of the protocol/proficiency training should be available for reference in PCC lab binder.

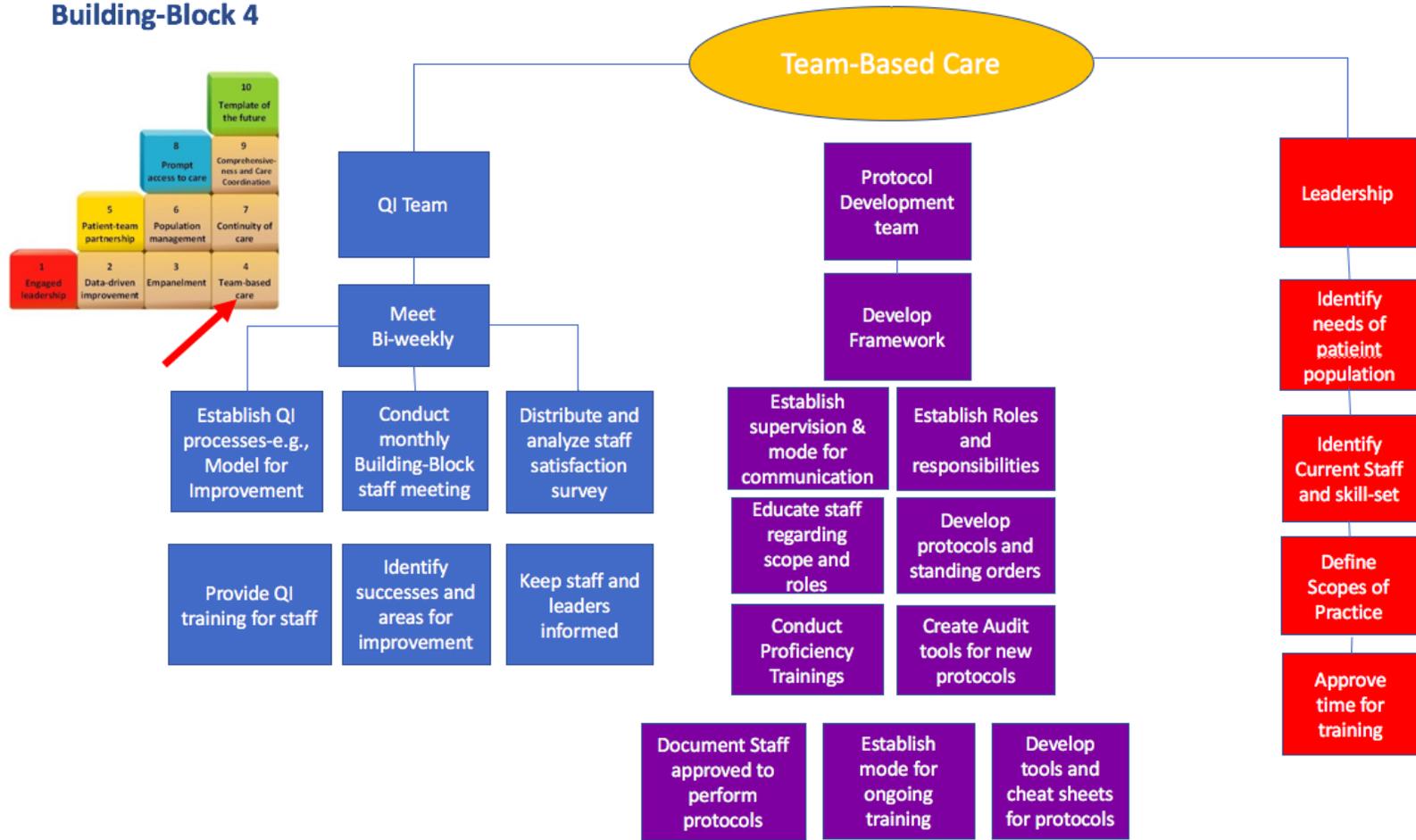
Appendix F
 GANTT Timeline
 January 2017-February 2018

Priority Care Center-Timeline for Team-Based Care/Advanced Access	Start	Days to Complete	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	February
Standardized Procedures/Training													
Med Refill	Jan-17	30	complete										
Uncomplicated UTI in Female	Feb-17	60		Complete									
Positive Strep	Apr-17	90			in progress	in progress	in progress	Complete					
Standing Orders/Training													
HgA1C POC			Complete										
Pregnancy Test	Apr-17	120				In progress			Complete				
UA Dip			Complete						Complete				
Blood Glucose	Apr-17	120				In progress			Complete				
Vison and Mission			Complete										
Adult Learning Training (Kim and Jane)			Complete										
Formed QI Team	complete	monthly		Complete									
June meeting- QI kick off_Intro to QI					complete								
July Meeting-PDSA Patient flow						in progress							
August Meeting-review PDSA												Complete	
September meeting- Discussion_ patient partner to QI Team													
Learning Needs and Resources assessment-Review SS survey	Apr-17	30	Complete										
Ten Building Blocks (monthly inservice)													
Overview and look back blocks 1-4	May-17	30		complete									
Patient Team Partership	Jun-17	60			complete								
Population Management	Jul-17	120				cancelled							
Continuity of Care	Aug-17	150					Scheduled						
Prompt Access	Sep-17	180						Discontinued					
Weekly Newsletter -Take Note	Jun-17	ongoing			complete	complete	complete	complete	change to monthly	Discontinued			
Provider Satsifaction Survey #1	Aug-17	30					Complete						
Provider Satsifaction Survey #2	Feb-18	210									Complete		
Staff Satisfaction Survey #1	Complete												
Staff Satisfaction Survey #2	Feb-18	180										Complete	

Appendix G

Work Breakdown Structure

Building-Block 4



Appendix H
Responsibility Matrix

Protocol Development Team	
<p>Purpose: The team meets routinely (Weekly-Monthly) to facilitate and expedite patient care by providing licensed and non-licensed staff with tools to function to the top of their license and training. PCC standing orders and standardized procedures are created through a collaborative, multidisciplinary process to allow appropriately trained staff to provide safe, standardized, patient-centered care.</p>	
<p>Explanation of roles and contribution to team:</p>	
Role	Responsibilities
Clinical lead:	Review processes from clinician perspective. Responsible for reviewing drafts making recommendations, and final approval of protocols in conjunction with Medical Director.
Clinic RN:	Clinical expertise and experience working under various protocols, prior experience as site manager of the lab and overseeing staff proficiency trainings. Review drafts from RN and scope perspective, and for providing protocol specific literature-e.g., package inserts- to include in trainings, responsible for staff trainings—in collaboration with lead RN-project manager.
QI Specialist:	Expertise in EMR implementation and point person for <u>eCW</u> , <u>practice</u> coaching and using QI to establish and monitor workflows. Responsible for review of protocols and with updating/creating training guides, with an eye for workflow design and <u>eCW/EMR</u> entry.
Chief Operating Officer (COO)	Executive expertise, lab director, help direct the team from a leadership perspective and with regards to timelines and focus, responsible for reviewing processes and providing input, delegate and direct team members as needed.
Project Manager-Lead RN:	Experienced with protocol development and implementation. Responsible for drafting framework and protocols and distributing to the team, creating proficiency checklist and training guides, develop audit process for initial ongoing monitoring. Assist with proficiency training—collaborate with Erica.

Appendix I

Communication Matrix

INFORMATION	STAKEHOLDER	DUE DATE	METHOD OF COMMUNICATION	PERSON RESPONSIBLE
Protocol Development Updates	PCC QI Team, Providers	Monthly	Staff meeting	Kim
Protocol review	COO	As required	Email, document review	Kim, NP, MD, RN, Office manager
Building Block Series	PCC Staff	Monthly	Staff meeting	Kim, Jane, Rosemary
Staff proficiency training	PCC staff	As required	On site	Kim, Erica, Karen
Protocol/Standing Orders	QI team, PCC staff	As required	Email, document review	Kim, Karen, Mary, Erica
Practicum Assignments, Deliverables	Juli	As required	Canvas	Kim
Project updates	Juli	Weekly	Zoom	Kim

Appendix J

10-Building Blocks Newsletter



Engaged Leadership

Volume 8—Sept. 29, 2017

Important Dates and Events

PCC Quality Improvement Meeting

When: October 19, 2017

Time: 3:00-4:30

Where: PCC

RN/ MA Proficiency Training

When: October 20, 2017

Time: 3:00-5:00

Where: PCC

QI Team:

Karen Ayers

Jane Brown

Andrea Contreras-Munoz

Erica Dykehouse

Mary Nickell

Kimberly Perris

Jennifer Smith

Engaged Leadership



A message from Jane and Kim,

'Perfect is the enemy of good'

Doing the work, improving the work ... that is the charge for the quality improvement team and for others working to fix our broken health care system. One of the challenges for leadership is providing space for and facilitating creative brainstorm sessions. Experts in innovation from IDEO designs recognize that "the goal isn't a perfect idea, it's lots of ideas, collaboration, and openness to wild solutions." The wilder the better!

7 steps for a creative brainstorm session:

1. Defer judgement-Respect the ideas of others and build on them
2. Encourage wild ideas-Get wacky, think beyond technology and materials
3. Build on the ideas of others-Stay positive try using "and" instead of "but"
4. Stay focused on the topic-Keep the discussion on target
5. One conversation at time-Focus on the ideas being presented
6. Be visual-Use post-it notes, draw out ideas
7. Go for quantity-A good brainstorm session will generate up to 100 ideas in 60 minutes—build on the best ones.



To view the full discussion and [watch a 53 second video](#) on creative brainstorming, click the following link: [Creative Brainstorming](#)



Prompt Access

Prompt Access to Care

9

Getting to Advanced Access... A lofty goal!

Imagine you are a patient needing health care services... you call for an appointment and a friendly receptionist asks you a few knowledgeable, appropriate questions and then offers you an appointment, today! This is the mantra of an Advanced Access model of care, patients receive the care they want, when they want and need it, by the right provider at the right time. Three foundational elements are necessary for sustaining Advanced Access:

Capacity → Continuity → Demand and Supply Equilibrium

In addition 6 high leverage changes need to occur:

1. Match Supply and demand daily*
2. Reduce backlog *
3. Simplify appointment types and times
4. Create contingency plans
5. Reduce demand for unnecessary visits
6. Optimize the care team

Pitfall	Outcome
⇒ Poor Continuity	Increased demand, decreased satisfaction
⇒ Failure to reduce backlog	Practice not transformed, Improvement not sustained
⇒ Lack of rigorous supply and demand monitoring	Backlog reemerges
⇒ Lack of contingency planning	Imbalanced supply and demand
⇒ Carve-out strategies-booking out	Backlog will reemerge

PCC is monitoring supply and demand. Over time these reports will illuminate staffing needs based on patient demand.

Third-Next-Available is a metric used to reduce backlog. By measuring the time from the first available appointment to the third-next-available appointment, there is opportunity to reach our goal of **ZERO DAYS**! That means no waiting for patient to be seen by a provider!

In Block 2 below, we demonstrate PCC's current data collection over the past 6 months.

Data-Driven Improvement

Tantau, C., 2009, Accessing Patient-Centered Care Using the Advanced Access Model, link to full document: [Tantau Article](#)

2

Data Driven Improvement

Third Next Available Appt. at PCC

	3/6/2017	3/20/2017	4/3/2017	4/17/2017	4/30/2017	5/14/2017	5/28/2017	6/11/2017	6/25/2017	7/9/2017	7/23/2017	8/6/2017	8/20/2017	9/3/2017	9/17/2017
Primary Care	32	60	60	38	21	21	22	21	21	21	23	35	35	38	35
Dist Education	57	50	60	20	20	58	50	71	64	64	64	52	64	78	86
Pediatric Coaching	1	7	7	20	5	2	3	1	1	1	4	5	5	1	1
Mental Health	30	7	14	2	11	9	12	25	14	8	10	5	7	3	

"I was able to see my doctor today not in 2 weeks." PCC patient

- 1 Engaged leadership
- 2 Data-driven improvement
- 3 Empowerment
- 4 Team-based care
- 5 Patient-team partnership
- 6 Population management
- 7 Continuity of care
- 8 Prompt access to care
- 9 Comprehensive and Care Coordination
- 10 Template of the future

Appendix K

Staff Training-Budget

PCC Staff	Hourly Rate	Total Cost-weekly	Total Cost x 8 mos	Total Cost for Training x 8 mos
Monthly BB Mtg Prep				
Project Manager (Kim) 2 hrs				
Project Manager (Jane) 2 hrs				
Salaries blinded for publication				\$4,416
Monthly Building Block Training-Staff Engagement and Updates				
Medical Director (1)				
Nurse Practitioner (1)				
Registered Nurses (3)				
Medical Assistants (2)				
Receptionist (1)				
Office Manager (1)				
Wellness Coaches (2)				
Behavioral Therapist (1)				
Total staff salary				\$2,272
Monthly QJ Meeting-Prep				
		Total Weekly Cost	Monthly cost	Total cost x 8 mos
Project Manager-Kim x 2 hrs/wk				
Project Manager-Jane x 2 hrs/wk				
				4824
Dialogue Education-Adult Learning Training-scholarship funded				
		Cost for Hotel	Cost for travel	Cost for staff time for training
Kim x 4 days				Total Cost for Training x 4 days
Jane x 4 days				
				\$2,208
Proficiency Training x 8 protocols				
			Cost for staff time for training x 8 hrs	Total cost for staff time for training
RN (3)				
MA (2)				
Reception (1)				
Office manager				
				\$2,200
Weekly Newsletter Prep				
		Total weekly Cost	Total Cost x 8 mos	
Project Manager-Kim x 4 hours/week				
Project Manager-Jane x 2 hours/week				
				\$2,208
Develop Protocols				
			Cost for protocol Development and review	Total Cost for Protocol Development and review
Lead RN x 8 protocols (6 hrs ea)				
Review 8 Protocols 3 hrs ea				
Medical Director				
Nurse Practitioner				
Lead RN				
Clinic RN				
				\$7,488
Total approximated cost for staff development and training first year				\$25,616

Appendix L

Cost Avoidance

ROI-Cost avoidance

Expense budget year-\$25,000

Visit Type	Billed charges
UTI visit in ED	=\$2,593.00
UTI visit in PCC, PCP visit	=\$69.00-\$320.00
UTI phone triage visit by RN	=\$0
2,500-320.00	
=\$2,273 minimum avoidable cost /patient visit with PCP	
\$2,593 x 15 patient encounters=\$37,500.00 (healthcare savings for with RN phone visit)	
\$2,593 x 29 ED admissions for evaluation and or treatment of UTI= \$72,500.00	
\$2,273 x 15 patient encounters=\$34,095.00 (healthcare savings with PCP visit vs ED)	
Our budget of \$25,000 for staff training would be recovered in significant cost-avoidance generated with just one diagnosis and 15 patients seen the PCP. Further cost avoidance would be demonstrated by preventing potentially unavoidable ED visits that represent \$72,000.00 over an 8-month time period.	

Appendix M

Summary of Variables

+	Variable Name	Brief Description	Data Source	Possible Range of Values	Level of Measurement	Time Frame for Collection
	Staff Satisfaction	Evaluation of staff morale/readiness for change	Questionnaire	1=Strongly disagree, 5=Strongly Agree	Ordinal	<u>Pre and post</u> intervention
	RN Confidence	Evaluation of RN confidence using SP	Questionnaire	1=Not Confident 5=Very Confident	Ordinal	<u>Pre and Post</u> intervention
	Provider Confidence	Evaluation of Provider confidence/impact on practice	Questionnaire	1=Very 5=Not at all	Ordinal	<u>Pre and Post</u> intervention
	RN Proficiency	Evaluation of RN proficiency using SP	Excel based Audit tool	0=not met 1=met	Ordinal	Post training and ongoing

Adapted from Sylvia & Terhaar (2014)

Appendix N

Annual Proficiency Training
Oct 20, 2017

Attendees: 1 RN, 3 MAs

Pre and Post Proficiency training: Self-Assessment
1=Not Proficient and 5=Very Proficient



PROCEDURE	Pre Training				
	1	2	3	4	5
ECG		1	1	1	1
Blood Pressure					4
Rapid Strep			1		3
Urine <u>Microalbumin</u>		2		1	1
Urine Collection and Dip				2	2
Urine Pregnancy Test					4
HgA1C		1		1	2
Blood Glucose		1		1	2
Ear Lavage	1		1		2

PROCEDURE	Post Training				
	1	2	3	4	5
ECG					4
Blood Pressure				1	3
Rapid Strep					4
Urine <u>Microalbumin</u>					4
Urine Collection and Dip					4
Urine Pregnancy Test					4
HgA1C					4
Blood Glucose					4
Ear Lavage					4

STANDING ORDER	SCORE				
	1	2	3	4	5
Pregnancy Test	1				3
Urine <u>Microalbumin</u>	1	1			2
HA1C		1		1	2

STANDING ORDER	SCORE				
	1	2	3	4	5
Pregnancy Test				1	4
Urine <u>Microalbumin</u>					5
HA1C					5

<p><i>PERFORM:</i></p> <p><i>PROCEDURE</i></p>	<p>this standardized procedure.</p> <p>PCC RNs who have met training requirements and who have demonstrated proficiency with their supervising NP/Clinic director.</p> <p>This procedure applies to adult non-pregnant women with symptoms of UTI who call or present to PCC with symptoms of a UTI and who meet all other criteria in this protocol.</p> <p>Document all of the following in electronic medical record:</p> <p>Subjective:</p> <p>History of uncomplicated UTI with similar symptoms of previous UTI and responded to treatment</p> <p>Consider phone triage and treatment when the patient meets the following criteria:</p> <ol style="list-style-type: none"> 1. Lower tract symptoms <ol style="list-style-type: none"> a. Dysuria (difficult or painful) <7 days along with b. Frequency and/or c. Urgency d. No vaginal symptoms (Itch/discharge) <p style="text-align: center;">AND</p> <ol style="list-style-type: none"> e. No risk of STI f. No Risk of pregnancy (missed menses/failed contraception) <p style="text-align: center;">AND No Sx of Pyelo (yes to any, see provider)</p> <ol style="list-style-type: none"> a. Flank or back pain (new onset) b. Fever c. Chills d. Abdominal pain e. Nausea or vomiting <p style="text-align: center;">AND No Complicating Factors: All of the following should be absent for RN treatment per protocol:</p>
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	<ul style="list-style-type: none"> a. Pregnancy b. Diabetes c. Transplant or other immunosuppressed condition d. Steroid use e. Chronic renal /urologic disease f. Symptoms of vaginitis (vaginal discharge or itching) g. History of recurrent UTI (>3/yr, 2 past 6 mos, recent unresolved post treatment) <p>Schedule RN visit appt when the patient meets the following criteria:</p> <ul style="list-style-type: none"> 1. Meets above criteria for UTI sx w/o sx of pyelo or complicating factors but who has never been treated for a UTI or meets criteria for STI screen, or needs pregnancy testing. <p>Note:</p> <ul style="list-style-type: none"> a. Sexually active? New partner past 12 mos, Any risk of STI, obtain both dirty and clean catch urine samples. (ALL FEMALES <25 SHOULD BE SCREENED FOR CHLAMYDIA at least annually, more often if new partner). Follow STI screening protocol. b. Risk for pregnancy-missed menses, contraceptive failure-follow HCG protocol (UPI >2 weeks perform hcg, UPI <120 hrs, offer EOC.) c. Obtain appropriate sample, clean catch or both. If Taking AZO, dip will be inconclusive, may treat based on UTI sx (Dysuria and frequency or urgency). <p>Objective:</p> <ul style="list-style-type: none"> a. Allergies (Pay close attention hx of allergy to antibiotics) b. Temp/BP/HR c. LMP d. Relationship status e. Last Chlamydia test (CT), history of positive test? f. New partner past 12 mos, or since last STI screen
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	<p style="text-align: center;">g. Urine dip result if applicable (positive leukocyte esterase, positive nitrites)</p> <p>Assessment:</p> <ol style="list-style-type: none">1. Summarize findings<ol style="list-style-type: none">a. Overall assessment based on subjective and objective findings. For example: “non-pregnant, sx of UTI, history of same 1 year ago, monogamous relationship x 1 year, CT 2/2017, no new partner, positive leukocyte esterase, afebrile, appears well” <p>Plan/Treatment:</p> <p>If patient has dysuria and (frequency and /or urgency), no complicating factors, no symptoms of pyelo, is not pregnant, does not have vaginal itching or discharge, provide treatment in the order below.</p> <ol style="list-style-type: none">1. Nitrofurantoin 100 mg BID x 5 days (Unless history of allergy or reaction)2. Trimethoprim/Sulfa DS BID x 3 days (Screen for Sulfa allergy)3. Cephalexin 500 mg BID x 7 days (Screen for penicillin allergy)4. Amoxicillin-clavulanic acid 875-125 mg x 7 days (Screen for penicillin allergy) <p>Patient Education:</p> <ol style="list-style-type: none">1. Call office if sx persist or worsen >2-3 days, or if fever, n/v, rash.2. Advise patient to take all antibiotics, even if symptoms resolve sooner, and that symptoms should resolve in 24-48 hours.3. Advise patient if symptoms persist or worsen in next 2-3 days call to schedule appointment. <i>Call immediately</i> with symptoms of rash, fever, shaking chills, or nausea and vomiting4. Review and provide UpToDate patient teaching handout on adult UTI
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<p><i>EXPERIENCE/TRAINING & EDUCATION:</i></p> <p><i>EVALUATION OF COMPETENCY:</i></p> <p><i>ONGOING COMPETENCY</i></p> <p><i>SCOPE OF SUPERVISION:</i></p> <p><i>CONSULTANT/REFERRAL WILL BE OBTAINED IF:</i></p> <p><i>DOCUMENTATION</i></p>	<p>Registered nurses qualified to operate under this standardized procedure will:</p> <ul style="list-style-type: none"> • Review University of Michigan (2016) study-Treatment of Uncomplicated UTI • Attend UTI in-service and training treatment of uncomplicated UTI • Complete proficiency training for UA collection and dip UA • Have initial encounter review/audit by supervising nurse practitioner x a minimum of 10 encounters • Be signed off by supervising nurse practitioner to use this standardized procedure. <p>Annual proficiency training, consisting of peer review and encounter audits by supervising nurse practitioner.</p> <p>No supervision once proficiency has been met and documented.</p> <p>Patient does not meet criteria for RN protocol treatment, or as needed prn questions</p> <p>According to standards delineated by the Priority Care Center on documentation of care.</p>
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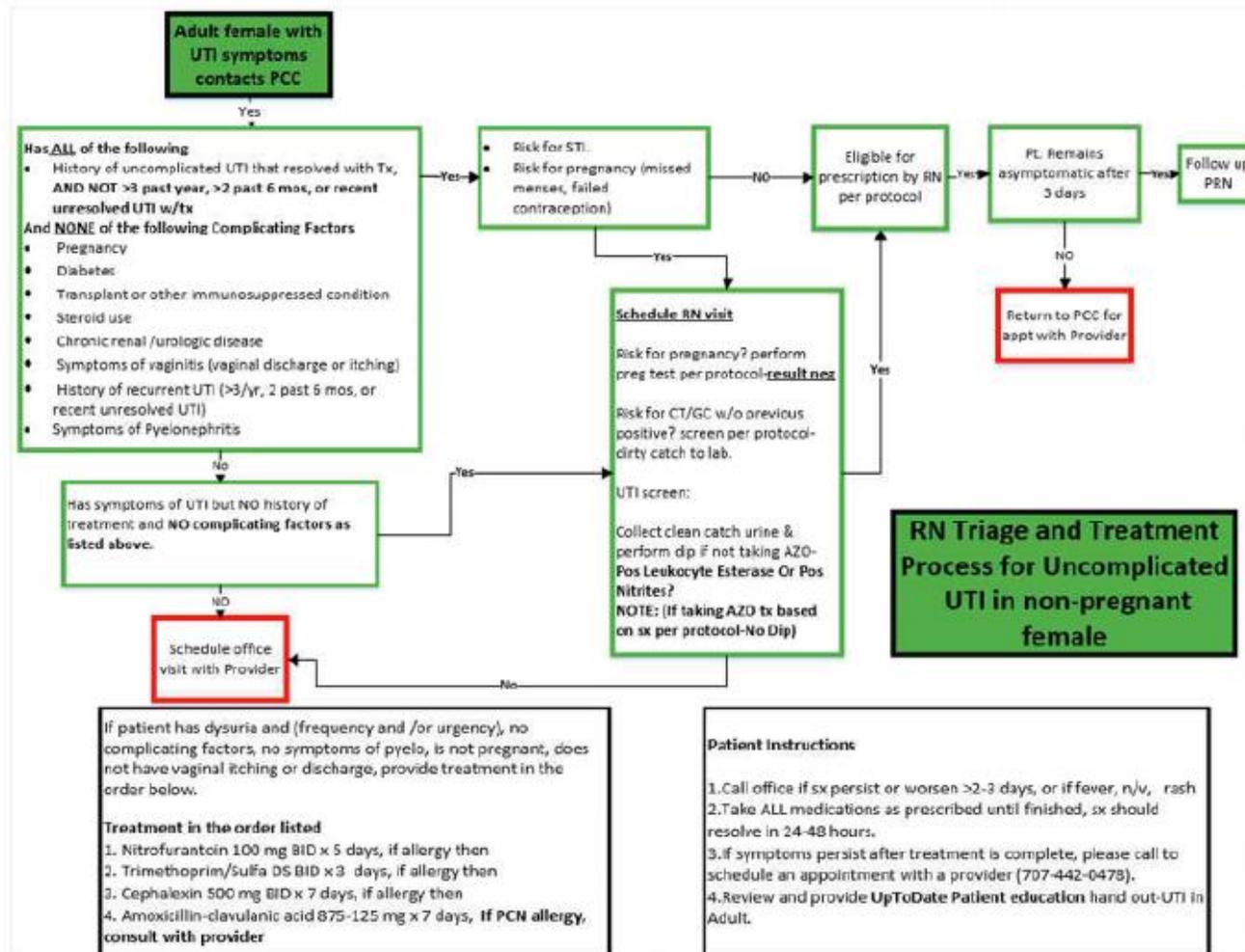
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California Board of Registered Nursing (2011), An explanation of the scope of RN practice including standardized procedures, retrieved from, <http://www.rn.ca.gov/pdfs/regulations/npr-b-03.pdf>

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HUMBOLDT IPA

RN PROTOCOL



UpToDate:

Patient education: Urinary Tract Infections in Adults

What is the urinary tract? — The urinary tract is the group of organs in the body that handle urine.

What are urinary tract infections? — Urinary tract infections, also called "UTIs," are infections that affect either the bladder or the kidneys. Bladder infections are more common than kidney infections. Bladder infections happen when bacteria get into the urethra and travel up into the bladder. Kidney infections happen when the bacteria travel even higher, up into the kidneys. Both bladder and kidney infections are more common in women than men.

What are the symptoms of a bladder infection? — The symptoms include:

- Pain or a burning feeling when you urinate
- The need to urinate often
- The need to urinate suddenly or in a hurry
- Blood in the urine

What are the symptoms of a kidney infection? — The symptoms of a kidney infection can include the symptoms of a bladder infection, but kidney infections can also cause:

- Fever
- Back pain
- Nausea or vomiting

How do I find out if I have a urinary tract infection? — See your doctor or nurse. He or she will probably be able to tell if you have a urinary tract infection just by learning about your symptoms and doing a simple urine test. If your doctor or nurse thinks you might have a kidney infection or is unsure what you have, he or she might also do a more involved urine test to check for bacteria.

How are urinary tract infections treated? — Most urinary tract infections are treated with antibiotic pills. These pills work by killing the germs that cause the infection.

If you have a bladder infection, you will probably need to take antibiotics for 3 to 7 days. If you have a kidney infection, you will probably need to take antibiotics for longer – maybe for up to 2

weeks. If you have a kidney infection, it's also possible you will need to be treated in the hospital.

Your symptoms should begin to improve within a day of starting antibiotics. But you should finish all the antibiotic pills you get. Otherwise your infection might come back.

If needed, you can also take a medicine to numb your bladder. This medicine eases the pain caused by urinary tract infections. It also reduces the need to urinate.

What if I get bladder infections a lot? — First, check with your doctor or nurse to make sure that you are really having bladder infections. The symptoms of bladder infection can be caused by other things. Your doctor or nurse will want to see if those problems might be causing your symptoms.

But if you are really dealing with repeated infections, there are things you can do to keep from getting more infections. You can:

- Find a new method of birth control, if you use spermicides (sperm-killing creams). Using spermicides – especially with a diaphragm – seems to promote bladder infections in some women.
- Drink more fluid. There is no proof that this helps, but many doctors suggest doing it. It might help flush out germs, and it does no harm.
- Urinate right after sex. Some doctors think this helps, because it helps flush out germs that might get into the bladder during sex. There is no proof it works, but it also cannot hurt.
- Ask your doctor or nurse about vaginal estrogen, if you are a woman who has been through menopause. Vaginal estrogen comes in a cream or a flexible ring that you put into your vagina. It can help prevent bladder infections.

Can cranberry juice or other cranberry products prevent bladder infections? — The studies suggesting that cranberry products prevent bladder infections are not very good. Other studies suggest that cranberry products do not prevent bladder infections. But if you want to try cranberry products for this purpose, there is probably not much harm in doing so.

Up to Date (2017) https://www.uptodate.com/contents/urinary-tract-infections-in-adults-the-basics/print?source=see_link

Appendix P

Staff and Provider Survey Results

Staff Responses-Mean Scores based on 1-10 scale except where noted otherwise	2017	2018	Change
During patient intake, if I determine that a diabetic patient is due for a Hemoglobin A1c or LDL lab test, I can order or pend orders for these tests for that patient without waiting for the patient to specifically order that test.	4.17	6.75	2.58
During patient intake, if I determine that a patient is due for a flu shot, Tdap, or DtaP, I can administer the appropriate immunization to the patient or pend the order without waiting for the provider to specifically order the immunization for that patient.	1.67	4	2.33
I am confident that I can answer most questions my patients have about Hemoglobin A1c and LDL lab tests for diabetes care.	8.5	10	1.5
I am confident that I can answer most questions my patients have about cancer screenings such as mammograms, pap tests, and colorectal cancer screening (FOBT, FIT tests, or colonoscopy).	6.67	8	1.33
Overall, based on your definition of burnout, how would you rate your level of burnout? 1= I enjoy my work, I have not symptoms of burnout.... 5=I feel completely burned out and often wonder if I can go on....	2.56	3.14	0.58
During patient intake, I know how to identify diabetic patients who are not up to date on their hemoglobin A1c and LDL lab tests.	8	8.5	0.5
I feel that I can speak openly to my provider teammate(s) when I have concerns or ideas for improvement.	7.33	7.71	0.38
During patient intake, if I determine that a patient is due for colon cancer screening, I can dispense FOBTs or FIT tests to the patient or pend orders without waiting for the provider to specifically order the test for that patient.	5	5.25	0.25
We regularly take time to consider ways to improve how we do things at my clinic	8.22	8.43	0.21
I am responsible along with the patient's provider to make sure that diabetic patients at our clinic are up to date on their Hemoglobin A1c and LDL lab tests.	8.33	8.5	0.17
During patient intake, I know how to identify patients who are not up to date on immunizations...	7.17	7.25	0.08
I am responsible along with the patient's provider to make sure that patients at our clinic are up to date on immunizations such as flu shots, Tdap/DtaP, an pneumococcal vaccine.	8.33	8.25	-0.08
It is hard to get things to change in my clinic.	4.67	4.57	-0.1
During patient intake, I know how to identify patients who are not up to date on their cancer screenings such as mammograms, pap tests, and colorectal cancer screening (FOBT, FIT tests, or colonoscopy).	7.33	7	-0.33
On a scale from 0-10, (0=not likely, 10=Very) how likely are you to recommend your organization as a place to work for a friend or relative?	9.22	8.86	-0.36
I feel unprepared for many of the tasks that I am asked to do every day	3.44	3	-0.44
On a scale from 0-10, (0=not likely, 10=Very) how likely are you to recommend your organization as a place to come for care to a friend or relative?	9.67	9.14	-0.53
The group of staff and providers I work with most regularly work well together as a team.	9.11	8.57	-0.54
How satisfied are you with your provider team model? Scale of (1-5)	4.67	4	-0.67
There is a clear and consistent set of values that governs the way we do business.	8.25	7.14	-1.11
My professional skills are used to the fullest at my clinic.	8.89	7.71	-1.18
I can rely on other people at my clinic to do their jobs well.	8.78	7.57	-1.21
I am confident that I can answer most questions my patients have about immunizations such as flu shots, Tdap/Dtap, and pneumococcal vaccine.	7	5.75	-1.25
Managers and leaders practice what they preach.	8	6.71	-1.29
We have a "we are in it together" attitude at my clinic.	9.22	7.86	-1.36
I am responsible along with the patient's provider to make sure that patients at our clinic are up to date on cancer screenings such as mammograms, pap tests, and colorectal cancer screening (FOBT, FIT tests, or colonoscopy).	9.33	7.5	-1.83

Provider Survey- Scores Based on 1-10 scale except where noted otherwise	Survey 1	Survey 2	Change
I have the skills to address the social needs of patients through connecting them with resources, dedicated staff, or tools.	5	7	2
We have a “we are in it together” attitude at my clinic.	8	10	2
I can rely on other people at my clinic to do their jobs well.	8	10	2
I am confident that the medical assistants at my clinic can identify patients who are not up to date on cancer screenings such as mammograms, pap tests, and colorectal cancer screenings (e.g., FOBT, FIT, or colonoscopy).	6	7	1
My clinic has the resources, such as dedicated staff, community programs, resources or tools to address patients’ social needs.	6	7	1
Managers and leaders practice what they preach.	9	10	1
Primary care is a more do-able job in my clinic this year compared to last year.	8	9	1
How satisfied are you with your medical assistant team model? Scale 1-5	5	5	0
I do not think that a medical assistant who identifies a patient who needs an immunization, such as a flu shot, Tdap/DtaP, or pneumococcal vaccine, should administer the injection or pend the order before I specifically order the immunization.	3	3	0
I am confident that medical assistants at my clinic can answer most questions my patients have about cancer screenings such as mammograms, pap tests, and colorectal cancer screenings (e.g., FOBT, FIT, or colonoscopy)	4	4	0
I do not think that a medical assistant who identifies a patient who needs a cancer screening (such as mammograms, pap tests, and FOBT, FIT tests, or colonoscopy) should order the test or pend the order before I specifically order it.	2	2	0
I am confident that the medical assistants at my clinic can identify diabetic patients who are not up to date on lab tests such as Hemoglobin A1c and LDL.	8	8	0
I do not think that a medical assistant who identifies a diabetic patient who needs a lab test such as Hemoglobin A1c or LDL, should order the test or pend the order before I specifically order it.	2	2	0
The group of staff and providers I work with most regularly work well together as a team.	10	10	0
I feel unprepared for many of the tasks that I am asked to do every day.	2	2	0
My professional skills are used to the fullest at my clinic.	10	10	0
Work life: How much do you agree or disagree with each of the following statements, On a scale fr... - e. It is hard to get things to change in my clinic.	2	2	0
We regularly take time to consider ways to improve how we do things at my clinic.	10	10	0
There is a clear and consistent set of values that governs the way we do business.	10	10	0
How likely are you to recommend your organization as a place to work...	10	10	0
How likely are you to recommend your organization as a place to come for care	10	10	0
I am confident that medical assistants at my clinic can answer most questions my patients have about immunizations such as flu shots, Tdap/DtaP, and pneumococcal vaccine.	5	4	-1
I am confident that medical assistants at my clinic can answer most questions my patients have about lab tests such as Hemoglobin A1c or LDL for diabetes care.	4	3	-1
It is as important to address patients’ social needs as it is to address their medical needs in primary care.	10	9	-1
Burnout inventory: Overall, based on your definition of burnout, how would you rate your level of burnout? 1= No symptoms of burnout, 5= Completely burned out.	3	2	-1
There are designated support staff that I can rely on to help manage care for my most complex patients.	9	7	-2
If I do not order an immunization, such as a flu shot, Tdap/DtaP, or pneumococcal vaccine, I can’t be sure it will be done.	9	6	-3
If I do not order lab tests such as Hemoglobin A1c or LDL for my diabetic patients, I can’t be sure it will be done.	7	4	-3
I am comfortable asking about patients’ social needs (e.g., housing, food, childcare) as part of their primary care.	10	7	-3
If I do not order a cancer screening (such as mammograms, pap tests, and FOBT, FIT tests, or colonoscopy), I can’t be sure it will be done.	9	2	-7

Appendix Q

10-BB Assessment Tool

Block 1: Engaged leadership

Components	Level D	Level C	Level B	Level A
1. Executive leaders	...are focused on short-term business priorities.	...visibly support and create an infrastructure for quality improvement, but do not commit resources.	...allocate resources and actively reward quality improvement initiatives.	...support continuous learning throughout the organization, review and act upon quality data, and have a long-term strategy and funding commitment to explore, implement and spread quality improvement initiatives.
Score	1 2 3	4 5 6	7 8 9	10 11 12
2. Clinical leaders	...intermittently focus on improving quality.	...have developed a vision for quality improvement, but no consistent process for getting there.	...are committed to a quality improvement process, and sometimes engage teams in implementation and problem solving.	...consistently champion and engage clinical teams in improving patient experience of care and clinical outcomes.
Score	1 2 3	4 5 6	7 8 9	10 11 12
3. The responsibility for conducting quality improvement activities	...is not assigned by leadership to any specific group.	...is assigned to a group without committed resources.	...is assigned to an organized quality improvement group who receive dedicated resources.	...is shared by all staff, from leadership to team members, and is made explicit through protected time to meet and specific resources to engage in QI.
Score	1 2 3	4 5 6	7 8 9	10 11 12
4. Quality improvement activities	...are not organized or supported consistently.	...are conducted on an ad hoc basis in reaction to specific problems.	...are based on a proven improvement strategy in reaction to specific problems.	...are based on a proven improvement strategy and used continuously in meeting organizational goals.
Score	1 2 3	4 5 6	7 8 9	10 11 12
5. Quality improvement activities are conducted by	...a centralized committee or department.	...topic specific QI committees.	...all practice teams supported by a QI infrastructure.	...practice teams supported by a QI infrastructure with meaningful involvement of patients and families.
Score	1 2 3	4 5 6	7 8 9	10 11 12
6. Goals and objectives for quality improvement	...do not exist.	...exist on paper, but are not widely known.	...are known by staff, but are only occasionally discussed in meetings.	...are the centerpiece of multi-disciplinary meetings aimed at developing strategies to meet objectives.
Score	1 2 3	4 5 6	7 8 9	10 11 12

Block 2: Data-driven improvement using computer-based technology

Components	Level D	Level C	Level B	Level A
7. Performance measures	...are not available for the clinical site.	...are available for the clinical site, but are limited in scope.	...are comprehensive – including clinical, operational, and patient experience measures – and available for the practice, but not for individual providers.	...are comprehensive – including clinical, operational, and patient experience measures – and fed back to individual providers.
Score	1 2 3	4 5 6	7 8 9	10 11 12
8. Reports on care processes or outcomes of care	...are not routinely available to practice teams.	...are routinely provided as feedback to practice teams but not reported externally.	...are routinely provided as feedback to practice teams, and reported externally (e.g. to patients, other teams or external agencies) but with team identities masked.	...are routinely provided as feedback to practice teams, and transparently reported externally to patients, other teams and external agencies.
Score	1 2 3	4 5 6	7 8 9	10 11 12
9. Registry or panel-level data	...are not available to assess or manage care for practice populations.	...are available to assess and manage care for practice populations, but only on an ad hoc basis.	...are regularly available to assess and manage care for practice populations, but only for a limited number of diseases and risk states.	...are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states.
Score	1 2 3	4 5 6	7 8 9	10 11 12
10. Registries on individual patients	...are not available to practice teams for pre-visit planning or patient outreach.	...are available to practice teams but are not routinely used for pre-visit planning or patient outreach.	...are available to practice teams and routinely used for pre-visit planning or patient outreach, but only for a limited number of diseases and risk states.	...are available to practice teams and routinely used for pre-visit planning and patient outreach, across a comprehensive set of diseases and risk states.
Score	1 2 3	4 5 6	7 8 9	10 11 12
11. An electronic health record that is meaningful-use certified	...is not present or being implemented.	...is in place and is being used to capture clinical data.	...is used routinely during patient encounters to provide clinical decision support and to share data with patients.	...is also used routinely to support population management and quality improvement efforts.
Score	1 2 3	4 5 6	7 8 9	10 11 12

Block 3: Empanelment

Components	Level D	Level C	Level B	Level A
12. Patients	...are not assigned to specific practice panels.	...are assigned to specific practice panels but panel assignments are not routinely used by the practice for administrative or other purposes.	...are assigned to specific practice panels and panel assignments are routinely used by the practice mainly for scheduling purposes.	...are assigned to specific practice panels and panel assignments are routinely used for scheduling purposes and are continuously monitored to balance supply and demand.
Score	1 2 3	4 5 6	7 8 9	10 11 12

Block 4: Team-based care

Components	Level D	Level C	Level B	Level A
13. Non-physician practice team members	...play a limited role in providing clinical care.	...are primarily tasked with managing patient flow and triage	...provide some clinical services such as assessment or self-management support.	...perform key clinical service roles that match their abilities and credentials.
Score	1 2 3	4 5 6	7 8 9	10 11 12
14. Providers (Physicians, NP/PAs) and clinical support staff	...work in different pairings every day.	...are arranged in teams but are frequently reassigned.	...consistently work with a small group of providers or clinical support staff in a team.	...consistently work with the same provider/clinical support staff person almost every day.
Score	1 2 3	4 5 6	7 8 9	10 11 12
15. Workflows for clinical teams	...have not been documented and/or are different for each person or team.	...have been documented, but are not used to standardize workflows across the practice.	...have been documented and are utilized to standardize practice.	...have been documented, are utilized to standardize workflows, and are evaluated and modified on a regular basis.
Score	1 2 3	4 5 6	7 8 9	10 11 12
16. The practice	...does not have an organized approach to identify or meet the training needs for providers and other staff.	...routinely assesses training needs and assures that staff are appropriately trained for their roles and responsibilities.	...routinely assesses training needs, assures that staff are appropriately trained for their roles and responsibilities, and provides some cross training to permit staffing flexibility.	...routinely assesses training needs, assures that staff are appropriately trained for their roles and responsibilities, and provides cross training to assure that patient needs are consistently met.
Score	1 2 3	4 5 6	7 8 9	10 11 12

Components	Level D	Level C	Level B	Level A
17. Standing orders that can be acted on by non-physicians under protocol	...do not exist for the practice.	...have been developed for some conditions but are not regularly used.	...have been developed for some conditions and are regularly used.	...have been developed for many conditions and are used extensively.
Score	1 2 3	4 5 6	7 8 9	10 11 12
18. The organization's hiring and training processes	...focus only on the narrowly defined functions and requirements of each position.	...reflect how potential hires will affect the culture and participate in quality improvement activities.	...place a priority on the ability of new and existing staff to improve care and create a patient-centered culture.	...support and sustain improvements in care through training and incentives focused on rewarding patient-centered care.
Score	1 2 3	4 5 6	7 8 9	10 11 12

Appendix Q

10-BB Assessment Results

10-Building Blocks Assessment

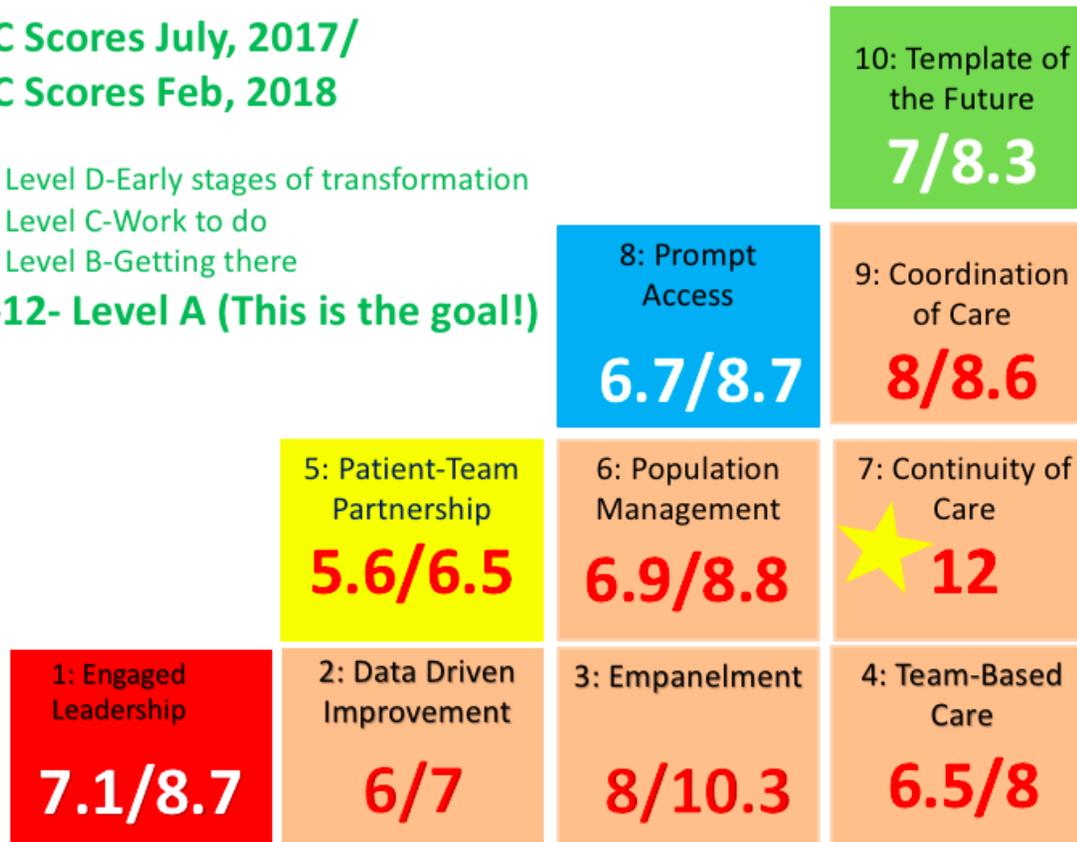
**PCC Scores July, 2017/
PCC Scores Feb, 2018**

1-3- Level D-Early stages of transformation

4-6- Level C-Work to do

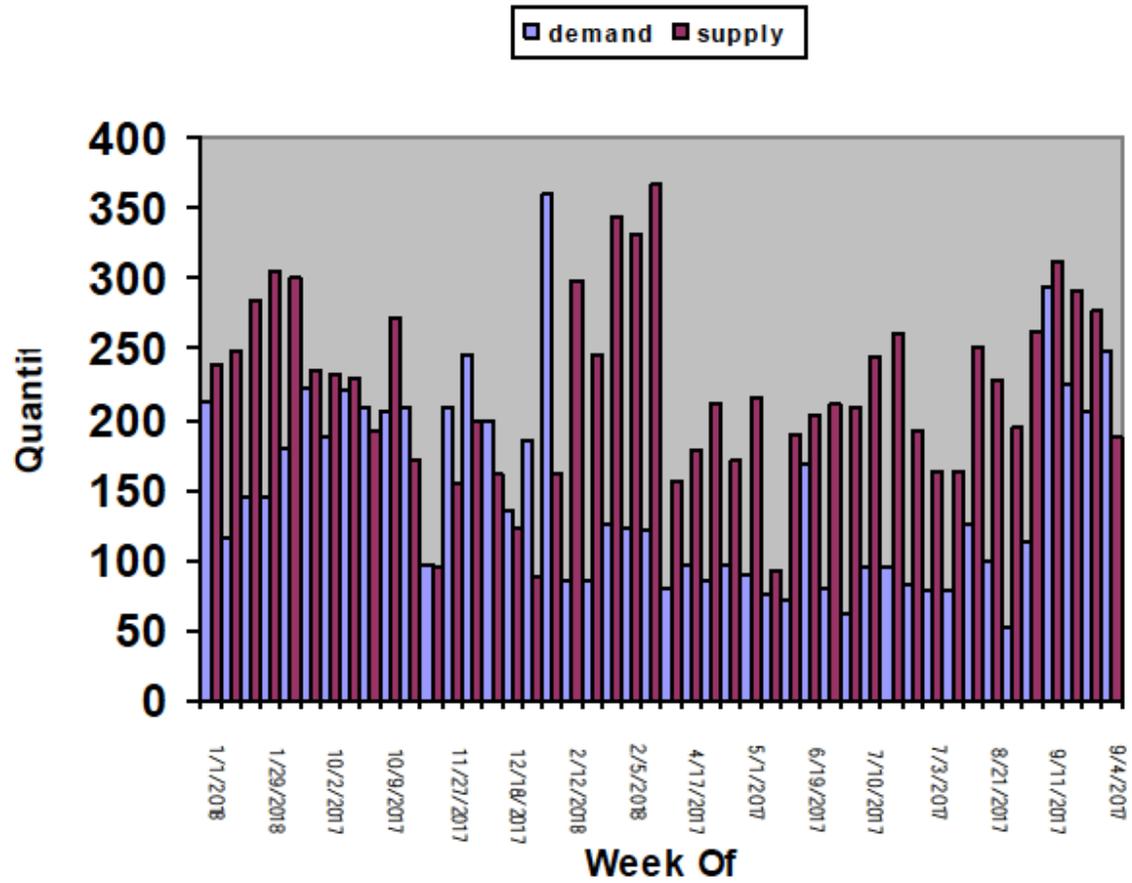
7-9- Level B-Getting there

10-12- Level A (This is the goal!)



Appendix R

Supply and Demand Total For Week



Appendix S

DNP Statement of Non-Research Determination Form**Student Name: Kimberly Perris**

Title of Project: Advanced Access: Creating an Infrastructure for Success in a Rural Health Center.

Brief Description of Project:

According to a report to the California Center for Rural Policy, developed by Pacific Business Group on Health (PBGH) (2015), Humboldt County is challenged to provide needed health services for a number of reasons: the net number of physicians has declined dramatically, access to primary care providers has become increasingly difficult, and there are limited specialty services that require patients to seek care out of the area for those services (Pacific Business Group for Health [PBGH], 2015).

The Humboldt Independent Practice Association has sought to improve the health of rural Humboldt County through practice transformation efforts and now with its growing Priority Care Center. Advanced Access is a model of care that is patient-centered and designed to remove access barriers. Successful implementation is tied to strategic system analysis and systematic implementation of key elements.

This project is based on creating an infrastructure to support an Advanced Access Model of Care with a key building block for successful practice being team-based care. With our rapidly emerging Priority Care Center, establishing workflows, standardized procedures and standing orders will be essential. Moreover, embedding training and competency, using tools such as Failures Mode Effects Analysis—with an

eye towards preventing errors—along with ongoing use of the Model for Improvement, will ensure sustainability for safe, efficient, effective, quality care.

A) Aim Statement:

By December 2018, develop, implement and evaluate an Advanced Access model for primary care in a rural setting.

Phase 1: Introduce staff to the concepts related to Advanced Access, begin trainings to identify the clinics strengths, weaknesses, opportunities, and threats (SWOT). Evaluate workflows, areas to empower all staff (eg. standardized procedures).

Phase 2: Develop standardized procedures and standing orders to allow staff to function to top of their license and training wherever possible; include procedure specific trainings and competencies.

Phase 3: Implement and evaluate staff comfort and confidence prior to using standardized procedures. Create and administer Pre/post survey to providers and staff to assess team on Provider comfort and willingness to be supportive throughout implementation, and staff comfort level with each procedure.

Phase 4: Develop competency training checklist for each standardized procedure/standing order. Develop logs to track staff authorized to use. Establish audit tools using Failure Mode Effects Analysis (FMEA) to ensure safe processes.

Description of Intervention:

The Humboldt IPA will use the 10-Building-Blocks for successful primary care as a roadmap towards advanced access to care. A major component to successful implementation is creating an infrastructure to support team-based care. The vision is an

environment where all staff have the tools they need to provide care independently, and are supported to work to the maximum scope of their practice. Developing and implementing standardized procedures and standing orders, will be key. The 10 building blocks set the stage for the intervention:

1.) Engaged Leadership—Support and engagement from top leadership will be essential toward ongoing success and empowerment of frontline leadership and staff. Leadership will need to have a clear picture and understanding of how protocols can arm each team member with tools to meet the needs of patients at the point of care. This will require that leadership understands each team member’s skill set and limitations among the various scopes of practice. Leadership will be key towards support and training required to implement standardized procedures to maximize the care team, and improve access to safe, quality care.

2.) Data-Driven Improvement—Metrics such as third-next- available will provide preliminary and ongoing data to help identify staffing needs, and prevent pre-booking appointments. Prior to and throughout implementation of new protocols, staff surveys and audits will help to inform competency and identify areas to focus training. Data and feedback from ongoing review of standardized procedures will inform PDSA cycles and ongoing improvements.

3.) Empanelment—Identifying panel size is a key element of advanced access. In part, this will require identifying the needs of a particular panel population to determine staffing needs and identify processes and protocols to help staff meet the needs of the

population with knowledge and efficiency.

4.) Team-based Care—Team based care is the hallmark for the success of advanced access, where all staff are partners of the care team and are empowered to participate in and expedite patient care.

5.) Patient-team partnership—Patients are partners in their care and are also provided with tools for prevention, self-care and disease management tools. Having staff trained to function to the top of their license and training, widens the care net for patients, empowers patients to be proactive with their care, and helps prevent patients from slipping through the cracks, due to poor access.

6.) Population management—Identify and track needs and outcomes of the population assigned to the Priority Care Center to inform and prioritize needed processes and procedures.

7.) Continuity of care—Patients are assigned to a panel—one team—that may include provider, RN, MA, wellness coach, and behavioral therapist. As mentioned, having a team, trained to work to the maximum scope of their practice, who have the tools to meet the needs of patients at the point of care, will also provide continuity of care. For example, with standard processes, such as a standing order for HgA1c point of care testing, medical assistants will be trained to identify whether or not the test is needed at every patient encounter, and if so, will initiate point of care testing, prior to the patient seeing the provider or diabetic educator.

8.) Prompt access to care—Team-based, patient centered care—where all staff are empowered to meet the needs of patients within their scope of practice, using protocols and standing orders, will facilitate access to care. Older physician centered models of care, rely solely on the knowledge and direction of the physician, often times causing avoidable delays in care. The preceding building blocks, set the foundation for prompt access to care.

9.) Comprehensiveness and care coordination—Interdisciplinary team huddles, and ongoing care coordination meetings, particularly with high-risk and high-needs patients, provides accountability on multiple levels and builds trust and support among the team. Having all staff knowledgeable about scopes of practice, and involved with competency trainings and supportive of new protocols and workflows, will ensure that each staff member understands their role in the delivery of care.

10) Template of the future—The 10-building-blocks, based on systematic implementation that begins with a foundation provides a roadmap towards a standardized model for successful primary care practice.

Framework

Along with the 10 building blocks mentioned above, the project will utilize multiple frameworks to guide the process. IHI's Model for Improvement and Sustaining Improvement will provide a framework for establishing a clear process for quality improvement and in ensuring sustainability through quality improvement and by engaging and empowering front-line staff. This framework will provide structure for

multiple phases of change, as well as a mechanism for ongoing monitoring.

Sustaining Improvement is a framework designed to assist healthcare organizations sustain improvements in safety, effectiveness, and efficiency of patient care (Scoville, Little, Rakover, Luther, & Mate, 2016). Three theoretical concepts: Healthcare as a System, the Juran Trilogy, as well as elements of Lean Improvement were used to inform the work of sustaining improvement. Edwards Deming as cited in (Scoville et al., 2016) described healthcare as “system”, people and processes working towards a common purpose. Because healthcare is a complex adaptive system with multiple roles overlapping to provide patient care, in order to carry out the organizations mission, everyone must know precisely what to do, why they are doing it, and how and when to do it (Scoville et al., 2016). This is the premise of team-based care, and articulates the need to understand each team member’s skill set, abilities, and scope, in order to maximize the team and streamline care.

Sustaining Improvement is focused on creating high-performance management systems with quantified improvements and outcomes. This framework operates from the bottom up rather than top-down using quality planning, quality control, and quality improvement as a guide. Quality planning (QP) is focused on the needs of the patient, using the triple aim as a framework towards conceptualizing those needs: improving the patient experience, improving the health of the population and decreasing cost. This first stage is where all aspects of the infrastructure are planned, where gaps are identified along with improvement projects to close those gaps (Scoville et al., 2016). Quality control (QC) focuses on the operations of the system and measures performance, essentially this phase is about ensuring “control” of processes are maintained over time.

Quality improvement (QI) identifies areas for improvement; the QI team uses various tools and methods to systematically drive the process of change. QC follows QI to monitor the new process. These elements help to build a foundation, providing standardization for managers and front-line staff.

Kotter's eight steps to change will be used to establish the urgency of the project—to improve access to care—in a community challenged with poor health and limited resources, and to identify the “big opportunity” to engage staff (Kotter International, 2015). The eight steps to change (create a sense of urgency, build a guiding coalition, form a strategic vision, enlist a volunteer army, enable action by removing barriers, generate short term wins, sustain acceleration, and institute the change) align with the 10 building blocks and the model for improving and sustaining change. Kotter's framework will help to illuminate the need for innovation, as well as provide a concise snapshot of where we want to go and how we will get there. The “guiding coalition”, and the “volunteer army” represent the people (from reception to top leadership) that will be involved in moving the project forward, and with sustaining momentum and change.

B) How will this intervention change practice?

Using the 10-building-blocks as a foundation, empowering staff to provide team-based care will improve access to care in one rural health center. Successful implementation of team-based care, using standardized procedures will demonstrate a cost-saving and patient centered model of care, with the potential to improve quality, patient safety, and staff satisfaction. Ultimately, there is opportunity to model and spread best practice to

improve access to care across Humboldt County.

C) Outcome measurements:

- 1.) Improve RN and MA confidence with standardized procedures and standing orders and with providing, care independently.
- 2.) Improve provider comfort and support with standardized procedures.
- 3.) Ensure nursing competence, through one-to-one training, competency evaluation and through encounter audits to ensure they are working competently to the full scope of their license.

References

Kotter International. (2016). *The eight steps to leading change*. Retrieved from <http://www.kotterinternational.com/the-8-step-process-for-leading-change/>

Scoville, R., Little, K., Rakover, J., Luther, K., & Mate, K. (2016). *Sustaining improvement*. Retrieved from Institute for Healthcare Improvement: <http://www.ihl.org/resources/Pages/IHIWhitePapers/Sustaining-Improvement.aspx>

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: (<http://answers.hhs.gov/ohrp/categories/1569>)

X This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

Instructions: Answer YES or NO to each of the following statements:

Project Title:	YES	NO
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	x	
The specific aim is to improve performance on a specific service or program and is a part of usual care . ALL participants will receive standard of care.	x	
The project is NOT designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does NOT follow a protocol that overrides clinical decision-making.	x	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does NOT develop paradigms or untested methods or new untested standards.	x	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does NOT seek to test an intervention that is beyond current science and experience.	x	
The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	x	
The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	x	
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., not a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.	x	
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: <i>“This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board.”</i>	x	

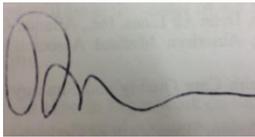
ANSWER KEY: If the answer to **ALL** of these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not**

required. Keep a copy of this checklist in your files. If the answer to ANY of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

STUDENT NAME (Please print):

Kimberly Perris



Signature of Student

DATE 11/4/16

SUPERVISING FACULTY MEMBER (CHAIR) NAME (Please print):

Signature of Supervising Faculty Member (Chair):

DATE
