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Structure, Process, and Outcomes: The Foundation for Continuous Quality Improvement in Primary Care

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Quality Improvement in Primary Care

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Abstract

Healthcare within the United States is notoriously fragmented and inefficient. Contemporary innovations for policy, reimbursement, and care delivery are consistently directed towards the promotion of value based care (Bates, 2010). These initiatives routinely coalesce around the promising potential of a robust primary care system. The Patient-Centered Medical Home (PCMH) model is increasingly becoming the standard of quality care and use of this model by healthcare providers is poised to bring about a paradigm shift towards value-based care (Henderson, Princell & Martin, 2012).

This scholarly project incorporated an evidence based approach to establishing continuous quality improvement in a primary care office pursuing PCMH recognition. Application of The Donabedian Model (Donabedian, 1998) and PARiHS framework (Kitson, Harvey, & McCormack, 1998) provided a strategic approach to developing and successfully adopting the foundation for continuous quality improvement. This project demonstrated how addressing the fundamental need for supportive structure and process improvements, based upon evidence and the context of an organization, can facilitate the successful adoption of continuous quality improvement (QI) in a Midwest primary care clinic. Systematic efforts to address issues of structure, process, and outcomes for a nurse-managed health center translated to improvement in quality performance scores for cervical cancer screening, breast cancer screening, and tobacco cessation counseling rates. Staff perceptions of organizational QI strategy also improved following implementation. Alternative revenue through incentivized reimbursements went unchanged, but an extended implementation period would likely foster an increase in the relative fiscal benefits of continuous quality improvement. Additionally, several unplanned benefits, including increased number of new patients establishing care at the practice, were actualized

through organizational engagement in quality improvement work. Ultimately, this project demonstrated how addressing the fundamental need for supportive structure and process improvements, based upon evidence and the context of an organization, can impact outcomes and facilitate the successful adoption of continuous quality improvement in a nurse-managed primary care clinic.

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Executive Summary

Healthcare within the United States is notoriously fragmented and inefficient. Contemporary innovations for policy, reimbursement, and care delivery are consistently directed towards the promotion of value based care (Bates, 2010). These initiatives routinely coalesce around the promising potential of a robust primary care system. The Patient-Centered Medical Home (PCMH) model is increasingly becoming the standard of quality care and use of this model by healthcare providers is poised to bring about a paradigm shift towards value-based care (Henderson, Princell & Martin, 2012). The PCMH is a comprehensive approach to care delivery predicated upon continuous quality and safety. An empirical base exists to suggest that the successful adoption of a strategy for continuous quality improvement (QI), such as that of the PCMH, by a primary care organization can positively impact the quality of care (Friedberg, Rosenthal, Werner, Volpp, & Schneider, 2015; Savage, Lauby & Burkard, 2013). This type of care delivery redesign can begin the formative work of preparing a primary care practice for the inevitable transition payers will make towards quality based reimbursement models ((Nielsen, Buelt, Patel & Nichols, 2016).

Certainly, the transformative work such of adopting continuous quality improvement is not to be misrepresented as a simple endeavor. Application of The Donabedian Model (Donabedian, 1998) and PARiHS Framework (Kitson, Harvey, & McCormack, 1998) provided a strategic approach to successfully adopting a continuous QI model. This project aimed to answer the clinical question - how does an evidence-based approach to comprehensive QI, emphasizing structure, process, and outcomes, impact staff perceptions of QI, adoption of process efficiencies, and organizational performance as measured by HEDIS metrics and incentivized reimbursement?

This scholarly project identified the need to develop structural support for continuous QI. Consideration to organizational structure was intentionally incorporated by utilizing the patient care technology system and fostering staff knowledge and the explicit roles required to support continuous QI. Given the inherent complexities of organizational change, the importance of establishing a QI culture was also a primary structural consideration during project development. Building upon the organizational structure, relevant process improvements were developed and implemented to support QI work.

A variety of process improvements were introduced during the implementation period. These changes focused on utilizing the patient care technology to develop efficiencies for patient care delivery consistent with The Healthcare Effectiveness Data and Information Set (HEDIS) measures (National Committee for Quality Assurance, n.d.), systematic appraisal of quality performance data, routine QI meetings, and a comprehensive toolkit to guide and sustain the initiative. These process improvements were designed to improve outcomes as evidenced by quality performance scores in the organization's electronic health record and incentivized reimbursement revenue from the two primary payers for this practice. Communicating the importance of measurable outcomes and collaboratively setting goals proved to be an invaluable component to the success of this scholarly project. To foster adoption and sustainability, an evidence-based implementation plan was applied to these key concepts of QI.

A review of contemporary literature highlighted several common approaches to successfully implementing continuous QI within the PCMH model. Engaging staff (Applequist, Miller-Day, Cronholm, Gabbay, & Bowen, 2017; Flieger, 2017; Frasso et al., 2017; Reddy, Shea, Canaumucio, & Werner, 2015; Stout & Weeg, 2014), establishing meaning for the initiative (Applequist, Miller-Day, Cronholm, Gabbay, & Bowen, 2017; Flieger, 2017; Stout &

Weeg, 2014), creating dedicated time of the work (Applequist, Miller-Day, Cronholm, Gabbay, & Bowen, 2017; Flieger, 2017; Frasso et al., 2017), and driving change with data (Applequist, Miller-Day, Cronholm, Gabbay, & Bowen, 2017; Frasso et al., 2017; Reddy, Shea, Canaumucio, & Werner, 2015) were evidence based strategies incorporated into this scholarly project. Meaning was constructed for the initiative early on through presentations about value based reimbursement and coinciding the work with organizational goals of PCMH recognition. Staff were engaged throughout the entirety of the implementation period, contributing to the development of process improvements through guided discussions and regularly solicited feedback. Dedicated time for the initiative was created by structuring monthly QI meetings in which to discuss process improvements and the impact of workflow changes. Lastly, change was driven with data by routinely disseminating organization performance reports to staff and developing a QI dashboard. Utilizing these approaches to address the fundamental tenants of QI, structure, process, and outcomes, proved to be an effective approach to establishing the foundation for continuous QI.

　　　　To evaluate staff perceptions of organizational development towards a comprehensive QI strategy consistent with the PCMH model, the QI component of a PCMH readiness survey was administered to staff at baseline and following implementation. This assessment tool was included based upon its proven sensitivity to reflect actual progress towards a comprehensive QI structure consistent with the PCMH model (Daniel et al., 2013). Following implementation, staff (n=6) reported appreciable development towards a comprehensive QI strategy for all four QI concepts on the survey. Staff members also routinely demonstrated adherence to new process improvements throughout the entire project period.

Following demonstration of patient care technology efficiencies, a tobacco cessation counseling order set, and corresponding billing code, was used on average 9.5 times per month during the two-month implementation period. For context on the impact of this process improvement, tobacco cessation counseling in the absence of an order set was only billed and documented on average 2.7 times per month in the preceding 32 months. In addition to an increase in documented instances of tobacco cessation counseling following implementation of the order set, the relative average month revenue from tobacco cessation counseling increased from $21.82/month to $77.44/month. The implementation of continuous QI also demonstrated the capacity to improve organizational performance as measured by quality metric scores.

Statistically significant improvement was evident for quality performance scores on cervical cancer screening rates among patients aged 21-29 (+44%, $p<.001$) and 30-64 (+24%, $p=.009$) and breast cancer screening rates (+17%, $p=.021$). Quality performance scores on tobacco cessation counseling improved 9%, but failed to achieve statistical significance ($p=.237$). Incentivized reimbursement was not impacted as expected, but this was limited by several unforeseen changes in the incentive program and the temporal constraints of the short project period. Several unanticipated benefits were also appreciated throughout this endeavor.

In reviewing the quality performance data, an obvious opportunity to increasing the number of new patients at the practice was identified. Using this data, a novel process was created and directly resulted in 39 new patients establishing care at the health center during the implementation period. Additionally, a comprehensive review of the performance data from the EHR demonstrated that the quality reporting was significantly skewed. Inconsistent documentation of care services and a sizable constituent of patients that were not using the health center for traditional primary care services negatively impacted quality performance scores. A

systematic data cleansing process and a structured approach to documenting care services was implemented to improve the integrity of the data being reported.

Ultimately, this initiative established preliminary support for the impact an evidence-based approach to comprehensive QI, emphasizing structure, process, and outcomes, can have on staff perceptions of organizational QI strategy and organizational performance as measured by HEDIS metrics and incentivized reimbursement. This project makes a timely contribution to the organization by implementing a system for continuous QI that aligns with several contemporaneous goals. This initiative fostered the development of the prerequisite structure and processes to support the long-term goal of PCMH recognition and alignment with value-based reimbursement models. The transformative work of redesigning care delivery is inherently complex and often predicated upon the preexisting structural characteristics of the organization. As such, establishing a culture of team-based QI, that emphasizes relevant process efficiencies, is perhaps one of the most notable accomplishments actualized from this scholarly project. Guiding this organization through a successful complex change endeavor galvanized staff around the potential of QI and will invariably have lasting implications as they continue along the PCMH journey.

Structure, Process, and Outcomes: The Foundation for Continuous Quality Improvement in

Primary Care

Over the last several decades, the United States' health care system has become

increasingly fragmented and inefficient. The United States perpetually ranks near the bottom for

key quality indicators of population health among developed countries despite having the most

expensive health care system in the world (Davis, Stremikis, Squires & Schoen, 2014). This

discouraging realization is often attributed to a health care system plagued by misguided

incentives promoting volume over value (Berenson & Rich, 2010; Bodenheimer & Pham, 2010).

The convergence of an aging population and unprecedented rates of chronic diseases necessitates

a paradigm shift away from the reactive approach of simply addressing illnesses and episodic

care needs (Bauer, Briss, Goodman & Bowman, 2014). Ongoing research and policy discussion

is focused on potential strategies to guide the paradigm shift towards a healthcare system

supporting quality patient care, particularly in the primary care setting.

Background

The proactive and predictive approach inherent to primary care makes it a pragmatic

point of emphasis in contemporary models of health care reform. A comprehensive review of

research comparing health care systems throughout the United States suggests that a robust

primary care system leads to more effective and efficient care (Starfield, Shi & Macinko, 2005).

As such, payers, providers, policy makers, and patients have begun to coalesce around the

prospect of transforming both the structure and delivery of primary care to address the pervasive

issues within the United States' health care delivery system (Bates, 2010; Dentzer, 2010). When

primary care is afforded the opportunity to function as intended, comprehensive care activities

can be prioritized to improve quality outcomes, efficiency, and patient satisfaction (Rittenhouse,

Shortell, & Fisher, 2009).

Patient-Centered Medical Home

The Patient-Centered Medical Home (PCMH) model has emerged as a promising

framework capable of reinvigorating the primary care system. Expanding upon the widely

promulgated Chronic Care Model (Bodenheimer, Wagner & Grumbach, 2002), the PCMH

fosters the innate strengths of primary care while incorporating innovative practice changes to

align care delivery with patient-focused needs (Henderson, Princell & Martin, 2012). This

holistic healthcare delivery model fundamentally aligns with the ubiquitous Quadruple Aim:

improving the patient care experience, improving population health, reducing the overall cost of

healthcare, and improving provider satisfaction (Bodenheimer & Sinsky, 2014). The conceptual

promise of the PCMH to meet the broader goals of health care delivery has garnered widespread

endorsement from key stakeholders including payers, policy-makers, and healthcare providers

(Rittenhouse, Shortell, & Fisher, 2009).

With aspirations of developing industry standards, the Patient-Centered Primary Care

Collaborative (2007) created the first iteration of guidelines for PCMH recognition. These

criteria were adopted by the National Committee for Quality Assurance's (NCQA) in 2008 and

represented the first formal recognition process for the PCMH care delivery model. The primary

tenants of the PCMH include: team-based care, individualized care, improving patient access,

care management and coordination, and continuous quality improvement (NCQA, 2017a).

Although conceptually the PCMH is a care delivery model, by emphasizing continuous quality

improvement (QI) it has also served as the impetus for a fundamental shift towards value-based

reimbursement.

Value Based Reimbursement

The traditional fee for service model does not support the continuous QI activity of which the Patient-Centered Medical Home (PCMH) is predicated upon. Fortunately, over 100 health plans have developed support for PCMH initiatives by providing capitation incentives for recognized practices (NCQA, n.d.). On average, PCMH practices report nearly $5.00 per member per month in alternative funding through capitation (Edwards, Bitton, Hong, & Landon, 2014). Many insurance companies also incorporate NCQA's Healthcare Effectiveness Data Information Set (HEDIS), a set of nationally recognized quality metrics, allowing practices to obtain additional pay-for-performance reimbursement by meeting quality measures (Meridian, 2016). These incentivized reimbursements are designed to complement the traditional fee-for-service payment system that doesn't support the anticipated outcomes of patient-centered care. Without financial support for the core functions of the PCMH, the sustainability of comprehensive QI and the relative patient-centered care practices are questionable at best (Arend, Tsang-Quinn, Lveine & Thomas, 2012).

Alternative payment models, supporting the comprehensive nature of the PCMH care delivery model, are regarded as merely the beginning of a movement towards breaking the cycle of volume based, fee-for-service medicine (Nielsen, Buelt, Patel & Nichols, 2016). This presumption is all but certain with the innovative changes underway in the public sector as Medicare leverages payment reform through value based reimbursement models. Medicare aspires to have 90% of payments linked to value by 2018 and historically, as the public sector goes so goes the private sector (Burwell, 2015). With increasing external motivation through payment reform on the horizon, it behooves organizations to begin the transformative work of

implementing a continuous quality improvement strategy before the incentives are replaced by penalties for not meeting standards of care.

Continuous Quality Improvement

Adopting the Patient-Centered Medical Home (PCMH) model, and the inherent requirements for continuous quality improvement (QI), is a pragmatic step towards aligning care delivery with ongoing payment reform. A comprehensive QI strategy enables continuous performance evaluation to identify opportunities for change, monitor the outcomes of change initiatives, and employ further change based upon the outcomes (Geonnotti et al., 2015). Incorporating a systematic approach to QI is widely regarded as a critical first step for adopting an innovative care delivery model such as the PCMH (Safety Net Medical Home Initiative, 2013). Although QI processes are an essential component to restructuring care delivery and aligning with payment reform, many primary care practices fail to incorporate a systematic approach to QI (Geonnotti et al., 2015). This quality chasm is largely attributed to not only the innate challenges of change in general, but also the perceived rigor and financial investment required to adopt a comprehensive QI strategy that aligns with value-based care.

Many organizational QI initiatives are impeded by past failures with change, preexisting structural and cultural barriers, and lack of engagement with key members of the organization (Fernald et al., 2011). To be successful, organizational change must be imbedded in the context of established structural and processual components that support the work of care delivery transformation. Even the most seasoned clinical practices will invariably require new skillsets and process improvement to achieve the anticipated outcomes of QI (Taylor et al., 2014). As such, to ameliorate prospective barriers it is imperative that evidence-based strategies to guide

the development of a continuous QI process be invoked early on for transformation endeavors in

the primary care setting.

Problem Statement

The formative approaches to value based reimbursement have initiated the necessary shift

towards quality care concordant with the PCMH model, but other barriers to adopting a

continuous quality improvement strategy require attention. The intent of the PCMH model is

commendable, but the framework for the transformative process towards recognition can be

complex with limited individualized support. The quality improvement core criteria within the

PCMH recognition program from the National Committee for Quality Assurance (NCQA) offers

conceptual aims, but specific implementation strategies can seem quite nebulous without explicit

guidance. This phenomenon seems to be particularly evident in smaller organizations that are

more likely to lack the perquisite structure and processes to foster complex change (Hoff, Weller

& Depuccio, 2012). The variability in how the core criteria are operationalized has led to mixed

findings for quality of care in some PCMH demonstrations (Jackson et al., 2013). This is not to

detract from the potential of the PCMH, but rather acknowledge the need for an evidence-based

approach to support implementation and perpetuate the paradigm shift towards value based care.

A small Midwest nurse-managed primary care office, affiliated with a university college

of nursing, has encountered many of the common barriers while engaging in the formative work

of adopting the PCMH. The lack of structure and standardized processes to support this

transformative process has been identified as a principal barrier to restructuring care delivery for

this organization. To systematically organize the work of redesigning the care delivery model, a

comprehensive gap analysis of the organization, utilizing the PCMH core criteria (NCQA,

2017a), was performed. This prospective assessment demonstrated many opportunities for

innovation within the organization, namely the approach to quality improvement (QI) (See Appendix A). An organized approach to continuous QI would facilitate progress towards several contemporaneous organizational goals: establish structure and processes for change, improve fiscal performance, realign care delivery with value based incentives, and eventual PCMH recognition. Leadership personnel collectively agreed that implementing a strategic approach to continuous QI was a primary, and timely, need of the organization. It is envisioned that employing an evidence-based approach to implementing supportive structure and processes for QI can drive change to improve organizational performance. As such, this prompts the clinical question: How does an evidence-based approach to comprehensive QI, emphasizing structure, process, and outcomes, impact staff perceptions of QI, adoption of process efficiencies, and organizational performance as measured by HEDIS metrics and incentivized reimbursement? An individualized strategy for this primary care practice was conceived out of contemporary literature emphasizing the transformative work of PCMH organizations. This individualized strategy guided implementation efforts and facilitated the development of a quality improvement toolkit composed of policy, procedure, and evaluation deliverables. Additionally, this toolkit explicitly incorporated operational details that comply with the QI criteria for patient-centered medical home recognition through NCQA.

Evidence-based Initiative

The Patient-Centered Medical Home (PCMH) model is a widely promulgated approach to restructuring care delivery and aligning with value-based care due to the inherent expectations for continuous quality improvement (QI) (Taylor et al., 2014). A current review of the literature was conducted to demonstrate the empirical base for implementing a continuous quality improvement strategy for an organization working towards PCMH recognition. Literature was

collected using the Cumulative Index to Nursing & Allied Health Literature and PubMed databases. Keywords utilized in the searches include various combinations of "Patient-Centered Medical Home," "Quality improvement," "Quality Measures," and "Implementation" connected with the Boolean operators "and" and "or". Search parameters included peer-reviewed empirical literature published between January 2012 and September 2017. The date range was intentionally selected to avoid PCMH precursors likely to represent incomplete demonstrations that may attenuate the results of actual PCMH initiatives. The search was limited to articles focusing on at least one of two concepts: the association of PCMH initiatives in adult primary care settings with improvements in HEDIS based outcomes and successful strategies for adopting the PCMH model. Due to the variability of PCMH implementation, only studies designated as PCMH by the NCQA accreditation process are included. A total of 634 citations were initially identified. Title and abstract review for potential concordance with inclusion criteria and removal of duplicates narrowed the findings to 56 articles. Full text review identified six unique articles emphasizing the impact PCMH adoption has on quality metrics and five focusing on implementation strategies for practices successfully adopting the PCMH model. Two additional articles were identified upon citation review of the initial sample.

Evidence supporting the impact of PCMH initiatives on quality measures was collated to align with core measures of evaluating quality outcomes for PCMH initiatives (Rosenthal, Abrams & Bitton, 2012). Additionally, much can be learned from the successes, and failures, of previous PCMH demonstrations. The facilitating factors from published PCMH implementation initiatives were reviewed to identify guiding principles for the inherently complex work of establishing a comprehensive QI strategy.

Patient-Centered Medical Home Quality Outcomes

To foster homogenous evaluation efforts, a set of core measures are recommended to assess clinical quality outcomes for PCMH initiatives: preventive care, chronic disease management, acute care overuse, and safety (Rosenthal, Abrams & Bitton, 2012). This approach has also been supported by accrediting organizations, with the National Committee for Quality Assurance (NCQA) recently redesigning the recognition process to incorporate feedback from key stakeholders and allow for practices to focus more on the individualized outcomes of patient-centered care (NCQA, 2017b). Providing practices with the flexibility to individualize the transformation process and focus on empirically based outcomes will help elucidate the anticipated benefits of adopting the PCMH model.

Preventative Care. The monitoring of standardized nationally endorsed preventative care measures are recommended as a primary means of evaluating PCMH outcomes. The Healthcare Effectiveness and Data Information Set (HEDIS) guidelines are one of the most widely utilized group of measures for determining clinical quality (NCQA, n.d.). Four of the identified studies demonstrate improved performance on a variety of HEDIS based preventative care guidelines. Rosenthal et al. (2016a) evaluated preventative measures in a quasi-experimental study of 15 small and medium-sized primary care practices participating in the multi-payer medical home initiative, HealthTeamWorks. This pilot emphasized continuous QI through NCQA PCMH recognition. Utilizing a robust sample of 98,000 patients, the researchers identified improvement in multiple clinical quality indicators for practices participating in the pilot. Inclusion in this PCMH focused pilot was associated with improvements in cervical cancer screening rates at two and three years post intervention (4.7% and 3.3% respectively). Relative to 66 non-participating practices, PCMH focused organizations demonstrated statistically

significant (p<.001) increased rates of cervical cancer screening, at two and three years post intervention (12.5% and 9.0% respectively). Similar benefits continued to be evident after two years among a subsample of patients with two or more comorbidities.

In a mixed-methods study examining outcomes two years after the adoption of a PCMH model, improvements in preventative population health outcomes were identified (Savage, Lauby & Burkard, 2013). Implementation of the PCMH in a primary care clinic of 13,000 patients was associated with statistically significant increased rates of breast, cervical, and colorectal cancer screening rates 2 years after inception (p<.001; 1.4%, 1.0%, 9.8% respectively). Additionally, in a retrospective study analyzing medical claims from 27 pilot and 29 comparison practices, PCMH recognized organizations demonstrated significant improvement in preventative care measures (Friedberg, Rosenthal, Werner, Volpp, & Schneider, 2015). Statistically significant (p<.001) improvements in breast cancer screening (4.7%) became evident just one year after pilot organizations began working towards PCMH recognition. These benefits were sustained throughout all three years of the demonstration, eventually improving to a 5.6% (p<.001) differential in breast cancer screening rates relative to comparison organizations.

Chronic Disease Management. With the ever-increasing burden of chronic diseases, management of patients suffering under the weight of a life-limiting disease has become an imperative component to health care delivery. To evaluate the potential benefits of the PCMH for chronic disease management, Calman et al. (2013) conducted a retrospective study of 17 primary sites within a Federally Qualified Health Center network. All sites were PCMH recognized with NCQA. A total of 545 diabetic patients with at least one documented hemoglobin A1C (a measure of diabetes control) were included in the study. Among

uncontrolled diabetics (goal A1C <7.0%) with a hemoglobin A1C greater than 9% there was a

notable, although significance was not reported, reduction in mean annual A1C levels from

10.72% to 8.34% in the 9-year practice transformation to a PCMH. Similar PCMH benefits have

also been appreciated among much smaller, resource limited practices believed to encounter

more challenges to recognition.

Wang et al. (2014) conducted a retrospective cohort study to assess performance on

quality measures between PCMH recognized practices and comparison practices that are not

PCMH recognized. The study sample consisted of 150 small primary care practices enrolled in

the NCQA's Physician Practice Connection PCMH program that offered QI support towards

NCQA recognition. Of the study sample, practices that achieved PCMH recognition significantly

outperformed non-recognized offices on A1C testing (64% and 48% respectively; p = .005) and

blood pressure control for diabetic patients with hypertension (37% and 29% respectively; p

= .03). In addition to chronic disease performance indicators, acute care utilization is also

regarded as a primary measure for PCMH outcomes.

Acute Care Utilization. In an effort to foster quality of care over quantity of care,

PCMHs are conceptually designed to mitigate unnecessary utilization of costly acute care

services such as emergency room visits. Rosenthal et al. (2016b) analyzed the relationship

between PCMH adoption and patient emergency department utilization. Eleven primary care

practices, with 37 physicians serving 30,000 patients, participated in a Cincinnati medical home

pilot. The participating organizations were expected to obtain PCMH recognition with NCQA by

the end of the 3-year demonstration. Relative to 61 comparison organizations, PCMH recognized

practice demonstrated a 22.6% reduction in emergency room utilization after 2 years. Likewise,

analysis of quality data from a Pennsylvania medical home initiative demonstrated significantly

lower rates of all-cause acute care admissions (-1.7%, p=.006) and emergency department

utilization (-4.7%, p=.001) among PCMH recognized offices (Friedberg, Rosenthal, Werner,

Volpp, & Schneider, 2015). Significant reductions in acute care admissions became evident in

the second year of the demonstration and continued into the third year when reductions in

emergency department utilization also decreased.

Implementation Strategies

The impact of adopting the PCMH on quality outcome measures is well documented in

the literature. Unfortunately, the QI work of PCMH adoption is fundamentally complex and

necessitates a structured approach to ensure adoption and sustainability. A comprehensive review

of the literature identified several strategies associated with facilitating the QI work of the

PCMH. The proposed strategies can be categorically separated into four critical processes that

have been shown to facilitate PCMH quality improvement work in primary care: establish

meaning for the initiative, drive change with data, consistently engage staff, and create dedicated

time to accomplish the work.

Establish meaning for the initiative. True PCMH transformation towards a culture

emphasizing QI calls for a wide array of changes that can be challenging for staff preoccupied

with the demands of current work. Instilling meaning into the work at hand can be a powerful

motivator for overburdened staff susceptible to change resistance (Stout & Weeg, 2014).

Defining the proposed work, namely how it coincides with the mission of the organization, can

propagate a shared vision of transformation among staff. Education efforts that highlight the

need to adopt the PCMH and implement systematic processes for QI (e.g. the changing

landscape of payment reform) can help substantiate the cultural shift towards quality over

quantity. Establishing the *why* for the intervention is regarded as a core component to garnering

staff buy-in for organizational changes such as the PCMH (Applequist, Miller-Day, Cronholm, Gabbay, & Bowen, 2017). Additionally, providing a guided forum that allows staff to self-identify why adopting a systematic approach to QI may be beneficial to the practice. Meaning through interactive discussions can cultivate the reality that implementing the QI work emphasized by the PCMH is an evolution towards different work rather than additional or more challenging work. Another important component to adopting quality improvement is the utilization of data.

Driving change with data. Developing and organizing QI process with data has been identified as an evidence-based strategy to promote change in implementation science (Powell et al., 2015). These facilitating benefits have also been appreciated with the specific phenomenon of PCMH implementation. Quality improvement initiatives have demonstrated predictive value in the successful adoption of the PCMH, making these types of innovation a practical point to begin the PCMH transition (Reddy, Shea, Canaumucio, & Werner, 2015). Additionally, outcome reporting can foster staff buy-in by establishing performance awareness and providing data to celebrate the successes of change (Frasso et al., 2017). Outcome reporting holds value not only for evaluating change, but also identifying areas of opportunity to direct continuous QI work. It is imperative that staff also be engaged in reviewing the QI data so they are empowered to contribute and feel invested in the design of data-driven processes.

Consistently engage staff. Fostering collective responsibility through regular, organization wide, staff engagement is proposed as a facilitating factor for adopting the QI work of the PCMH (Frasso, et al., 2017). Establishing accountability throughout the entire care team, including front office staff, promotes a communal environment to support the interdependent processes required for change. Additionally, when staff are invested in developing the goals and

strategies for change, it makes the transformative work of PCMH quality improvement seem more attainable (Applequist, Miller-Day, Cronholm, Gabbay, & Bowen, 2017). This emphasizes an important distinction between leadership personnel guiding staff towards change and directing change. Collaboratively identifying and addressing the cultural changes required to adopt a systematic approach to QI, such as that of the PCMH, can allow practice members to share in constructing the meaning for the initiative (Flieger, 2017). Cultivating buy-in through engagement can build upon each staff member's fundamental motivation for change. Intentionally soliciting input from staff for proposed changes also facilitates the prompt adoption of new workflows (Stout & Weeg, 2014). Effectively, staff engagement enacts shared leadership to promote collaborative decision making and facilitate PCMH adoption (Applequist, Miller-Day, Cronholm, Gabbay, & Bowen, 2017).

Dedicated time to accomplish work. Allocating specific time to incorporate and discuss changes facilitates better staff communication, relationships, and an explicit understanding of roles in organizations implementing a structured approach to QI through the PCMH (Flieger, 2017). Providing dedicated time can be operationalized through regular and formal care team meetings. Routine meetings can provide opportunities to discuss the specific work required of each staff member to adopt the various PCMH components to support QI (Frasso et al., 2017). Individuals involved in practices that dedicate time to regular staff meetings reported increased staff buy-in for adopting QI through the PCMH model (Applequist, Miller-Day, Cronholm, Gabbay, & Bowen, 2017).

Conceptual Models

Conceptual models provide a structured perspective to view the phenomenon of interest. The Donabedian Model (Donabedian, 1988) was applied to explicate all the interrelated aspects

of the phenomenon of interest: continuous QI in a primary care clinic pursuing PCMH

recognition. Additionally, the PARiHS framework (Kitson, Harvey, & McCormack, 1998) was

incorporated to structure the transformative work of implementing the continuous QI strategy.

Donabedian Model

The Donabedian Model is perhaps one of the most notable conceptualizations of quality

improvement. Donabedian (1988) asserts that three highly interrelated domains shape the

assessment of quality care: structure, processes, and outcomes (See Appendix B). Application of

the Donabedian Model suggests that establishing the *structural* capabilities for enhanced

processes will ultimately facilitate improved *outcomes*. To truly impact the quality of care, it is

imperative to account for all three contributing factors.

   Structure. Structural components represent a diverse group of organizational attributes

that reflect the setting in which care is delivered (Donabedian, 1988). These attributes are the

fundamental components of an organization that determine the capacity to provide high quality

care. This domain is comprised of the tangible organizational assets such as the electronic health

record, administrative structure, organizational culture, and human resources such as education

and training of personnel. Review of the structural measures for this organization highlighted

several opportunities for improvement to facilitate a continuous quality improvement strategy.

   The Midwest primary care office is a nurse managed clinic that provides healthcare to a

diverse patient population consisting of underserved urban community members and university

students. The clinic is a subsidiary of the local university that oversees operations. At baseline,

electronic health record (EHR) reporting identified 11,842 active patients at the nurse-managed

health center. The patient population has a variety of payer types including 7,669 (64.8%) self-

pay, 2,679 (22.6%) individuals with various private coverage products, 1,364 (11.5%) Medicaid,

and 130 (1.1%) Medicare. It is noteworthy that the self-pay individuals are almost exclusively

comprised of university students and faculty that utilize the health center for limited, often one-

time, services such as student compliance requirements and vaccinations. These patients

typically receive traditional primary care services elsewhere. As such, quality improvement

initiatives were more appropriately directed towards the constituent of the patient population that

receives traditional primary care services through this health center.

In the context of human resources, the health center currently has four nurse practitioners

on staff. One of the more experienced practitioners, an embedded faculty from the overseeing

university, recently resigned. Although the embedded faculty position remains vacant, a part-

time nurse practitioner with a passion for quality improvement recently joined the care team.

Two registered nurses comprise the entire clinical support staff. Due to the lack of staffed

medical assistants, the registered nurses assume responsibility for usual nursing tasks as well as

work that is characteristically performed by medical assistants (e.g. patient intake, obtaining vital

signs, routine venipuncture, and vaccine administration). This highlighted a pervasive issue

within the organization in which staff did not operate to the full extent of their education and

training. This is also true of the assistant office manager that was largely limited to clerical

functions despite education and experience to substantiate a more engaged role. This represented

an opportunity to expand this staff member's role to support comprehensive QI processes and

foster sustainability. The primary care office also has organizational resources that were

leveraged in support of the phenomenon of interest.

The Midwest primary care office adopted an electronic health record (EHR), Athena, in

2015. This platform has explicit support for PCMH recognition. Additionally, Athena has highly

customizable quality metric reporting that the organization has historically only used in a very

limited capacity. Furthermore, the EHR has the untapped potential for customizable clinical

decision support tools to facilitate the processual work of providing primary care. This again,

represented another opportunity for supporting a comprehensive QI strategy by redesigning

existing resources.

Assessment of the administrative structure suggested opportunities for transforming the

way in which staff are engaged on quality improvement. Previously, the organization did not

hold routine staff meetings or engage in collective discussions around quality improvement.

Additionally, there was no routine monitoring or dissemination of quality performance data such

as HEDIS performance scores. The limited reporting that occurred was not regularly used to

drive or evaluate the impact of change. Adopting routine meetings, to foster shared leadership

and collaboratively analyze quality metric data, represented an imperative opportunity to support

a comprehensive QI process. In addition to establishing the structural resources to support QI,

consideration to the specific activities of care delivery was essential.

Process. The process variable depicts what the care delivery team specifically performs

to maintain or improve the health of patients. Care processes should pragmatically build upon the

preexisting structural components of the organization. With respect to the EHR, and the robust

quality reporting capabilities, dedicated processes for quality data auditing and analysis helped

identify opportunities for care transformation. Furthermore, the EHR was utilized to optimize

workflow and limit the occupational burden of any redesigned processes. Since many of these QI

processes were new to the staff, routine meetings and staff engagement were an imperative

processual component to facilitating the adoption of this initiative. Lastly, a QI toolkit was

developed to ensure sustainability of the initiative beyond the initial project period. A systematic

approach addressing the structural and processual needs of this organization was intentionally incorporated to impact outcomes.

Outcomes. Outcome measures exemplify the impact of care and sustainability of the organization. Improving patient health and wellness is the overarching outcome goal for this organization. Outcome metrics such as the national recognized HEDIS guidelines provide a methodological approach to evaluating efforts to achieve this goal. Review of this organizations quality metrics, based on HEDIS guidelines, highlighted the opportunity for improvement in several areas. At baseline, quality performance data form the EHR identified that only 49% of eligible patients obtained the recommend breast cancer screening, 23% of women age 21-29 received the recommended cervical cancer screening, 54% of women age 30-64 received the recommended cervical cancer screening, and 37% of patients received the recommended tobacco cessation counseling. Appendix C provides a comprehensive report of HEDIS measure performance scores, with benchmarks that align with incentivized reimbursement, for this primary care office. Through efforts to improve the quality of care delivered a secondary outcome measure of financial performance warranted consideration as well. Previously, the organization enacted almost no routine efforts to garner incentivized reimbursement money available from payers. As a practice, nearly $39,000 of potential revenue through incentivized reimbursement from the 2016-2017 fiscal year went uncollected from the two primary payers for the practice. This outcome measure highlighted the opportunity to improve patient care while concurrently improving financial performance through alternative revenue programs. As such, consideration to structure, process and outcomes afforded a comprehensive approach to the phenomenon of continuous QI at this nurse-managed primary care clinic.

PARiHS Framework

Application of the Promoting Action on Research Implementation in Health Services

(PARIHS) Framework suggests that the successful integration of research is contingent upon

three interrelated factors: evidence, context, and facilitation (Appendix D) (Kitson, Harvey, &

McCormack, 1998). Although originally conceived out of anecdotal wisdom and expert opinion,

the PARiHS framework has since garnered preliminary support as an empirically based tool

capable of facilitating the translation of evidence to practice (Kitson et al., 2008). This

framework was incorporated based upon the proposition of its predictive value in shaping

implementation endeavors. As such, the PARiHS framework was applied to the implementation

of a continuous QI strategy at this primary care office.

Evidence. High quality evidence from research and organizational expertise support the

successful implementation of a QI strategy (Kitson, Harvey, & McCormack, 1998). The research

evidence for the PCMH impact on quality measures is well established and reinforced by the

large number of organizations adopting or supporting the care delivery model (Nielsen, Buelt,

Patel, & Nichols, 2016). A large-scale evaluation of 114 PCMH pilot practices demonstrated

significant increases in alternative revenue streams (Edwards, Bitton, Hong, & Landon, 2014).

Additionally, facilitating factors for adopting PCMH core components can be gleaned from

published implementation endeavors of previous successful demonstrations (Applequist, Miller-

Day, Cronholm, Gabbay, & Bowen, 2017). The core facilitating factors identified in the

literature also align with recommendations for QI set forth by the American Academy of Family

Physicians (2017). Evidence from clinical expertise to support this initiative is also evident.

Leadership personnel form the primary care practice explicitly acknowledged the need

for a paradigm shift in the care delivery model. The Department of Health and Human Services

is actively collaborating with a variety of private and public entities to facilitate the system wide

transition towards value based care (Centers for Medicare and Medicaid Services, 2015). In

preparation for an all but certain acceleration towards alternative payment models, evidence of

the organizational leadership's support for a quality focused care delivery model was explicit.

      Context. As the application of research aspires to translate evidence into meaningful

outcomes in the clinical setting, significant consideration must be given to the context in which a

proposed initiative will be introduced (Kitson, Harvey, & McCormack, 1998). The context of an

initiative can be further refined into three key elements: the organizational culture, the structure

of leadership, and the strategy for evaluation or measuring performance. These intangible,

socially constructed, aspects of an organization are fundamental to change, but often escape

consideration due to an inadequate analytical approach. Utilizing the Burke-Litwin Model (1992)

the context for a QI initiative at this primary care practice was systematically elucidated (See

Appendix E).

      The culture at this primary care office communicated receptivity to change at baseline,

but a multitude of previously failed initiatives conveyed a level of implicit change resistance.

This was not perceived to be occurring exclusively at an individual level, as the lack structure

and processes in place to support complex change were felt to be a more appropriate rationale for

the previous failures. The organizational culture was very task oriented having few practices

consistent with system wide quality improvement. The leadership structure of the organization

was a bit convoluted with staff members assuming ill-defined roles and having limited processes

in place to support effective team work. Shared leadership is the intended approach, but this was

not consistently executed through formal processes such as routine meetings and regular staff

engagement. As previously mentioned, the organization also had few formal processes for

capturing, and utilizing, quality metrics. Quality outcome measures were not consistently

analyzed or used to drive initiatives for improving patient care. The identified contextual

limitations were presumed to be amenable to remediation as the current manager was very

motivated and offered significant buy-in for adopting a comprehensive QI strategy. A review of

the context for this primary care site highlighted the opportunity to prospectively incorporate the

structure and processes to foster the contextual support for a strategic QI process. These

components were largely developed through collaboration between the project coordinator and

staff of the nurse-managed primary care center.

Facilitation. Facilitation is regarded as the supportive work of promoting the initiative by

changing the attitudes, habits, skills, and perception of staff members (Kitson, Harvey, &

McCormack, 1998). Facilitators clarify the parameters of the change and how this change is

enacted to bring about the anticipated outcomes. The work of facilitation can be separated into

three key components: purpose, role and skills and attributes (Kitson, Harvey, & McCormack,

1998).

The purpose of facilitation is highly variable, but most effective when individualized to

an organization. It is required that the role of the facilitator be highly dynamic within the

organization. A very hands-on approach was needed due to the limited preexisting structural and

processual support systems. These limitations highlighted the wide breadth of skills and

attributes required of the facilitator to ensure the success of this initiative.

Incorporation of the PARiHS framework afforded the project coordinator significant

insight to drive the success of a comprehensive QI strategy. Ample evidence, in research and

organizational expertise, exists to support the adoption of this initiative. Additionally, the context

of this initiative identified several opportunities for change to support the implementation of a

continuous QI process. The benefits of a project coordinator were undeniable for this process, and essential to the success and sustainability of this initiative.

Need and Feasibility Assessment of the Organization

Leadership personnel at this nurse-managed primary care office explicitly communicated the need for a fundamental redesign in the care delivery model. This inherently aligned with the organizational mission to provide accessible, quality healthcare and promote an innovative learning environment through an academic nurse-managed approach. A comprehensive gap analysis (See Appendix A), structured by the core components of the NCQA Patient-Centered Medical Home (PCMH) recognition criteria, identified the imperative need for a continuous quality improvement (QI) strategy. The need for a strategic approach to QI was also reinforced by evolving external factors. Ongoing payment reform in the public sector and increasing alternative payment models in the private sector demonstrate an inevitable paradigm shift away from the fee-for-service system. Restructuring QI activity allowed this primary care office to develop a systematic process for obtaining incentivized reimbursements and align with ongoing payment reform. Furthermore, this initiative supported the concurrent organizational goals of establishing structure and process for ongoing efforts of PCMH recognition. The explicit organizational need, exorbitant support from leadership personnel, and alignment with organizational goals were a testament to the feasibility and sustainability of this endeavor. With the intent on integrating new work, not more work, this initiative embodied limited occupational burden for the staff. Additionally, other than time, which the practice was willing and able to dedicate, the financial burden was not an impediment to the successful adoption of a comprehensive QI strategy.

Project Plan

Purpose of the Project

The purpose of this project was to introduce a continuous quality improvement (QI) process in a nurse-managed primary care practice. It was the intent of this scholarly project to answer the clinical question: How does an evidence-based approach to comprehensive QI, emphasizing structure, process, and outcomes, impact staff perceptions of quality improvement, adoption of process efficiencies, and organizational performance as measured by HEDIS metrics and incentivized reimbursement?

Objectives

Efforts to establish an evidence-based approach to continuous QI in a nurse-managed primary care clinic were aligned with the primary tenants of QI (structure, process, and outcomes) and guided by the following objectives:

Structure-

- Establishing routine meetings to collaborate with staff in the development and evaluation of continuous QI. The QI component of a PCMH readiness survey was administered before and after the project period to evaluate the impact of education, engagement, and structured QI meetings on staff perceptions of organizational QI strategy by March 14, 2018.

- Fostering the sustainability of the practice improvements to support continuous QI by developing defined practice roles and responsibilities, standardizing quality reporting templates, and optimizing patient care technology features. These structural adaptations were collated in a comprehensive toolkit that was presented to the organization for acceptance by March 14, 2018.

Process-

- Collaboratively developing process improvements and monitoring adherence to at least one of the process improvements by analyzing patient care technology data on tobacco cessation counseling order set utilization and billing by March 14, 2018.

Outcomes-

- Implementing a QI dashboard to monitor the impact of patient care technology efficiencies and process improvements on quality measure performance for breast cancer screening, cervical cancer screening, and tobacco cessation counseling by March 14, 2018.

- Implementing a QI dashboard to monitor the impact of patient care technology efficiencies and process improvements on incentivized reimbursement revenue by March 14, 2018.

Type of Project

This project was categorized as a quality improvement endeavor. Quality improvement is the strategic approach to analyzing performance measures for the purpose of identifying and addressing opportunities for transformation (American Academy of Family Physicians, 2017). The proper adoption of QI is an essential component to the success of high performing practices aspiring to improve outcome based metrics. Effective quality improvement initiatives are best formed by identifying opportunities for improvement, analyzing data to drive change, planning for change, and continuously evaluating the change (Taylor et al., 2014).

Setting and Needed Resources

The setting for the project was a nurse-managed primary care clinic. Operations for this practice are ultimately governed and subsidized by the overseeing university. The practice

resides in an urban area, providing care to underserved community members and university

students across the entire life span. Limited material resources were required for the success of

this innovative project. The primary resource required was the time of key stakeholders and

project coordinator to facilitate development and implementation of this initiative. Key

stakeholders included leadership personnel and clinical and administrative staff at the health

center. Time and availability were never an impediment for this project as it was readily evident,

and explicitly communicated, that the patient census was well below capacity. This regularly

afforded staff downtime between appointments to contribute to the QI work. The project

facilitator, with a background in primary care and familiarity with the EHR, was provided access

to the EHR to extract quality metric data and develop patient care technology efficiencies to

support process improvements and optimize patient care delivery.

Design for the Evidence-based Initiative

Application of the PARiHS framework guided the strategic implementation of a

continuous quality improvement initiative at this primary care clinic. As such, this scholarly

project emphasized evidence, context, and facilitation to address the key tenants of QI (structure,

process, and outcomes).

Evidence. The plan for this initiative was predicated upon high quality evidence. The

PCMH is a care delivery model emphasizing QI that has garnered significant traction in the last

decade. It inherently aligns with payment reform initiatives that are encouraging a paradigm shift

towards value based reimbursement. Adoption of the PCMH demonstrates the capacity to

positively impact outcome measures such as patient adherence to preventative care measures,

chronic disease management and acute care utilization rates. Additionally, formal recognition as

a PCMH explicitly requires continuous quality improvement, which is regarded as a paramount

practice for any healthcare organization aspiring to improve performance (Taylor et al., 2014).

Although the available framework for continuous quality improvement through implementation

of the PCMH can be daunting at first glance, insight to strategies for success was gleaned from

other demonstrations. Thematic analysis of contemporary literature highlights four processes that

can facilitate adoption of a comprehensive quality improvement strategy: establish meaning for

the initiative, drive change with data, consistently engage staff, and provide dedicated time for

the new work.

Although meaning was inherently established through aligning the initiative with

contemporaneous organizational goals, additional activities further reinforced the significance of

continuous QI. Explicitly making the staff aware of the primary drivers for the change initiative

was intended to afford them perspective about *why* the change is needed. Also, encouraging the

staff to collaboratively discuss how QI can support their role and improve organizational

performance aimed to help them establish a personalized meaning for the initiative. These

intentional activities were incorporated at the initial QI meeting to help staff establish meaning

for the initiative. Review of the literature also highlighted the importance of guiding change with

data.

Driving change with data facilitated the change process in multiple ways. Data was

initially used to identify the opportunity for transformation and then revisited to determine if that

change in fact made a difference. HEDIS and incentivized reimbursement reports were audited

and disseminated to staff monthly. Data through monthly performance reviews provided an

objective means of measuring progress towards predetermined goals. The transformative work

towards continuous QI in this project also emphasized staff engagement.

Systematic processes to foster staff engagement throughout the project period were included to encourage support for the QI initiative. Soliciting input from the staff about which processual measures to focus on enacts shared leadership and promoted staff buy-in. Clinical staff and front office staff leadership were provided with baseline performance data and encouraged to collaboratively identify the pilot HEDIS measures for this scholarly project. Guided discussion with the project facilitator during this process fostered a pragmatic selection process for measures conducive to change that are significant to the practices patient population: cervical cancer screening, breast cancer screening, and tobacco cessation counseling. This process was designed to mitigate some of the change resistance that may otherwise have impeded the success of this initiative. It was also important to develop dedicated time for staff to work on the proposed initiative.

To support a continuous QI process, three monthly meetings provided dedicated time to discuss the initiative. Additionally, the office manager and assistant office manager assumed many of the activities to support the innovative QI work (e.g. audited and reviewing reports, delegation and oversight of care coordination activities, patient outreach). The assistant office manager was a pragmatic choice to assume these responsibilities due to the expressed interest, concordant skillset, and the time constraints of other organizational members that excluded them from consideration. Inclusion of the assistant office manager is a notable component to the success and sustainability of this project. Utilizing evidence to shape this initiative helped build upon the organization's contextual strengths and proactively address some of the potential barriers.

Context. Consideration for the organizational context helped guide the work of implementing a continuous QI strategy. The limited preexisting context to support successful

change was a primary consideration of this initiative. From a cultural perspective, this initiative incorporated collaborative decision making and fostered facilitative management processes. This guided the development of process improvements that are highly relevant to the daily work of all staff members. Additionally, collaboration with leadership personnel was an essential component to successful implementation. This initiative aligned with the vision of leadership personnel and had ample support to ensure success. A comprehensive organizational assessment was also critical to ensuring this project was contextually appropriate and more likely to succeed. Lastly, evaluation is an inherent component to QI work. As previously outlined, this initiative identified opportunities from HEDIS and incentivized reimbursement reports and used that same data to evaluate the impact of change. HEDIS guidelines are tangible measures of performance and were readily obtained through the EHR at this nurse-managed health center.

Facilitation. In pursuit of sustainability, the project coordinator designed the implementation period to have staff members independently performing the new processes after education and a guided facilitation period. This shared approach ensured that staff members were properly trained and demonstrated the capacity to perform the work with limited, if any, support from the project coordinator. To facilitate the normalization of process improvements, the project coordinator was readily available at the organization throughout the implementation period. During this time, the project coordinator also monitored workflow to create accountability and ensure staff adequately adopted the new activities. Staff were encouraged to provide feedback and be involved in designing, or redesigning, the processual changes.

Over the course of the project, a comprehensive toolkit was constructed to support continuous QI during, and after, the implementation period. This toolkit was presented to the staff at the nurse-managed health center to ensure awareness and encourage utilization of the

developed resources. This toolkit was stored on the network shared drive that is readily available

to all staff members. Resources within the toolkit included:

- A guide to generating and analyzing quality measure reports from the EHR and

  participating payers.

- A detailed overview of the roles and responsibilities to support the process improvements

  for continuous QI.

- Reference tools for utilizing the patient care technology efficiencies designed during the

  project period

- Reference tools for creating additional patient care technology efficiencies or modifying

  the current ones

Participants

Participants involved in this initiative were primarily the staff at the health center. This

included the nurse practitioners, registered nurses, office manager, and assistant office manager.

Additionally, leadership from the university was involved as the Associate Dean of Practice

contributed to project development and implementation efforts. Indirectly, patients also

participated since quality metric data for the health center was routinely extracted from the

electronic health record.

Measurement: Source of Data and Tools

Measurement is an essential component to identifying the need for change and

actualizing the relative impact. Data to substantiate the focus of this initiative was obtained

through a systematic organizational assessment and gap analysis. The findings from these

endeavors highlighted the need for a comprehensive QI strategy at this nurse-managed primary

care clinic. The preliminary measurement of success was based upon the explicit acceptance of

the proposed initiative. Once the initiative was accepted, the pilot measures were determined

through collaborative review of quality performance data extracted from the EHR and

predetermined payers that insure the largest patient constituent. Existing process outcome

performance data for HEDIS measures was obtained through EHR reporting and used to

demonstrate the opportunity for improvement to staff. Cervical cancer screening rates, breast

cancer screening rates, and tobacco cessation counseling rates were identified as pilot measures

amenable to change through process improvements. These measures were also felt to be

meaningful indicators of quality care for the patient population at this practice. To measure the

impact of change, baseline organizational performance data was obtained from the EHR. The

impact of the initiative was evaluated by monthly auditing of the same HEDIS measures

throughout the implementation period (two months). Utilization rates of the order sets to support

the adoption of continuous QI were also extracted from the patient care technology.

     Incentivized reimbursement reports were obtained to identify the opportunity for

alternative revenue and measure the change in fiscal performance following implementation.

Meridian Medicaid and Priority Health Medicaid incentivized reimbursement reports obtained by

the office manager substantiate the potential for increased revenue from continuous quality

improvement. To convey the anticipated investment of staff towards the QI meetings,

comparable wages for each participant were used to demonstrate the fiscal burden of

implementation. At least initially, with the availability of most staff members to assume

additional work, the financial burden of this initiative is negligible. See Appendix F for a budget

analysis chart.

Steps for Project Development and Implementation

    The project was developed and implemented through the following steps (See Appendix G):

- Obtaining University Human Research Committee for IRB approval under the exempt status for quality improvement work on December, 2, 2017.

- Disseminating plan for proposed initiative to gain approval from key stakeholders to implement by December 12, 2017.

- Collating and reviewing baseline performance data for HEDIS measures and incentivized reimbursements with staff by January 14, 2018.

- Establishing meaning for the initiative by reviewing the landscape of payment reform and opportunity for incentivized reimbursement with staff by January 14, 2018.

- Engaging staff to identify quality measures of focus for supportive activities during implementation period by January 14, 2018.

- Establishing dedicated time for QI activities by scheduling three QI meetings by January 14, 2018.

- Engaging staff to collaboratively develop process improvements to support continuous QI work at first formal QI meeting by January 14, 2018.

- Driving change with data by developing and introducing a QI dashboard to the health center by January 14, 2018.

- Implementing patient care technology efficiencies to support quality measure satisfaction and incentivized reimbursements by January 14, 2018.

- Defining and communicating staff roles and responsibilities to improve HEDIS measures and incentivized reimbursements by January 14, 2018.

- Collating and presenting updated HEDIS measures and incentivized reimbursements reports to staff at the second and third QI meeting by March 14, 2018.

- Evaluating staff perceptions of organizational QI strategy with a pre- and post-

  implementation survey by March 14, 2018

- Delivering a toolkit to support continuous QI at the nurse-managed health center by

  March 14, 2018.

Ethics and Human Subjects Protection

All data was collected and stored in a de-identified manner on the organization's secure

web based EHR system and shared network drive. The EHR is password protected, only

allowing personnel directly involved with this initiative access to the performance data. The

project coordinator has been provided access to the EHR reporting for the duration of the

implementation period. The majority of data will be quantitative aggregate data on

organizational performance for quality measures. These quality performance reports are stored

on the network drive for the nurse-managed health center. University Human Research

Committee for IRB approval under the exempt status for quality improvement work was

obtained on 12/02/2017.

Budget

Since time is the principal resource to support this initiative, a budget was devised using

income data consistent with the geographical context of this primary care clinic (Salary.com,

n.d.). The average annual salaries were obtained and used to determine hourly salaries: annual

income / (52 weeks x 40 hours). The overall financial investment was calculated to be $609.90

for the entire implementation period (See Appendix F). This accounts for the dedicated time of

staff member in attendance at the QI meetings. Although student workers are employed at the

health center, and participated in some of the minor supporting roles of this project, the wages

for these staff members are allocated to the overseeing university instead of the health center.

Additionally, the time of the project coordinator was donated in kind.

Stakeholder Support and Sustainability

Stakeholder support for the implementation of a continuous QI strategy was very high

within the organization. The alignment of this initiative with multiple short and long term

organizational goals garnered support from leadership personnel and staff. Leadership personnel

were already committed to adopting the PCMH framework, and QI is a core component to this

care delivery model. Additionally, the financial implications for increased reimbursement

address concerns of financial instability for the organization through new, more efficient,

approaches to work rather than simply additional work. Furthermore, leadership personnel at the

health center have already begun exploring the potential of extrapolating this pilot program to

other payers in hopes of maximizing the financial impact of continuous QI. With consideration

to the long-term implications and significant support from key stakeholders, the sustainability is

believed to be very high. The Associate Dean for Practice from the overseeing university, who is

regularly involved in the strategic vision and leadership of the health center, has expressed clear

support for this undertaking. Additionally, explicit engagement of staff members at routine

meetings was incorporated to foster buy-in and ongoing sustainability. The assistant office

manager and office manager were intentionally made key contributors to this initiative so QI

activity can pragmatically continue regardless of the temporal constraints of this project. As

such, it is envisioned that in the absence of the project coordinator, the assistant office manager

and office manager will assume much of the responsibility for driving the work of continuous QI

through routine auditing and analysis of quality measure data.

Project Evaluation

A structured approach to evaluating how an evidence-based approach to comprehensive QI, emphasizing structure, process and outcomes, impacts staff perceptions of quality improvement, adoption of process efficiencies, and organizational performance as measured by HEDIS metrics and incentivized reimbursement was incorporated. Progress of the initiative was evaluated at every QI meeting through review of HEDIS and incentivized reimbursement reports. This information was collated into a QI dashboard that was posted in the clinical area as well as on the shared network drive for the office. The QI dashboard provided the organization with a pragmatic format for monitoring quality performance over time (See Appendix H). Making the performance data readily available was done so purposefully and served to instill accountability and motivate staff to engage in the processual work of QI. To monitor adoption to the process improvements conceived during this scholarly project, tobacco cessation order set utilization was also evaluated.

Tobacco cessation counseling order set utilization, and appropriate billing, during the project period was audited from the electronic health record. This was compared to historical data from the electronic health record that detailed the cumulative instances of billing for tobacco cessation counseling in the preceding 32 months. Additionally, the impact of the QI project on staff perceptions of organizational QI strategy was evaluated. The QI component of the PCMH readiness assessment survey was administered to evaluate staff perceptions (See Appendix I). This assessment tool was included based upon its proven sensitivity to reflect actual progress towards a comprehensive QI strategy consistent with the PCMH model (Daniel et al., 2013). The survey evaluates staff perceptions of PCMH readiness on four key components to QI strategy:

      1. The organizational approach to quality improvement activities

2. The organizational approach to establishing and monitoring performance

    measures

3. The organizational approach to staff and patient involvement in quality

    improvement activities

4. The organizational approach to electronic health record utilization for quality

    improvement

For each survey item, the staff member selects a response from one to twelve. Each interval of

three corresponds to a category (Level D, C, B, or A) of increasing development towards a

comprehensive QI strategy consistent with PCMH readiness. Each category offers a descriptive

statement to offer staff context for a given numerical response. The survey was administered at

the first QI meeting (baseline) and again at the final QI meeting (current). Lastly, the toolkit of

staff roles and activities to support continuous QI was evaluated based upon acceptance by key

stakeholders for the organization.

Project Outcomes

Structure for Quality Improvement

Throughout the project period significant consideration was given to developing and

redesigning the necessary structural components to foster continuous quality improvement (QI).

Monthly QI meetings were adopted by the nurse-managed primary care clinic, with the

organization intending to continue this dedicated time for collaboration beyond the project

period. These meetings also proved to be an essential opportunity to engage staff to shape the

roles and knowledge necessary to support continuous QI.

Efforts to optimize the patient care technology experience for staff were well received

and demonstrated the capacity to facilitate compliance with the pilot quality care measures. A

detailed list of the patient care technology improvements made to support the processual work

relative to specific quality measures is available in Appendix J. Additionally, an easily

reproducible report, aligning with all measures incentivized by payers, was integrated into the

quality management center of the electronic health record. All measures tied to incentivized

reimbursement, even those beyond the scope of this project, were included to easily facilitate the

expansion of the program after the project period. Explicit consideration was also given to

structural characteristics poised to facilitate sustainability of continuous QI at this nurse-

managed health center.

To establish the organizational structure conducive to sustainable QI, a comprehensive

toolkit was provided to the health center. This toolkit, composed of electronic documents and

guides, offered instruction for patient care technology efficiencies and detailed the roles and

responsibilities necessary to maintain the innovative work adopted during this scholarly project.

Due to the size of the toolkit it was not practical to reproduce it in its entirety within this

document. Acknowledging the importance for explicit insight into the content of the toolkit, two

key sections from the toolkit are included in Appendix K (tobacco cessation counseling

utilization guide) and Appendix L (QI roles and responsibilities overview). The complete toolkit

was accepted by the organization and reported to be an effective resource to guiding current

processes. Additionally, staff perceptions of the structural changes to the organizational QI

strategy were evaluated by administering the QI component of a Patient Centered Medical Home

(PCMH) readiness assessment survey.

The PCMH readiness survey was administered to staff (n=6) at the initial QI meeting and

the final QI meeting two months later. This data was not amenable to statistical analysis given

the small sample size. It is noteworthy that despite the small sample size from a statistical

perspective, the six respondents constitute two-thirds of all permanent staff members at the organization. As such, the data is regarded as an accurate representation of the staff perceptions at this health center. Quantitative analysis (including frequency and mean) was conducted to compare survey results from baseline (Jan 2018) and current (Mar 2018). A review of the data, comparing average responses at baseline and current, demonstrated one level of developmental progress towards a comprehensive QI strategy for all four QI concepts on the survey. On average staff (n=6) reported at baseline that:

- The organizational approach to quality improvement activities were not organized or supported (Level D)

- Performance measures are available for the clinical site, but are limited in scope (Level C)

- Quality improvement activities are conducted by a centralized committee or department (Level D)

- An electronic health record that supports Meaningful Use is used routinely during patient encounters to provide clinical decision support and to share data with patients (Level B,)

Following implementation staff (n=6), on average, reported that:

- The organizational approach to quality improvement activities are based on a proven improvement strategy in reaction to specific problems (Level B, improved from Level C)

- Performance measures are comprehensive, including clinical, operation and patient experience measures, and available for the practice, but not for individual providers (Level B, improved from Level C)

- Quality improvement activities are conducted by topic specific committees (Level C, improved from Level D)

- An electronic health record that supports meaningful use is *also* used routinely to support

  population management and quality improvement efforts (Level A, improved from Level

  B)

See Appendix M for collated response rates, by developmental category, for each survey item

and Appendix N for a complete side-by-side comparison of baseline and current results. Given

the sensitivity of this assessment tool for actual organizational development, these survey results

also suggest progress towards a comprehensive QI strategy consistent with the PCMH.

Additionally, the perceived improvement in QI strategy by staff corroborates the observations of

the project coordinator that suggests a paradigm shift towards a culture of QI had taken place

during the project period. This critical outcome was the fundamental transformation needed to

support the sustained adoption of the processual work of continuous QI.

Process Improvements

Prior to implementation, QI was largely done on an ad hoc basis. Although some quality

performance data was audited, it was not routinely disseminated to staff or utilized to drive

process improvement. There was no systematic process to identifying patients due for quality

care measures such as preventative screenings. Through a comprehensive organizational

assessment and collaborative engagement with staff members, several individualized process

improvements were adopted at the nurse-managed health center. New process improvements

included:

- Auditing and collating quality reporting data from the electronic health record to

  systematically identify patients due for breast cancer screening, cervical cancer screening,

  and tobacco cessation counseling

- Dedicated outreach efforts to arrange appointments for patients due for breast cancer screening, cervical cancer screening, and tobacco cessation counseling.

- Utilizing patient care technology efficiencies to support quality measure documentation and billing during an encounter (See Appendix O)

- Disseminating monthly performance reports to providers to instill accountability and provide them with the means for self-evaluation

Staff members routinely demonstrated adherence to the new process improvements throughout the entire project period. Following demonstration of patient care technology efficiencies, the tobacco cessation counseling order set, and corresponding billing code, was used on average 9.5 times per month during the two-month implementation period. For context on the impact of this process improvement, tobacco cessation counseling in the absence of an order set was only billed and documented on average 2.7 times per month in the preceding 32 months (See Appendix O). In addition to an increase in documented instances of tobacco cessation counseling following implementation of the order set, the relative average month revenue from tobacco cessation counseling increased from $21.82/month to $77.44/month. It is also noteworthy that these novel processes were maintained by staff without extensive facilitation by the project coordinator.

In the final month of the implementation period, the project coordinator was almost exclusively observing operations. The lack of follow up involvement or reeducation needed from the project coordinator suggests a level of normalization for the process improvements. In addition to the predetermined process improvements, other unanticipated benefits were appreciated during the implementation of a systematic approach to QI.

Although not a preconceived process improvement for this project, the organization adopted a systematic process for identifying patients assigned to their practice but have yet to

established care. This was the result of the project coordinator analyzing incentivized reimbursement data from the two primary insurance carriers for this nurse-managed health center. Review of the data highlighted that over 1,400 assigned patients from the two primary payers for this organization were not active patients and an additional 40-50 patients were being assigned each month. As such, the practice is now systematically contacting all assigned patients that have yet to establish care and will be monitoring monthly enrollment reports that highlight newly assigned patients moving forward. During the project period, this process directly resulted in scheduling 40 new patient appointments. Additionally, review of quality data identified that the constituent of patients who utilized the health center for one time services were negatively impacting quality performance scores.

At baseline, all the pilot measures for the organization demonstrated significant opportunity for improvement. Following initiation of the process improvement to identify patients due for quality measures, it became evident that a large proportion of the unsatisfied measures for cervical cancer screening of women aged 21-29 was attributable to patients not utilizing the health center for primary care services – rather for one time services such as student health compliance. Since these patients were not expected to return to the health center after the initial encounter, the patient accounts were inactivated to resolve the inappropriate skewing of quality performance data. This provided the organization with data that one could confidently acknowledge as an accurate representation of the level of care being provided. Additionally, this data cleansing allowed staff to more efficiently identify patients truly due for services from the quality measure lists. Moving forward, to prevent skewing of quality improvement data, front office staff adopted a process to proactively inactivate accounts for these patients once the services are completed.

Outcome Measures

In concordance with the objectives of this scholarly project, two major outcomes were evaluated:

- Change in quality measure performance on breast cancer screening rates, cervical cancer screening rates, and tobacco cessation counseling rates

- Change in incentivized reimbursement revenue from the two primary payers for the health center

Measurable improvement in quality performance data from the EHR was demonstrated for all pilot measures (breast cancer screening, cervical cancer screening, and tobacco cessation counseling) following the two-month implementation period. See Appendix P for a graphical depiction of the changes in quality measures. Chi-square tests, using SPSS, were conducted to compare baseline and current quality measure performance data. Statistically significant improvement was evident for quality performance scores on cervical cancer screening rates among patients aged 21-29 (+44%, p<.001) and 30-64 (+24%, p = .000) and breast cancer screening rates (+27%, p = .021). Quality performance scores on tobacco cessation counseling improved 9%, but failed to achieve statistical significance (p = .237). Appendix Q provides a collated overview of the descriptive statistics for the pilot quality measures. Unfortunately, the impact of continuous QI on incentivized reimbursement revenue was not actualized during the project period.

Several unanticipated factors contributed to difficulties measuring the impact of continuous quality improvement on incentivized reimbursement revenue. With the project period scheduled around the start of a new year, the initial baseline data from the January 2018 report was unexpectedly indicative of 2017 year-end data. Additionally, an unforeseen gap in reporting

from the payers in February interrupted opportunity analysis and limited the capacity to optimize

systematic improvements to increase revenue from the incentive programs. Ultimately,

meaningful baseline data was not accessible until the end of this project period, March 2018.

Review of this report also demonstrated unanticipated changes to the incentivized measures

themselves.

During the project period, tobacco cessation counseling was completely removed as an

incentivized measure and the incentivized reimbursement bonus for cervical cancer screening

was decreased from $25 to $15 for one payer. Additionally, towards the end of each year most

practices work to reach the incentivized reimbursement benchmarks by requesting non-adherent

patients be reassigned to another practice. As such, a large number (153) of patients with

unsatisfied measures for one of the target payers were reassigned to this nurse managed health

center in January. Since these patients were not established with the health center, this led to an

appreciable reduction in quality measure scores with no opportunity to intentionally address

these gaps in care until the March 2018 report was made available.

Implications for Practice

The successful adoption of continuous quality improvement (QI), by emphasizing

structure, process, and outcomes, has several implications for this nurse-managed primary care

center. First and foremost, continuous QI stands to improve the quality of care delivered to

patients. Encompassing systematic population health management and care coordination efforts,

this project utilized a focused approach to addressing the ubiquitous HEDIS measures for quality

care. Improving follow-up care coordination and improving the rates of new patient

appointments helps to mitigate organizational concerns about productivity. The relative increase

in encounters from systematic patient outreach, for new and established patients, was regarded as

a significant step towards improved productivity. Additionally, the meaningful increase in new patient appointments being scheduled contributed to a favorable return on investment for the implementation period (See Appendix R). Another notable implication for this initiative is the cultural shift observed during the project period.

A prospective evaluation of this health center identified the preexisting culture as a significant impediment to establishing continuous QI. This organization has historically perceived change as a tumultuous process that was seldom individualized for the staff and patient population. Subsequently the proposed changes rarely made a significant impact and process improvements failed to be maintained long after the implementation period. Over time, this created apprehension among staff about change, particularly when facilitating personnel failed to solicit their input during the development period. By engaging staff and assigning value to their input, staff can now appreciate the impact of change that considers all the interrelated components. Successfully undergoing change is a major accomplishment for this organization that can't necessarily be quantified, but will undeniably have lasting implications. This realization became evident during the project period when staff took initiative and independently designed a process improvement to help support continuous QI.

Prior to implementation, staffing limitations were an identified structural barrier, but perceived to not be directly amenable to resolution given the time and resource constraints of the project. The success of continuous QI at this nurse-managed health center was contingent upon work of the clinical support staff – namely identifying patients due for quality measures by reviewing patient care technology reports. Initially it was assumed that the clinical support staff, two registered nurses, did not have the capacity to assume additional work and requesting that the providers review quality measure lists did not seem practical or fiscally responsible.

Eventually the providers and clinical support staff independently conceived a process to review quality reports during down time (e.g. between patient appointments, appointment no-shows and cancellations). This proved to be more than enough time to accomplish the work. The implementation of continuous QI also put in motion the prerequisite work of restructuring care delivery to align with ongoing alternative payment models.

At the onset of the implementation process, staff were educated about changes in the external environment that necessitated a paradigm shift towards QI activities in concordance with value-based reimbursement. Beginning the work of aligning with value-based care now, before it becomes the expectation rather than an incentive, allows the organization to methodically implement the structure and processes required to support comprehensive quality care. With consideration to the primary goals of the organizations, this scholarly project aligned efforts of continuous quality improvement with criteria for PCMH recognition. The adopted process improvements during the project period comply with six previously unsatisfied criteria for PCMH recognition from NCQA (See Appendix R). Furthermore, with QI regarded as a fundamental component to comprehensive quality care, the structure and process improvements during this project period will inevitably foster other transformative work along the PCMH journey (Safety Net Medical Home Initiative, 2013). The capacity to accurately evaluate compliance with quality care measures was another significant implication for this nurse-managed health center.

The process for data cleansing is also a notable improvement actualized during this scholarly project. Although data cleansing in itself is not directly improving patient outcomes, it has provided the organization with meaningful data that can be used to systematically drive quality care processes poised to improve organizational performance and patient outcomes. It is

envisioned that meaningful quality performance data enables leadership at the health center to

objectively identify opportunities for process improvement and measure the relative impact.

Although an increase in incentivized reimbursement was not actualized during this project period

due to extraneous variables, the lessons learned from meaningful review of incentive reports are

still of significant value to the organization.

Although unexpected developments limited the anticipated increase in alternative

revenue, this scholarly project demonstrated the importance of quality improvement that

continuously identifies and responds to changes in the external environment. The organization

now has an explicit awareness of the incentive program timeline and the significance of

proactively identifying and preparing for changes from year-to-year. Through efforts to align

care delivery with the incentive programs, management staff has also developed a much stronger

partnership with representatives from the primary payers for this organization.

Implications for the Nursing Profession

Successful adoption of continuous QI in this nurse managed health center is a tremendous

testament to the added value of the DNP prepared nurse. Integrating the DNP perspective that

emphasizes the integration of nursing science with organizational leadership and informational

and analytical sciences, the project coordinator was well positioned to design, implement, and

evaluate this initiative. As a clinician with education and training to drive quality improvement,

the project coordinator utilized a systematic approach to translating evidence-based care into

practice. The diverse skillset of the DNP prepared nurse was integral to the necessary roles

assumed by the project coordinator throughout the implementation period. Most notably the

project coordinator was consulted on electronic health record redesign, standards of quality care,

data analysis, and strategies to improve the financial performance of the health center. In a

scholarly project aspiring to bring about a paradigm shift in the care delivery model of a nurse

managed health center, the DNP skillset proved to be the difference between successful adoption

and another soon to be abandoned initiative.

Sustainability

Staff buy-in as well as explicit efforts by the project coordinator to promote continued

adherence are notable testaments to the sustainability of this project. Throughout the project

period, staff members were engaged in the decision making for process improvements and

demonstrated a sense of ownership for the work at hand (e.g. developing self-directed process

improvements to ensure goals were met). Additionally, all tasks performed by the project

coordinator during the initial month of the implementation period were delegated and performed

without assistance by staff members within the organization. The roles of the assistant office

manager and office manager were intentionally structured to enable them to continue facilitating

quality improvement beyond the project period. A QI toolkit that explicitly defined the roles and

responsibilities for all process improvements was also provided to the organization. The ability

of this toolkit to support the sustainable adoption of QI activities was purposefully assessed

during the project period. The office manager was encouraged to independently audit and

analyze the performance reports required to support continuous QI. Utilizing only the toolkit to

support this endeavor, the office manager independently replicated the work and verified the

potential for the toolkit to facilitate the adoption of novel QI practices. This is just one of the

many successes that has created the foundation for continued adherence to this innovative

approach to QI.

With the early successes during the project period, staff are motivated to continue

improving care. The clinical staff communicated ownership and pride in "their scores" and

regularly communicated appreciation for the efficiencies devised during the project period. Additionally, at the final QI meeting, the project coordinator facilitated a guided discussion to develop a succession plan for continuous QI following the project period.

To optimize the sustainability of expanded QI at this nurse-managed primary care clinic, it is recommended that the successor to the embedded faculty position have dedicated time to facilitate clinical innovation. Effectively allowing the embedded faculty role to function as the clinical champion will provide the assistant office manager with the necessary clinical counterpart to drive continuous QI. Although the sustainability for continuous QI in its current state is high, several recommendations can be made to facilitate expansion of this initiative.

With this scholarly project largely emphasizing preventative care (e.g. breast and cervical cancer screening) it is pragmatic to begin expansion efforts with additional preventative care measures (e.g. colorectal cancer screening, chlamydia screening). This will ensure that the next measures of focus are amenable to improvement through the roles and responsibilities established during this project period. In the absence of the project coordinator, fostering the greatest potential for early successes will be essential to the sustainability of a robust QI program. Furthermore, in an ideal state the addition of a medical assistant to the care team would allow the registered nurses to engage in more complex care processes that align with incentivized measures beyond the scope of this project (e.g. care management, diabetes management, transitions of care).

Limitations

Although the benefits of this scholastic endeavor are believed to far outweigh the limitations, there are certainly drawbacks that merit discussion. With a small number of participants in the pre- and post-survey, generalizability for the findings is not possible within

this project. Additionally, with the data cleansing occurring after implementation, the impact of

the continuous quality improvement (QI) processes on actual delivery of care becomes

convoluted, particularly for the cervical cancer screening rates of women 21-29 years old. This

should not detract from the successes of the project as staff members communicated that the

processes were routinely translating to improved delivery of care and the cleansing of data in

itself is a significant process that needed to take place. Additionally, the expertise of the project

coordinator may be difficult to consistently replicate in other care settings that have limited to no

preexisting structure for QI. The measures included in this QI project were admittedly more

amenable to less complex process improvements. Although this design was intentional as to

facilitate early successes and staff buy-in, expanding to other quality measures may prove to be

more challenging for the organization. Furthermore, with the continued vacancy of the embedded

faculty position and no QI champion in the clinical arena, there is concern for expanding this

initiative to additional quality measures with the current staffing constraints.

<p style="text-align:center;">**Reflection on Enactment of DNP Essentials**</p>

The DNP Essentials highlight the fundamental competencies that are required of all

advanced nurse practitioner roles (American Association of College of Nurses [AACN], 2006).

These Essentials are integrated throughout the scholastic journey of a DNP student, and define

the unique contributions of advanced nurse practitioners. In addition to guided education in the

DNP curriculum, the scholarly project work provides the necessary opportunity for a student to

enact the DNP Essentials.

DNP Essential I: Scientific Underpinnings for Practice

The scientific underpinnings for the DNP program provide advanced practice registered

nurses with the education and training to integrate nursing science with a multitude of other

disciplines (AACN, 2006). Essential I emphasizes this robust knowledge base that provides DNP

graduate with the capacity to translate empirical evidence into clinical practice. During this

scholarly project, Essential I was enacted during the gap analysis. The PCMH model was utilized

to identify opportunities for transforming the care delivery model within the organization.

Through this process a new approach to QI was developed and evaluated using current

knowledge in the literature.

DNP Essential II: Organization and Systems Leadership for Quality Improvement

Essential II emphasizes organization and systems leadership as fundamental components

to the DNP skillset (AACN, 2006). The care provided by DNP graduates is intended to extend

beyond that of direct patient care and include leading change at the systems level. Essential II

was enacted by the project coordinator during the planning phase of this scholarly project. The

proposed QI work was conceived out of an organizational assessment and intentionally aligned

with the organizational missions and goals to optimize the adoption of the practice

improvements. Furthermore, the project coordinator used advanced communication skills to lead

the development of a continuous quality improvement process and engage all staff members

during the planning and implementation periods.

DNP Essential III: Clinical Scholarship and Analytical Methods for Evidence-based
practice

Essential III highlights the importance of scholarly nursing practice and incorporating

analytical methods for evidence-based practice (AACN, 2006). Scholarship and research are

considered fundamental components of doctoral education, but DNP students and graduates are

challenging the traditional scholarship paradigm in academia. This evolving conceptualization of

scholarship in doctoral education, particularly evident in practice disciplines, has begun to

recognize the implications of knowledge application and integration (Boyer, 1990). During this

scholarly project, Essential III was enacted early on while conducting a comprehensive literature

review and critically appraising the current state of knowledge available for integration into

practice. Current evidence was then used to design and implement quality improvement

processes in the context of the nurse-managed health center.

DNP Essential IV: Information Systems/Technology and Patient Care Technology for the

Improvement and Transformation of Health Care

Essential IV emphasizes the capacity of DNP prepared nurses to use information systems

and technology to improve patient care (AACN, 2006). For this scholarly project, extracting data

from the EHR was integral during the design and evaluation periods. The EHR was utilized to

analyze population health data and identify care processes amenable to improvement. The

available patient care technology was also optimized to facilitate staff adherence to the process

improvements. Additionally, competency in information systems/technology enabled the project

coordinator to integrate order sets and text macros into the patient care technology to support

quality care measures and incentivized reimbursement revenue.

DNP Essential V: Health Care Policy for Advocacy in Health Care

Essential V communicates the importance of expertise in health care policy and advocacy

for the DNP prepared nurse (AACN, 2006). Although, policy in the legislative arena is poised to

bring about change of significant magnitude, influencing organizational policy for a healthcare

system can also confer to improved care for its constituents. This scholarly project provided the

coordinator the opportunity to develop and implement a QI process, inclusive of formal

meetings, that shaped organizational policy. The project coordinator regularly worked with key

stakeholders to ensure that proposed policies aligned with the organizational goal of providing

high quality patient care. Furthermore, national trends in reimbursement policy were analyzed and integrated into the development of this scholarly project.

DNP Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes

Essential VI identifies interprofessional collaboration as a core component to addressing the complex needs within the healthcare environment (AACN, 2006). DNP prepared nurses have the skillset to establish and lead the diverse group of professionals required to improve patient and population health outcomes. This scholarly project was predicated upon system wide change and required collaboration with all staff members. Invaluable consultations with the office manager, biller, providers, and nursing staff contributed to the development of this quality improvement process. These collaborative efforts were intentionally designed, and led, by the project coordinator to optimize adoption and sustainability of the process improvements. Additionally, meetings with university administrative personnel allowed for collaborative discussions about project design that accounts for organizational structure.

DNP Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health

Essential VII underlines the importance of clinical prevention and population health to improving the Nation's health (AACN, 2006). This scholarly project emphasized quality improvement focusing on preventative care guidelines and tobacco cessation counseling. These evidence-based measures of health promotion were systematically identified based upon the population health needs of the practice. Additionally, consideration to the social determinants of health for this population helped shape the process improvements for this project.

DNP Essential VIII: Advanced Nursing Practice

Essential VIII emphasizes the advanced level of systems thinking and capacity to design, implement, and evaluate evidence-based care delivery models to improve patient outcomes (AACN, 2006). Utilizing the advanced nursing practice lens informed the prerequisite work of analyzing the structure, process, and outcomes to develop and implement a process for continuous QI. Understanding the role of the clinician in patient care delivery allowed the project coordinator to devise process improvements in a way that limited the burden of change. Additionally, enacting the role of the advance practice registered nurse encouraged the project coordinator to facilitate complex organizational change through individualized education and support.

<div align="center">**Plan for Dissemination of Outcomes**</div>

The impact on organizational performance as measured by HEDIS metrics and incentivized reimbursement was presented to staff and leadership personnel at all three of the QI meetings throughout the implementation period. The toolkit for a QI strategy was be disseminated to the Associate Dean for Practice, clinical staff, and office manager within the organization. Similarly, the outcomes were disseminated through a poster presentation to colleagues in the Doctor of Nursing Practice (DNP) program. The outcomes will also be disseminated to the project committee as part of the scholarship requirements for this initiative. Dissemination efforts were also expanded to a broader audience through ScholarWorks.

<div align="center">**Conclusion**</div>

In conclusion, this scholarly project demonstrated the capacity to impact quality performance measures and staff perceptions of organizational approach to quality improvement by utilizing an evidence-based approach to project design and implementation. The

transformative work of redesigning care delivery is inherently complex and often predicated

upon the preexisting structural characteristics of the organization. As such, establishing a culture

of team-based QI, that emphasizes relevant process improvements, is perhaps one of the most

notable accomplishments actualized from this scholarly project. Furthermore, explicit role

delineation to foster sustainability demonstrated promise for continued adherence to continuous

quality improvement at this nurse-managed health center. With continued adherence to the

process improvements, there is significant potential for this work to translate into alternative

revenue through incentivized reimbursement programs. At a fundamental level, guiding this

organization through a successful complex change endeavor will invariably have lasting

implications as they continue along the PCMH journey. Harnessing the current motivation

among staff and continuing to build upon the accomplishments of this scholarly project will be

essential to the continued growth and success of this nurse-managed health center.

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Appendix A

PCMH (QI) Gap Analysis

Competency A: The practice measures to understand current performance and to identify opportunities for improvement	
Criteria	**Gap Analysis**

QI1 (Core):
Monitor at least five clinical quality measures across the four categories (Must monitor at least 1 measure of each type)
    a. Immunization measures
    b. Other preventative care measures
    c. Chronic or acute care clinical measures
    d. Behavioral health measures
	Not satisfied
	No documented process for identified QI measures in each respective category

QI2 (Core):
Monitors at least two measures of resource stewardship (at least 1 from each category)
    a. Measures related to care coordination
    b. Measures affecting health care costs
	Not satisfied
	Although consideration is surely being given to resource stewardship, no evidence or documentation of ongoing monitoring for explicit measures is evident

QI3 (Core): Assess performance on availability of major appointment types to meet patient needs and preferences for access	Not satisfied No documented process
QI4 (Core): Monitors patient experience through a. Quantitative data: the practice conducts a survey (using any instrument) to evaluate patient/family/caregiver experience across at least three dimensions such as: access, communication, coordination, and whole person care, self-management support and comprehensiveness *b.* Qualitative data: the practice obtains feedback from patients/families/caregivers through qualitative means	Not satisfied a. No evidence of quantitative data survey in practice or documented in policy b. Policy manual details policy of patient satisfaction reviews that are completed annually during Feb/March. This is not regularly enacted
QI5 (1 Credit): Assess health disparities using performance data stratified for vulnerable populations (at least one from each section) a. Clinical quality	Not satisfied No documented process for performance data stratified for vulnerable subsets

b. Patient experience	
QI6 (1 Credit): The practice uses a standardized, validated patient experience survey tool with benchmarking data available	Not satisfied No documented process
QI7 (2 Credits): The practice obtains feedback on experiences of vulnerable patient groups	Not satisfied No documented process
Competency B: The practice evaluates its performance against goals or benchmarks and uses the results to prioritize and implement improvement strategies	
QI8 (Core): Sets goals and acts to improve upon at least three measures across at least three of the four categories. a. Immunization measures b. Other preventative care measures c. Chronic or acute care clinical measures *d.* Behavioral health measures	Not satisfied No documented evidence of measures being monitored.
QI9 (Core) Sets goals and acts to improve upon at least one measure of resource stewardship a. Measures related to care coordination *b.* Measures affecting health care costs	Not satisfied No documented evidence of measures being monitored.
QI10 (Core): Sets goals and acts to improve on availability of major appointment types to meet patient needs and preference	Not satisfied No documented process
QI11 (Core): Sets goals and acts to improve on at least one patient experience measure	Not satisfied No documented process
QI12 (2 Credits): Achieves improved performance on at least 2 performance measures	Not satisfied No documented process
QI13 (1 Credit): Sets goals and acts to improve disparities in care or service on at least 1 measure	Not satisfied No documented process

|	
QI14 (2 Credits): Achieves improved performance on at least 1 measure of disparities in care or service	Not satisfied No documented process
Competency C: The practice is accountable for performance. The practice shares performance data with the practice, patients and/or publicly for the measures and patient populations identified in the previous sections	
QI15 (Core): Reports practice-level or individual clinician performance results within the practice for measures reported by the practice	Not satisfied
QI16 (1 Credit): Reports practice-level or individual clinician performance results publicly or with patients for measures reported by the practice	Not satisfied
QI17 (2 Credits): Involves patient/family/caregiver in quality improvement activities	Not satisfied No documented process
QI18 (2 Credit): Reports clinical quality measures to Medicare or Medicaid agency	Satisfied Athena submits clinical quality measures to Medicare or Medicaid, as required for Meaningful Use, on behalf of providers.

QI19 (Max 2 Credits):
The practice is engaged in Value-Based Contract Agreement
    a. Practice engages in upside risk contract (1 credit)
    b. Practice engages in two-sided risk contract (2 credits)
	Not Satisfied

Appendix B

The Donabedian Model
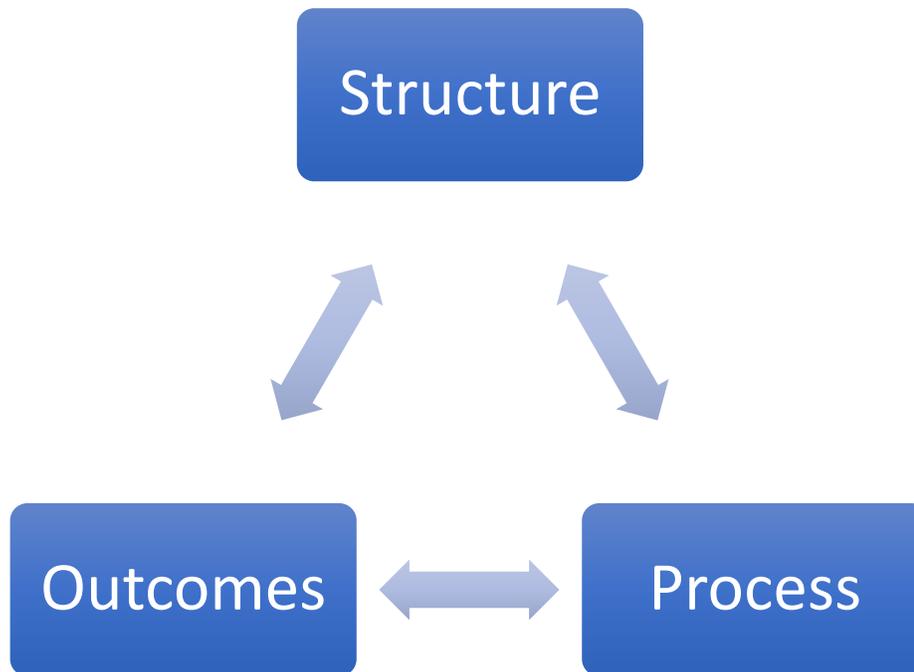
The Donabedian Model for Quality Improvement. Adapted from "The quality of care: How can it be assessed?," by A. Donabedian, 1988, *Journal of American Medicine,* 260(12), p. 1743-1748. Copyright 1988 by American Medical Association.

Appendix C

Baseline Quality Performance Report
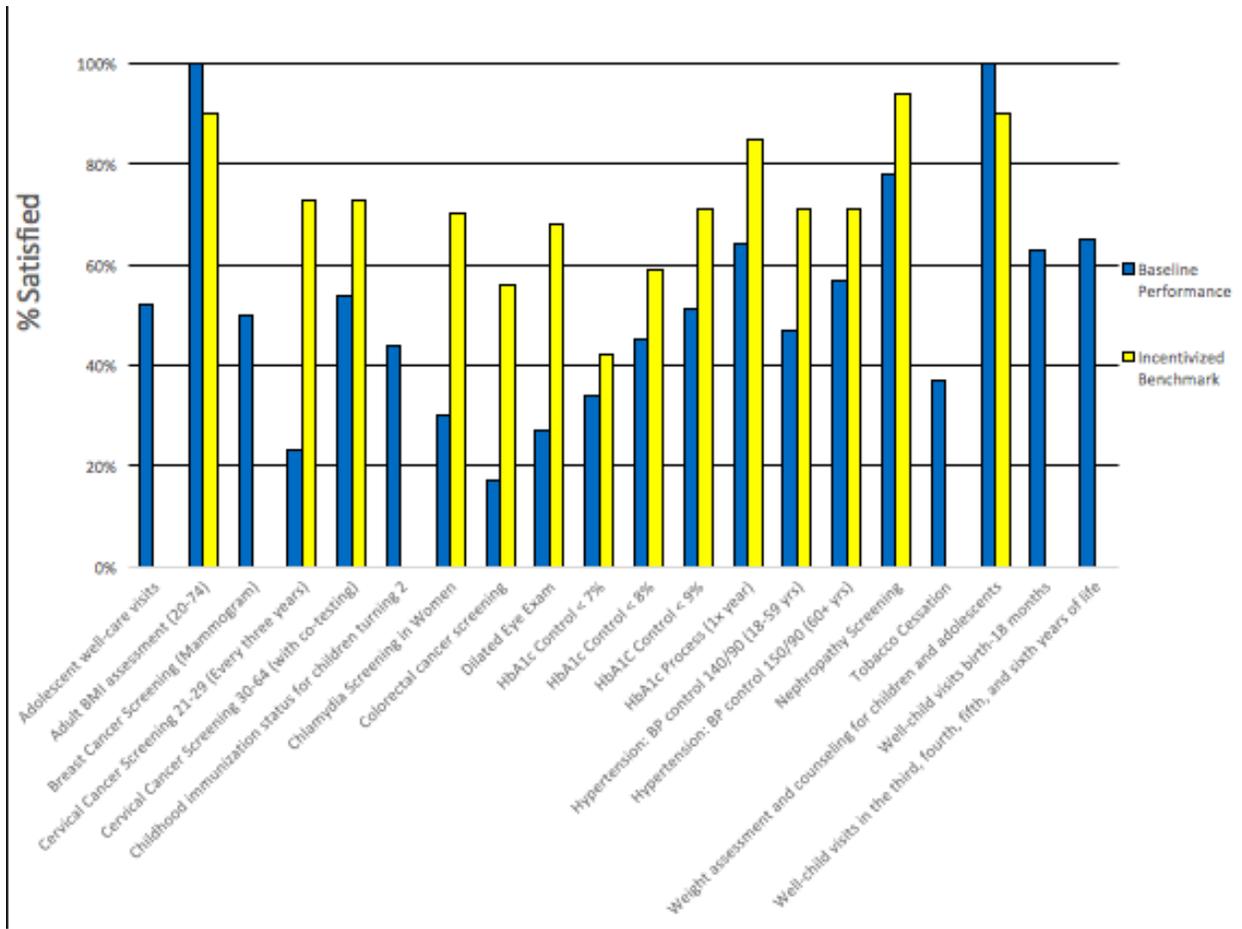
Note. The incentivized benchmark, if available, was adopted from one of the primary payers for the health center.

Appendix D

The PARiHS Framework
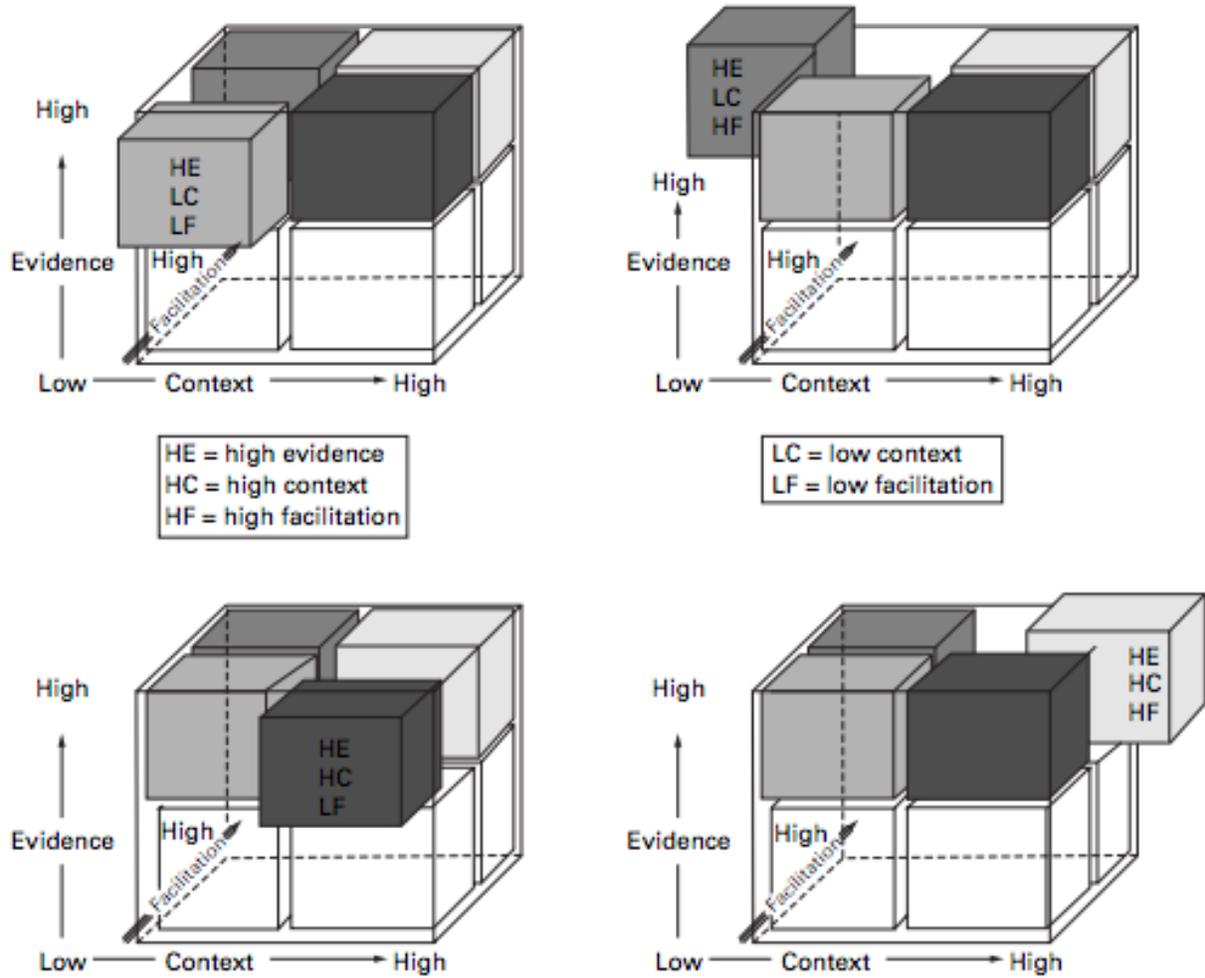
The PARiHS Framework. Reprinted from "Enabling the implementation of evidence based practice: a conceptual framework," by A. Kitson, G. Harvey, & B. McCormack, 1998, *Quality in Health Care: QHC, 7*, p. 149-158. Copyright 1998 by Quality in Health Care.

Appendix E

The Burke-Litwin Model of Organizational Performance and Change
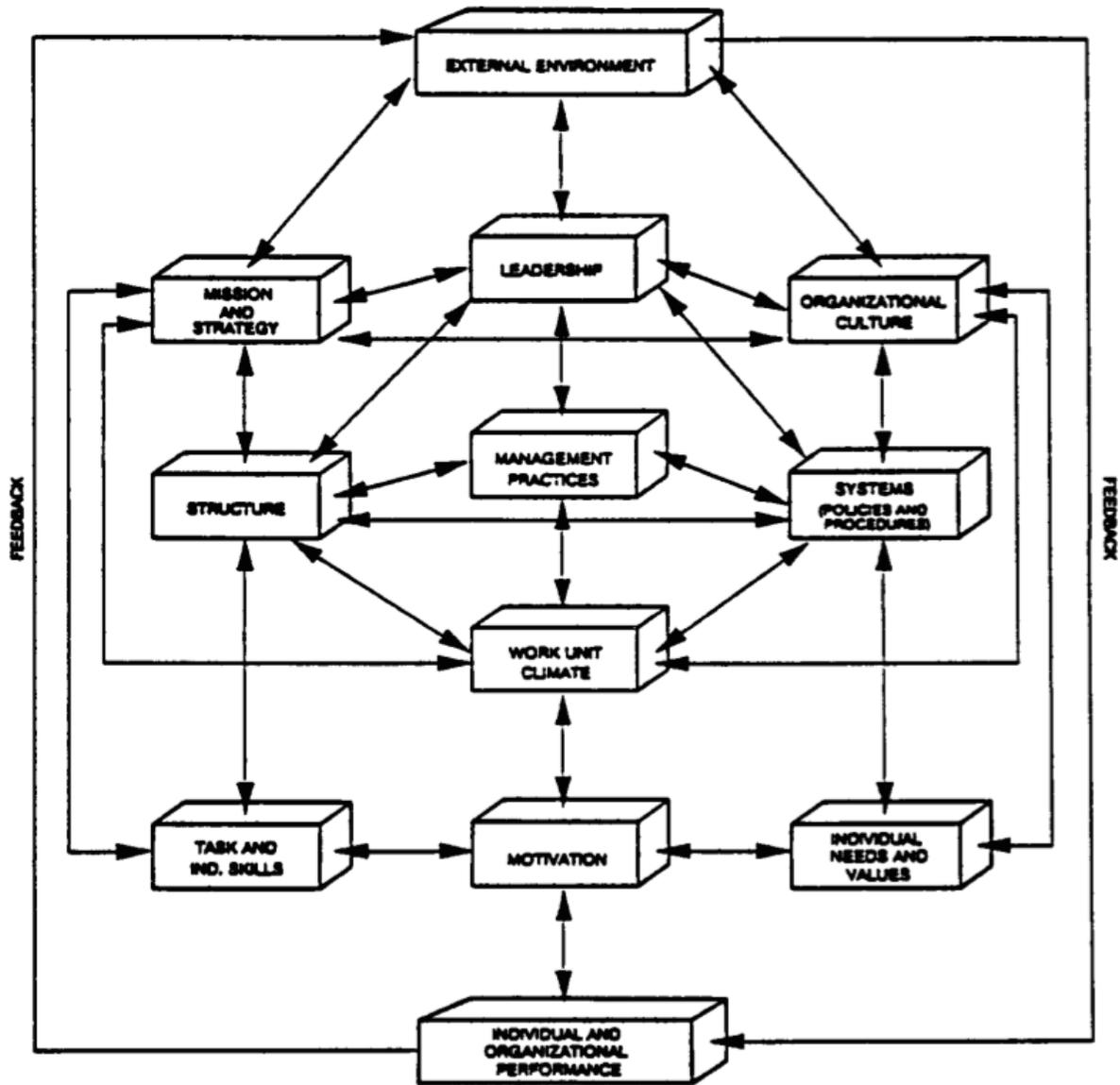
The Burke-Litwin Model of Organizational Performance and Change. Reprinted from "A causal model of organizational performance and change," W. W. Burke & G. H. Litwin, 1992, *Journal of Management, 18(3),* p. 523-545. Copyright 1992 by the Southern Management Association.

Appendix F

Quality Improvement Meeting Budget for Implementation Period

Position	Hourly Wage	Dedicated Time at Three QI Meetings	Total Cost
Registered Nurse x2	$28.00	3 hours	$168.00
Nurse Practitioner x2	$51.36	3 hours	$308.16
Office Manager x1	$22.29	3 hours	$66.87
Front Office Coordinator x1	$22.29	3 hours	$66.87
Grand Total			$609.90

Appendix G

Project Outline

Obtaining University Human Research Committee for IRB approval under the exempt status for quality improvement work on December, 2, 2017.

⬇

Disseminating plan for proposed initiative to gain approval from key stakeholders to implement by December 12, 2017.

⬇

Collating and reviewing baseline performance data for HEDIS measures and incentivized reimbursements with staff by January 14, 2018.

⬇

Establishing meaning for the initiative by reviewing the landscape of payment reform and opportunity for incentivized reimbursement with staff by January 14, 2018.

⬇

Engaging staff to identify quality measures of focus for supportive activities during implementation period by January 14, 2018.

⬇

Providing dedicated time for QI activities by scheduling three QI meetings by January 14, 2018.

⬇

Engaging staff to collaboratively develop process improvements to support continuous QI work at first formal QI meeting by January 14, 2018.

⬇

Driving change with data by developing and introducing a QI dashboard to the health center by January 14, 2018.

⬇

Implementing patient care technology efficiencies to support quality measure satisfaction and incentivized reimbursements by January 14, 2018.

⬇

Defining and communicating staff roles and responsibilities to improve HEDIS measures and incentivized reimbursements by January 14, 2018.

⬇

Collating and presenting updated HEDIS measures and incentivized reimbursements reports to staff at the second and third QI meeting by March 14, 2018.

⬇

Evaluating staff perceptions of organizational QI strategy with a pre- and post-implementation survey by March 14, 2018

⬇

Delivering a toolkit to support continuous QI at the nurse-managed health center by March 14, 2018.

Appendix H

Quality Improvement Dashboard

Quality Improvement Dashboard

Incentivized Reimbursement Payer	.	Dec 2017	Jan 2018	Feb 2018	Mar 2018
Priority Health Bonus Paid (YTD)		$3,411	$4,951	n/a	
Priority Health Available Opportunity		$27,197	$24,787	n/a	
Meridian Health Bonus Paid (YTD)		$10,375	$9,000	$9,000	
Meridian Health Available Opportunity		$11,785	$10,270	$10,275	
HEDIS Measure (% Satisfied per Athena Report)	**Goal**	**Dec 2017**	**Jan 2018**	**Feb 2018**	**Mar 2018**
Breast Cancer Screening	70%	49%	50%	63%	67%
Cervical Cancer Screening 21-29	73%	23%	23%	68%	67%
Cervical Cancer Screening 30-64	73%	55%	54%	76%	78%
Tobacco Cessation	60%	37%	37%	43%	46%

Appendix I

PCMH Readiness Assessment – QI Strategy

Items	Level D	Level C	Level B	Level A
5. 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.
	1 2 3	4 5 6	7 8 9	10 11 12
6. 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.
	1 2 3	4 5 6	7 8 9	10 11 12
7. 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.
	1 2 3	4 5 6	7 8 9	10 11 12
8. An Electronic Health Record that supports Meaningful Use	...is not present or is 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.
	1 2 3	4 5 6	7 8 9	10 11 12

PCMH Readiness Assessment Survey. Reprinted from *The Patient-Centered Medical Home Assessment Version 4.0* by Safety Net Medical Home Initiative, 2014, Retrieved from http://www.safetynetmedicalhome.org/sites/default/files/PCMH-A.pdf. Copyright 2014 by The MacColl Center for Health Care Innovation at Group Health Research Institute and Qualis Health.

Appendix J
Implemented Patient Care Technology Efficiencies

Quality Measure	Corresponding Patient Care Technology Improvement
Cervical Cancer Screening	Cervical cancer order set prompting diagnosis and lab code for age based screening protocol consistent with ACOG guidelines. Updated gynecological history template to provide consistent field for documenting cervical cancer screening history
Breast Cancer Screening	Screening mammogram order set for commonly used imaging facilities with verified fax numbers and an automatic alarm prompting follow-up if no results are available after 4 weeks. Updated gynecological history template to provide consistent field for documenting breast cancer screening history
Tobacco Cessation Counseling	Tobacco cessation counseling order sets based upon time spent counseling that generates diagnosis code, printable patient information handout, and corresponding billing code to facilitate reimbursement. Includes a text macro (".smoking") that prompts a documentation template to facilitate the counseling process and satisfy billing requirements.

Appendix K

Results from PCMH Assessment Survey
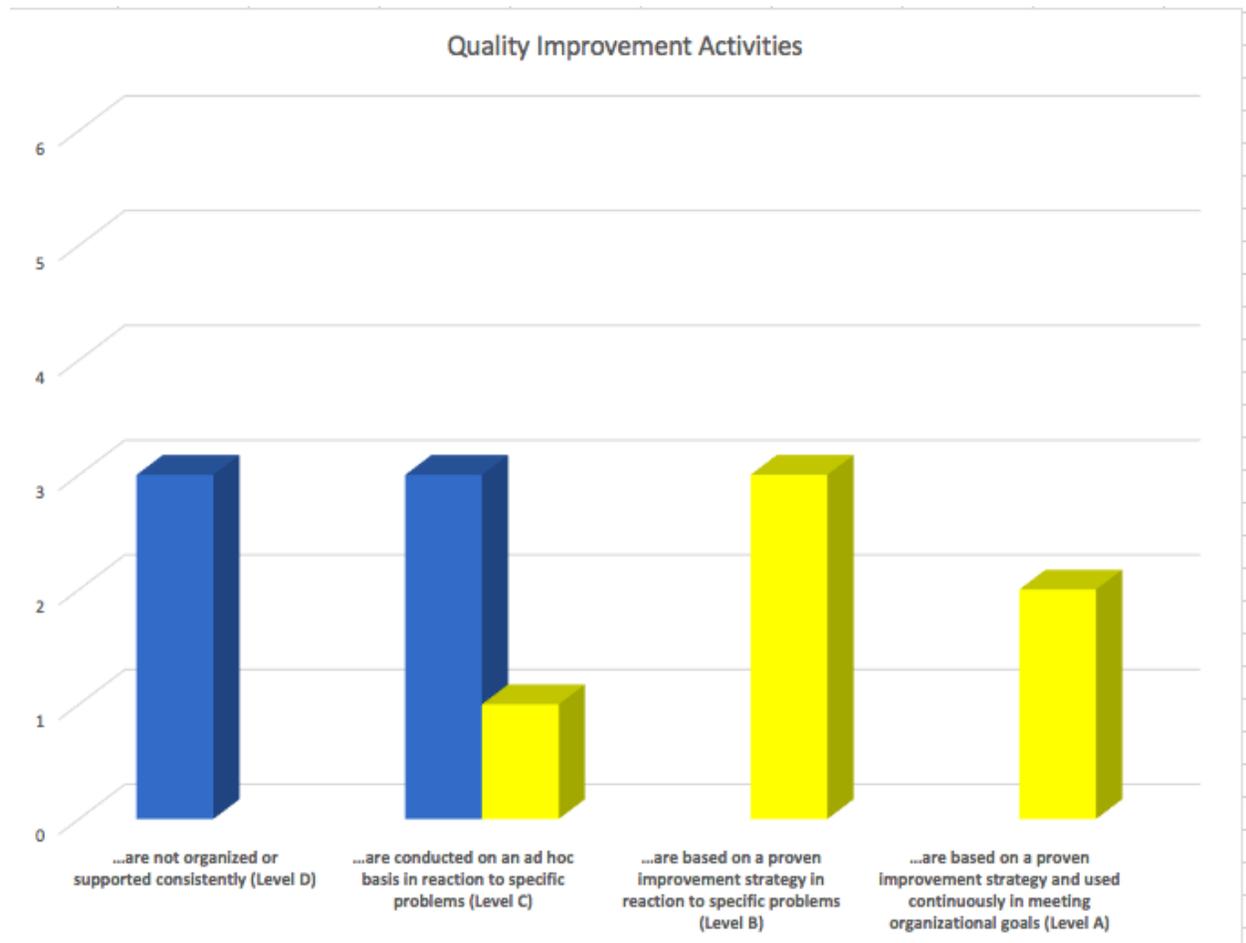
Figure K1. Distribution of results from Patient Centered Medical Home assessment survey by developmental category on quality improvement activities at baseline (January 2018) and current (March 2018).
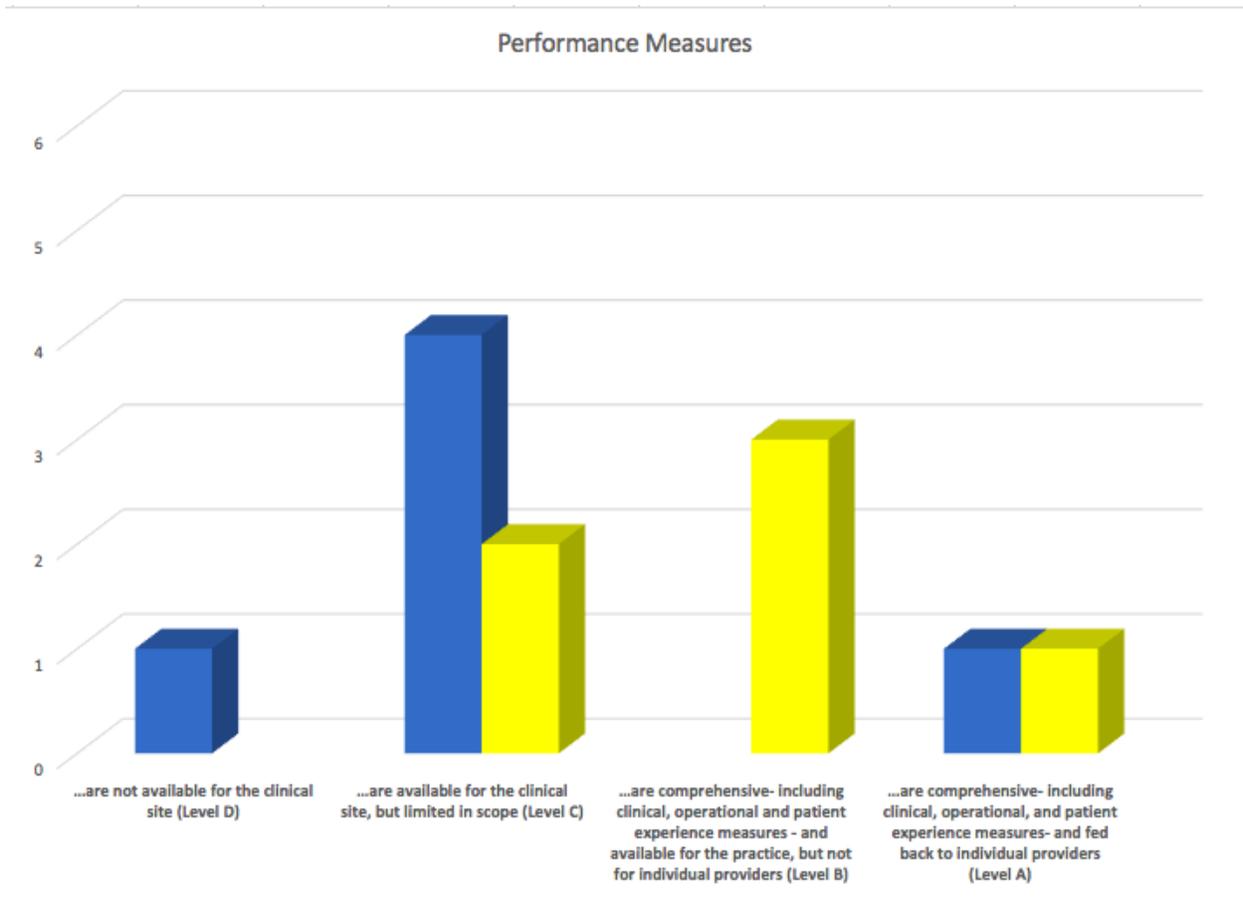
Figure K2. Distribution of results from Patient Centered Medical Home assessment survey on performance measures at baseline (January 2018) and current (March 2018).
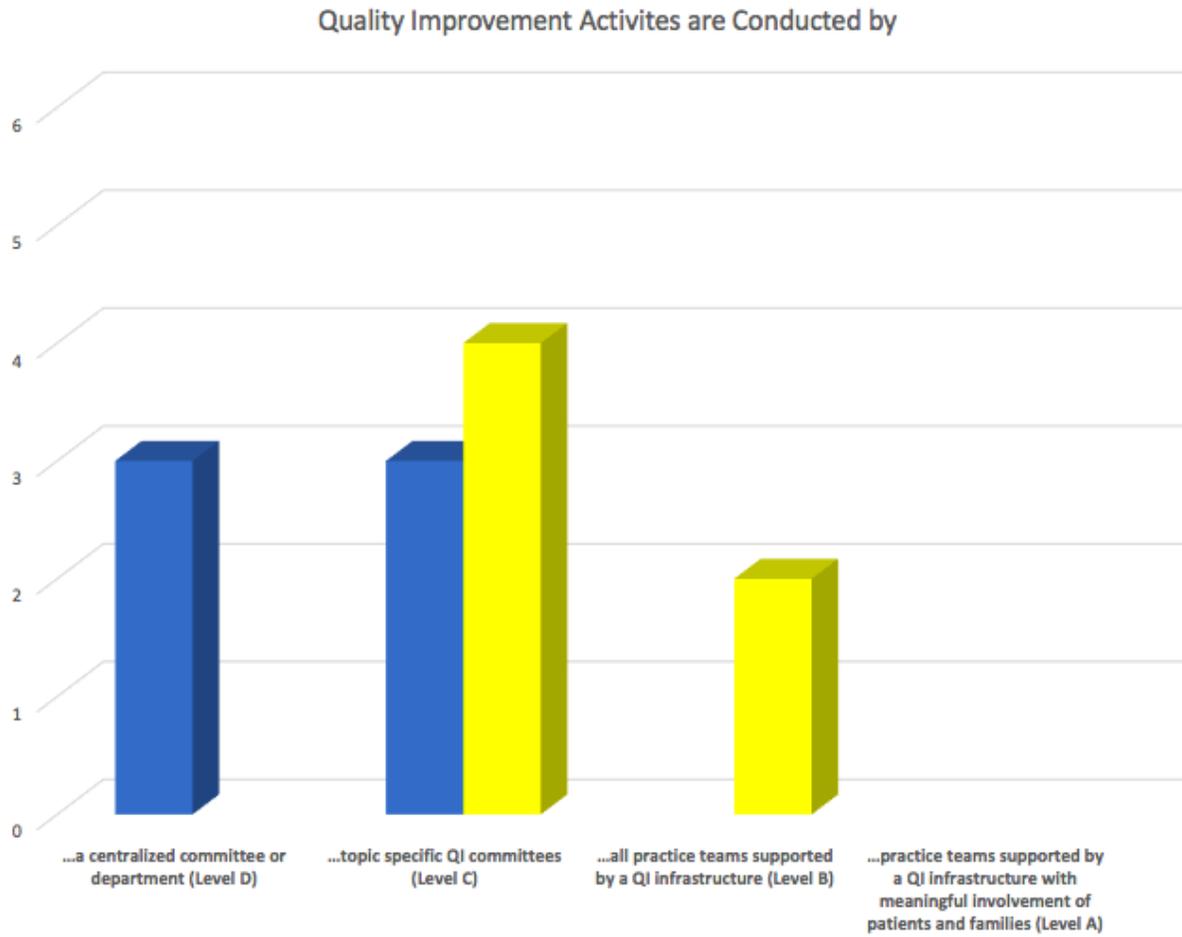
Figure K3. Distribution of results from Patient Centered Medical Home assessment survey on who conducts quality improvement activities at baseline (January 2018) and current (March 2018).

An Electronic Health Record That Supports Meaningful Use
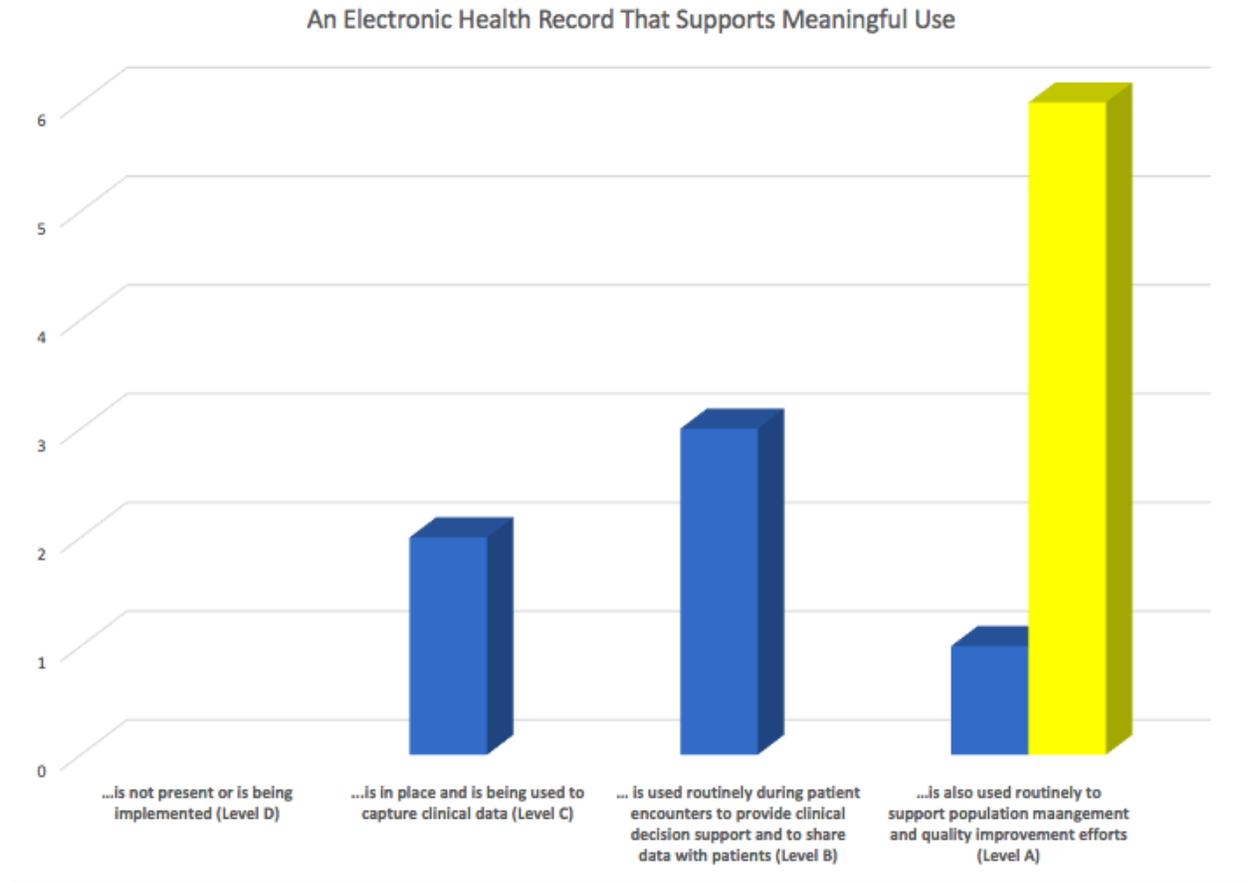
Figure K4. Distribution of results from Patient Centered Medical Home assessment survey on electronic health record utilization to support quality improvement at baseline (January 2018) and current (March 2018).

Appendix L

Aggregate Results for PCMH Assessment Survey on Quality Improvement

Survey Item	Baseline Average Numerical Response with Corresponding Developmental Level	Current Average Numerical Response with Corresponding Developmental Level
Quality improvement activities	3.5 - Level C … are conducted on an ad hoc basis in reaction to specific problems	9.0 - Level B … are based on a proven improvement strategy in reaction to specific problems
Performance measures	6.2 - Level C … are available for the clinical site, but are limited in scope	9.2 - Level B … are comprehensive, including clinical, operational and patient experience measures, and available for the practice, but not for individual providers
Quality improvement activities are conducted by	3.3 - Level D … a centralized committee or department	6.5 - Level C … topic specific QI committees
An electronic health record that supports Meaningful Use	7.7 - Level B … is used routinely during patient encounters to provide clinical decision support and to share data with patients	10.2 - Level A … is also used routinely to support population management and quality improvement efforts

Note. Level D, Level C, Level B, Level A: in ascending order from least comprehensive, and lowest degree of PCMH readiness, to most comprehensive, and highest degree of PCMH readiness.

Appendix M

Tobacco Cessation Counseling Order Set – Toolkit Guide

Select order set…
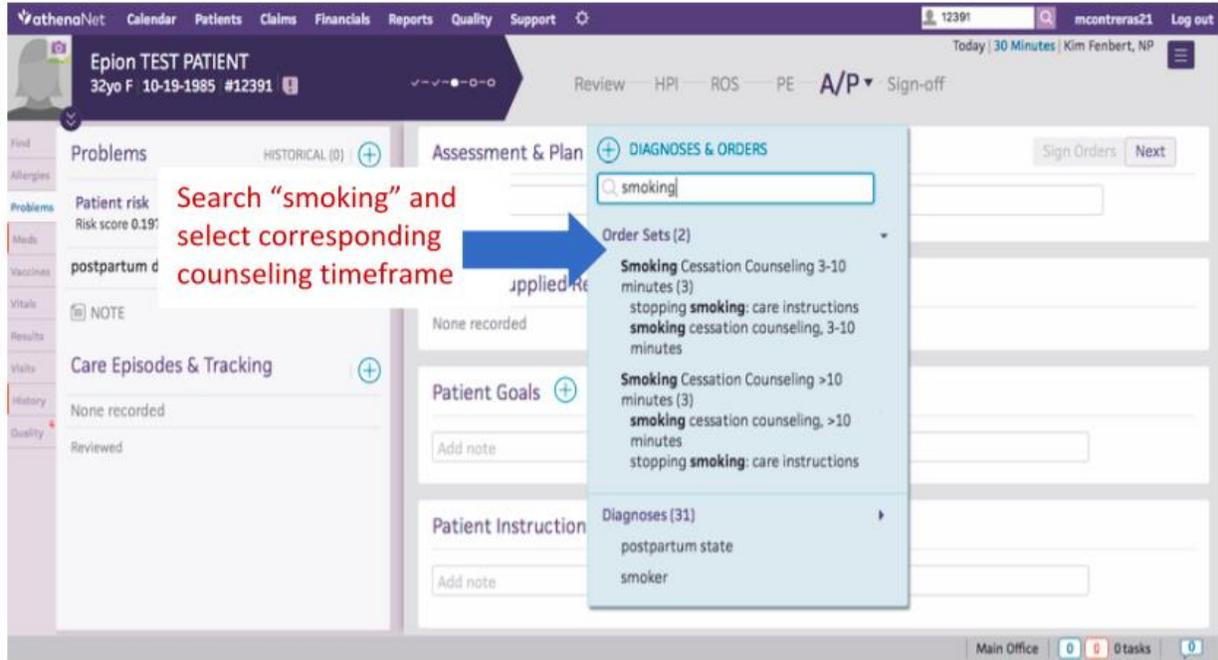
Assign as documentation only…
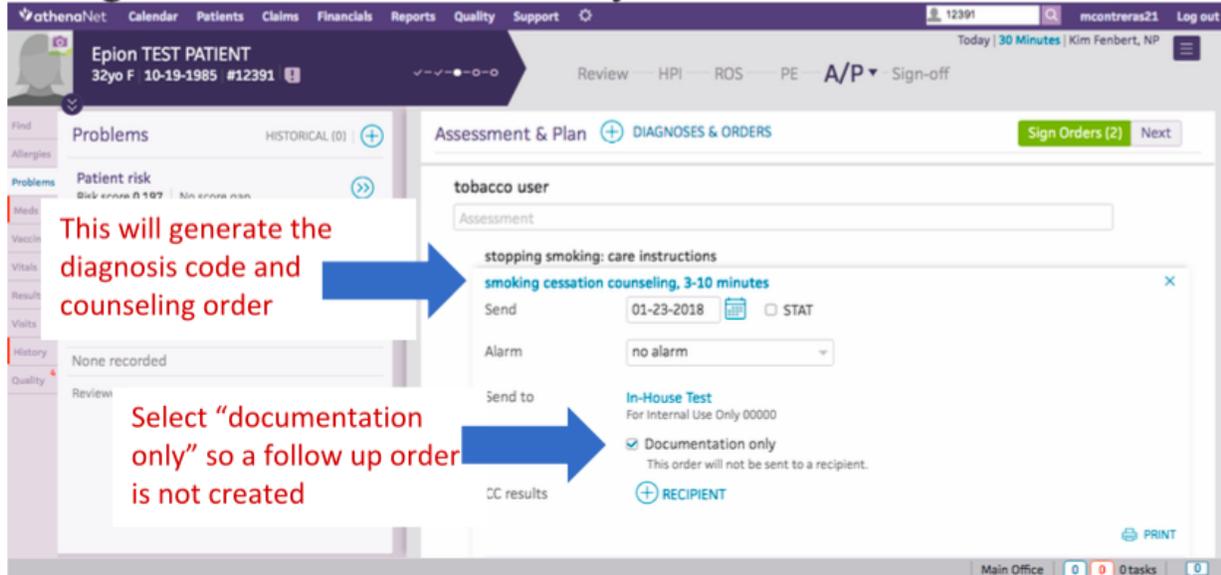
Use text macro in discussion note section…

Prompt text macro by typing **.**smoking in the discussion note section. (must start with a ".")
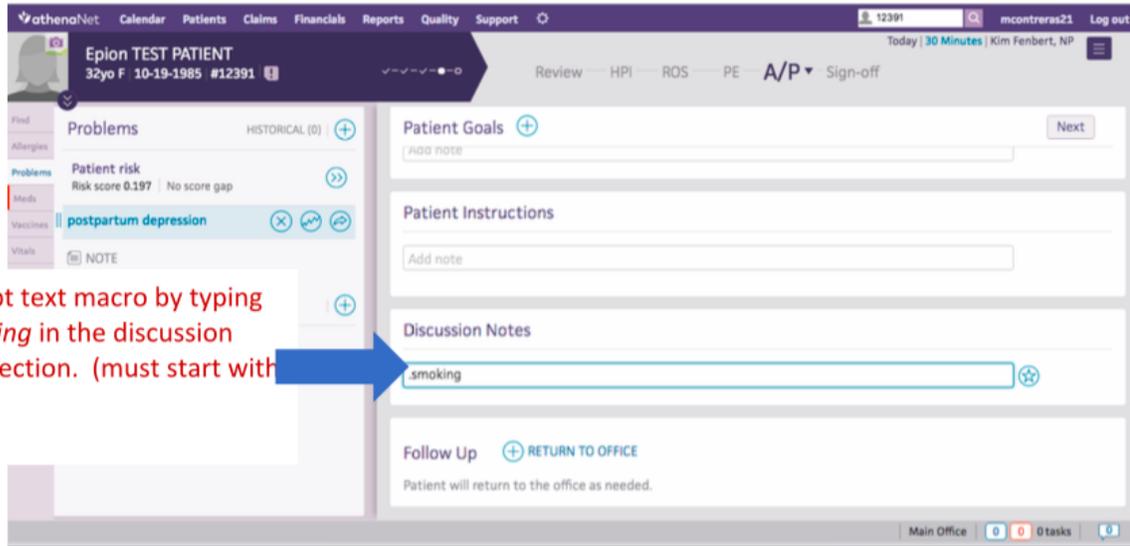
Complete discussion note template to satisfy documentation requirements for counseling

Review billing tab...

This order set will also generate the corresponding billable code based on time spent counseling (99406 vs 99407).

Appendix N

Quality Improvement Roles and Responsibilities – Toolkit Guide

Office Manager/Patient Services Manager

On the 1st of each month:

- Obtain enrollment lists from Meridian and update Meridian Health enrollment spread sheet on shared drive (Nursing-Data> FHC_OFFICE> Incentive Program> Meridian

- Obtain Incentivized reimbursement report from Meridian provider portal and update Quality Improvement Dashboard on shared drive (Nursing-Data> FHC_DATA> Quality Performance Reports)

On the 15th of each month:

- Obtain enrollment list from Priority Health – PIP 075, and update Priority health enrollment spread sheet on the shared drive (Nursing-Data> FHC_Office> Incentive Program> Meridian Health)

- Obtain incentivized reimbursement reports from Priority Health (PIP 015B) and update Quality Improvement Dashboard on shared drive (Nursing-Data> FHC_DATA> Quality Performance Reports).

- Update quality report folders on shared drive by downloading individual provider reports and collective organizational reports from Athena Quality Management reporting.
  - Individual provider reports should also be exported to Excel to create a list of patients with unsatisfied measures (See Guide to Quality Reporting on the shared drive).

- Updated Quality Improvement Dashboard with data from incentivized reimbursement reports and Athena quality management report

- Review incentive opportunity worksheets from Meridian and Priority (PIP 011A) unsatisfied measures on the 15th of each month. Consider opportunities for care transformation based upon performance scores.

Front Office Support Staff

As needed:

- Verify assigned PCP for all scheduled appointments. Update PCP with insurer if any provider outside of the GVSU FHC using the *PCP Change Form*

- Utilize patient enrollment spreadsheets on shared drive to contact non-established patients and newly assigned patients (Enrollment reports available the 1st of each month).

- Notify Priority Health by fax of patients that fail to respond to three separate outreach attempts or already have a PCP with the *Priority Health Patient Discharge Form* on the shared drive

- Notify Meridian account representative, Melissa Kuiper, by fax (313-202-0061) of patients that indicate they are seeing another PCP.

- Contact patients on unsatisfied measures list compiled by clinical staff. Create a patient case and alert note when contacting patients. Patients should be contacted at 1 week intervals with the 3rd outreach being a mailed letter if we have been unable to reach the patient.
  - The case can be closed when the patient is scheduled for an appointment to address QMs or if the outreach attempts are unsuccessful.
    - Copy the subject of the QM case into the scheduled appointment note
  - If the patient no-shows or cancels the QM appointment, the case should be reopened for documentation of additional outreach attempts.

- Monitor referral bin for mammogram orders not tied to results indicating the need for follow-up (default alarm is 4 weeks after order is submitted). For each unsatisfied order, contact the patient to coordinate scheduling of mammogram appointment. Outreach efforts should include at least three contact attempts separated by 1 week.

Registered Nurses

On the 15th of each month:

- Assist nurse practitioners in reviewing quality management reports.

- Assist nurse practitioners to update quality management data in Athena (e.g. GYN history) based upon review of Athena quality management list

- Assist nurse practitioners to compile a list of patients with unsatisfied measures that need to be contacted for an appointment or marked inactive within Athena. Provide this list to the front desk.

Nurse Practitioners

As needed:

- Utilize tobacco cessation template within Athena

- Utilize cervical cancer screening order sets for Quest within Athena (e.g. Pap smear age based screening protocol, Pap smear reflex HPV E6/E7)

- Utilize mammogram order sets

On the 15th of each month

- Review Athena quality management report, generated by front office, for unsatisfied measures.

  o Update unsatisfied measures if data exists in the chart (e.g. GYN history with last mammogram and pap smear date),

- o   Add alert notes for those with an upcoming apt (e.g. 1/27/18 QM: due for pap and mammogram)

- o   Mark patients inactive as needed (e.g. patient with one-time participation physical appointment)

- Compile a list of patients with unsatisfied measures that need to be contacted for an appointment. Provide this list to the front desk.

Appendix O

Impact of Tobacco Cessation Counseling Order Set

| Process Improvement	CPT Code Usage Prior to Implementation (average utilization) (associated monthly revenue)	CPT Code Usage After Implementation (average utilization) (associated monthly revenue)
Tobacco Cessation Counseling Order Set	86 (2.7/month) ($21.82/month)	19 (9.5/month) ($77.14/month)

Note. The order set simplified compliance with documentation requirements for counseling and automatically generated the corresponding billing code: 99496[a] or 99497[b]

[a]Smoking and tobacco use cessation counseling visit greater than three minutes, but not more than 10 minutes. Reimbursement = $8.12 per billed service.

[b]Smoking and tobacco use cessation counseling visit greater than 10 minutes. Reimbursement = $15.65 per billed service.

Appendix P

Project Outcomes for Pilot Quality Measures
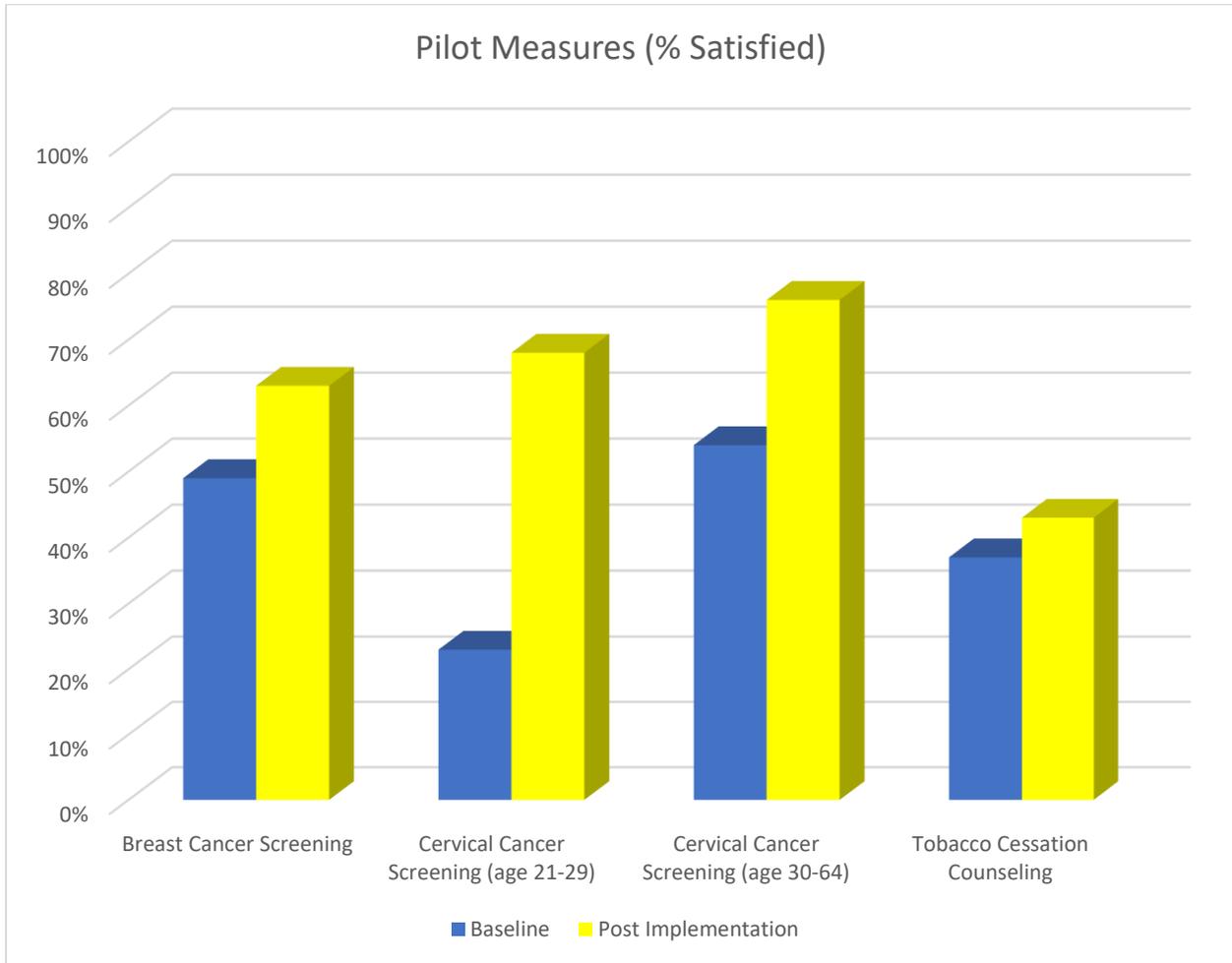
Appendix Q

Statistical Analysis of Pilot Quality Outcome Measures

Outcome Measure	Baseline % Satisfied (n)	Current % Satisfied (n)	Pearson Chi-Square p-value
Breast Cancer Screening Female patients 50-74 years of age during the reporting period who had a mammogram to screen for breast cancer within the past 24 months	50% (101)	67% (78)	.021*
Cervical Cancer Screening (21-29 years of age) Female patients 21-29 years of age who have had a cervical cancer screening within the last 3 years.	23% (602)	67% (206)	<.001*
Cervical Cancer Screening (30-64 years of age) Female patients 30-64 years of age who have had a cervical cancer screening within the last 3 years or cervical cancer screening with concurrent HPV testing within the last 5 years.	54% (295)	78% (209)	.009*
Tobacco Cessation Counseling Patients 18 years of age and older who are identified as current tobacco users and received tobacco cessation counseling within the last 24 months.	37% (225)	46% (213)	.237

*Statistically significant at the p<.05 level.

Appendix R

Projected Return on Investment

Budget Item	Income/Expense
Reimbursement for 40 new patient appointments scheduled from new process improvements	+$2416.80
Change in average monthly reimbursement from smoking cessation counseling for two-month implementation period	+$110.64
Staffing costs for dedicated QI meetings	-$609.90
Return on investment during project period	=$1917.54

Note. Relative new patient reimbursement calculated using CPT code 99203[a]

[a]99203: Office or other outpatient visit for the evaluation and management of a new patient, which requires these three components: A detailed history; A detailed examination; Medical decision making of low complexity. This CPT code is reimbursed at $60.42 by the primary payer for this practice.

Appendix S

Alignment of Quality Improvement Initiative with PCMH Criteria

Team Based Care and Practice Organization (TC)

- **TC-6:** Has regular patient care team meetings or a structured communication process focused on individual patient care.
- **TC-7:** Involves care team staff in the practice's performance evaluation and quality improvement activities.

Performance Measurement and Quality Improvement (QI)

- **QI-1:** Monitors at least five clinical quality measures across the four categories: Immunization measures, other preventive care measures, chronic or acute care clinical measures, behavioral health measures
- **QI-12:** Achieves improved performance on at least two measures
- **QI-15:** Reports practice-level or individual clinician performance results within the practice for measures reported by the practice.

Patient Centered Access and Continuity (AC)

- **AC-14:** Reviews and reconciles panel based on health plan or other outside patient assignments

Newly Satisfied PCMH Criteria. Adapted from "Introduction to PCMH 2017," by National Committee for Quality Assurance, 2017, Retrieved from https://www.ncqa.org/Portals/0/Programs/Recognition/Intro_to_PCMH_2017.pdf?ver=2017-11-01-220650-193