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Meeting Access to Care Through Innovation

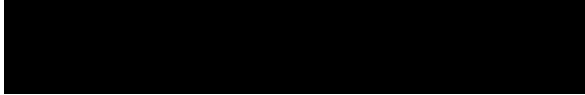
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Abstract

The Patient-Centered Medical Home (PCMH) provides services to eligible beneficiaries using multiple tools to meet the patient's need to access care promptly. Patients have indicated a preference for virtual encounters to access health care services. As many as 20% of all primary care encounters were accomplished virtually in the fiscal year 2016 (Military Health System [MHS], 2017). Patients perceive increased access to clinic staff when it is most convenient for them, choosing sooner care through a virtual appointment over later care (Roberts, Fletcher, Lutz, & Hubbard, 2018). Building virtual appointments (VA) into clinic templates and allowing providers to manage demand during this protected time supports both the needs of providers as well as patients while taking full advantage of alternate forms of communication (Goldzweig, Towfigh, Paige, Orshansky, Haggstrom, Beroes, Miake-Lye, & Shekelle, 2012; Pearl, 2014). It has been reported that the use of alternative clinical encounters increases both patient and provider satisfaction. However, this option has not been fully explored. Providers have voiced frustrations with alternate encounters because they view them as an added expectation to an already overburdened system.

In this Doctorate of Nursing Practice (DNP) Project, project directors will observe the current virtual appointment template process that addresses alternative encounters at Naval Hospital Bremerton (NHB) and will measure provider satisfaction with the current virtual appointment process and expectations. The goals of this project are to identify opportunities to improve the template appointing process and to measure the effect of provider satisfaction before and after implementation of a standardized appointing procedure. Improving provider satisfaction is the first step toward fully implementing VA and one of the essential steps toward realizing the changes necessary to increase access to care.

Introduction

Through a combination of training, diversification of empanelment and patient-centered appointing, nurses and clinic staff may best preserve deployable skills and support operational tempo shifts (Berry, Beckham, Dettman, & Mead, 2014; Military Health System, 2011). A review of the literature began with determining if a relationship exists between access to primary care appointments and nurse-led clinics. Strong evidence indicated nurse-led clinics affected access by allowing nurses to practice at the full scope of their licensure, resulting in increased satisfaction of both patients and nurses. Although nurse-led clinics changed access, further review of the literature supports the use of innovative solutions to improve access to primary care without expanding the number of providers, by full implementation of strategies already purchased: PCMH team model and Health Information Technologies (HIT). For this project, access to care proved too broad a topic requiring scalability to a single factor. The review of the literature provided insight into recognizing alternative encounters as a demand management tool that can assist with providing opportunities for improved access (Goldzweig et al., 2012).

Review of themes in the literature led to a mature PICO question that sought to answer what the current need within the military health system is to improve access to care. The search to answer the question resulted in the review of 114 articles that provided two high-quality articles and twelve supporting articles, which could not collectively offer substantial evidence that implementing virtual appointments alone would provide improved access to care. Instead, the solutions proposed within the literature revealed barriers to the implementation of virtual encounters, such as the need for reimbursement and allocation of time to be fully implemented by providers and overall provider satisfaction.

Significance of the Problem

This DNP Project was inspired by the need to improve access to care in outpatient clinical settings throughout the Military Health System (MHS). Access to care is a carefully monitored metric, used to determine the ability of beneficiaries to receive preventive, acute and routine health services in a timely manner. The MHS faces significant challenges meeting the needs of beneficiaries while ensuring a platform that provides care to deployed military service members. Increased access to primary care directly influences military readiness and the ability to deploy active-duty nursing and medical staff to remote areas. Naval Hospital Bremerton (NHB) has recently experienced a restructuring of services. The Emergency Department and family practice residency program previously servicing beneficiaries have been replaced with an Urgent Care facility. The Urgent Care Center has dedicated full time staffing augmented by family practice, pediatrics, and internal medicine providers. These primary care providers perform urgent care watch in addition to full time duties in their respective clinics and inpatient services. NHB currently struggles to meet the MHS access to care requirements. This is due to several factors; expected turnover of military staff, a 25% attrition rate of civilian staff, and introduction of the new electronic health record (EHR). Each of these factors has lead to access barriers including a reduction of template appointments from 90 to 70 per week and the additional burden of unassigned empanelment absorbed by remaining staff. Despite these significant changes, the MHS access to care requirements have not been adjusted for NHB.

The PCMH team model requires that each team member function to the full scope of their practice to provide patient-centered care (Biehn, 2013). Template management, the expansion of clinic hours, and real-time control of appointments to allow other patients to be scheduled as cancelations occur, as well as improvements in HIT to include use of telehealth,

nurse advice line, virtual care appointments, and referral output eliminate redundancies of work performed (Berry et al., 2014; MHS, 2017). Naval Hospital Bremerton is the test site for the new Department of Defense (DoD) electronic health record (EHR). This new EHR, once fully engaged, will seamlessly integrate virtual communication to the patient's profile. Also, VA will be included as part of the clinic templates. Although these changes are all supported by the literature as essential steps toward establishing a patient-centered medical home, its success rests on the level of provider satisfaction and the reduction of current clinic workload (Roberts, Fletcher, Lutz, & Hubbard, 2018).

Provider's resistance to the use of the VA tool has an impact at the patient micro level as discussed previously. Reciprocally, it frustrates patients, weakens the public's trust in the medical home system, undermines the DoD quadruple aim goals, and contradicts the accrediting bodies requirement of the meaningful use of technology, ultimately impacting the DoD organization at the macro level. The use of VA has not only been shown to improve HEDIS measure compliance, but it reduces cost by addressing the needs of non-urgent patients opening access up to urgent/chronic patients requiring face to face monitoring (Margolius & Bodenheimer, 2010; MHS, 2017; Pearl 2014).

Clinical Question

Do primary care clinics (P) that build virtual appointments into their templates (I) experience greater provider satisfaction with using virtual appointments (O) than those who do not (C)?

Focus Areas

The primary focus of this project is to observe the current process at NHB regarding VA use addressing demand management. During the observation phase, the project team will

develop a value stream map (VSM) of the existing process. The current method will be compared to the standards established by the National Committee for Quality Assurance (NCQA) PCMH 2014 to recognize an ideal state. Finally, a gap analysis will identify differences between the standards, current processes and ideal state.

Project Short and Long Term Goals

Short Term Goals:

1. Describe the current template process addressing VA.
2. Measure current internal provider satisfaction with VA use.
3. Identify opportunities to improve the template appointing process to minimize any gaps in care.

Long Term Goals:

1. Adoption of ideal state VA process
2. Increase in provider satisfaction scores regarding VA
3. Increase productivity and efficiency within PCMH system process

Anticipated Global Impact

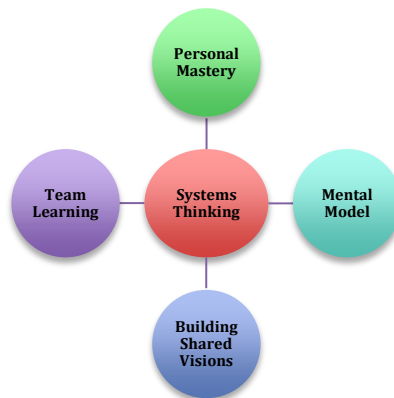
The standardization of template management processes, to include virtual appointing, will result in improved provider satisfaction and overall efficiency of the patient centered medical home. It is our belief that the findings of this DNP project will influence lasting change in regards to improved template management, the expansion of VA in specialty clinics, and improved job satisfaction at the clinic and enterprise level. Better template management directly influences access and increased access translates to improved patient satisfaction as evidenced by improved patient satisfaction scores. Increased productivity within the VA system will improve the quality of services offered to patients and thereby the overall experience of care directly

aligned with the Military Health Systems quadruple aim initiative (Secretary of Defense Military Health Systems Review, 2014).

Organizing Framework

The primary objective of this project will be to determine how use of virtual appointing, as a demand management tool, can improve the efficiency and operations of the clinic at Naval Hospital Bremerton. The Learning Organization change model exemplifies how to identify, incorporate and overcome barriers to implement lasting change. Ideally, a learning organization employs the processes described by the learning organization change model (see Figure 1) to optimize resources of capital, human ingenuity, and strengthen team cohesion.

Figure 1. Learning Organization Change Model



Healthcare systems must be actively engaged as learning organizations, by the very nature of their goals, embrace advances in technology and evidence-based practice to improve patient outcomes while effecting cost expenditure. The Learning Organization theory reinforces this DNP project's mission through alignment of organizational system goals, shared vision building and team learning which is necessary for successful implementation of the new electronic health record (EHR) system (White, 2012).

This project aims to apply this model to the adoption of the new EHR by recognizing patterns of VA usage and identifying areas for improvement based on the data. The evidence garnered during the period of the project will provide valuable feedback for recommendations to improve the system before enterprise-wide release, allowing for a proactive rather than reactive stance to change. Use of the Learning Organization change model will support direct alignment of systems thinking, personal mastery, mental models, shared vision and team learning necessary for successful implementation of a new EHR (White, 2012). This learning organization change approach should in theory prevent and dissolve barriers to change by building a shared vision.

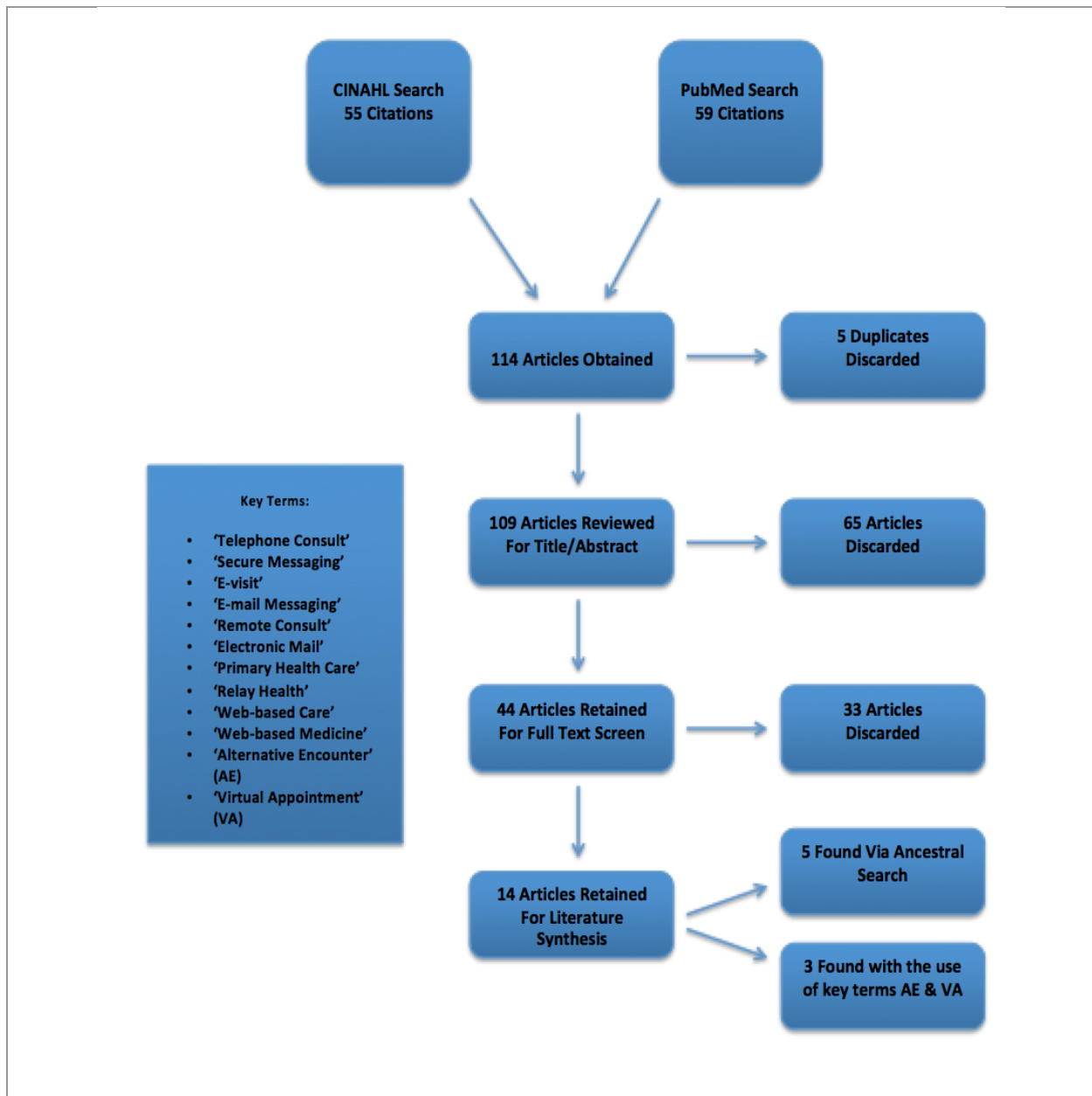
Project Design

Evidence Evaluation

Electronic searches were performed in Public Medline (PubMed) and Cumulative Index to Nursing and Allied Health Literature (CINAHL) to identify literature supporting the use of web-based VA to increase access to care. Inclusion criteria for this literature search sought out available abstracts that yielded full-text articles in academic journals that were peer-reviewed and published within six years. Exclusion criteria were those articles not available in English, and the search term “telephone nursing”, “telephone consults” or “office visit” as these are traditional mediums of communication. The following search terms were used: “remote consult”, “remote health”, “secure messaging”, “evisit”, “e-visit”, “email messaging”, e-mail messaging”, “Remote Consultation”, “Electronic Mail”, “Primary Health Care”, primary healthcare”, “equity of access” “access to care” “access to healthcare facility”, “access to healthcare”, “access to health care”, “health services availability”, “accessibility of healthcare”, “accessibility of health care”, “Health Services Accessibility”, “relay health”, “web-based care”, “web based care”, “web-based medicine”, “web based medicine”, “web-based nursing”, “web

based nursing” and “web based medicine” with Boolean connector AND and OR (see Figure 2). The search resulted in 114 articles. Following the application of the exclusion criteria, 14 articles were retained for literature evaluation and synthesis. Of these, five articles were identified through an ancestral search and three were identified through the use of key terms alternative encounters (AE) and VA.

Figure 2.0 Search Strategy PRISMA Chart



Common themes emerged in multiple articles. An explanation of the themes beneficial toward understanding the implementation of virtual appointments is outlined below (see Table 1).

Table 1. Thematic Analysis of Literature

| | Author, Year | Improved Outcomes | Improved Patient Satisfaction | Improved Utilization Efficiency | Team Model/Full Scope of Practice | Access to Care | Alternative Clinical Encounter | Barrier: Lack of Reimbursement | Barriers: Concern for Increase Provider Workload/Burnout | Barriers: Background of User |
|-------------------|--------------|-------------------|-------------------------------|---------------------------------|-----------------------------------|----------------|--------------------------------|--------------------------------|--|------------------------------|
| Berry, 2014 | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Bishop, 2013 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Bodenheimer, 2010 | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Crotty, 2014 | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | |
| Fashiano, 2011 | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | |
| Goldzweig, 2012 | ✓ | ✓ | | | | | ✓ | | ✓ | |
| Leveille, 2016 | ✓ | | ✓ | | ✓ | | | ✓ | ✓ | |
| Liederman, 2005 | | ✓ | ✓ | | | | | | ✓ | |
| Margolius, 2010 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| McGrail, 2017 | | ✓ | ✓ | | ✓ | ✓ | | | | |
| Pearl, 2014 | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | |
| Ralston, 2009a | ✓ | | | | | | ✓ | | ✓ | |
| Ralston, 2009b | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | |
| Ralston, 2009c | | ✓ | | | | | ✓ | ✓ | ✓ | |

Access to care. Access to care is a complex issue requiring multiple interventions to effect change (Goldzweig et al., 2012). These responses include each member of the PCMH team operating at his/her full scope of practice, proper template management, HIT that communicate with each other, and resource standardization across the military health system (Berry et al., 2014; Bishop, Press, Mendelsohn, & Casaline, 2013, Bodenheimer & Pham 2010, Crotty, Tamrat, Mostaghimi, Safran, & Landon, 2014; Margolius & Bodenheimer, 2010;

Ralston, Hirsch, Hoath, Mullen, Cheadle, & Goldberg, 2009b). Access to care is a complex problem that requires incremental changes within PCMH.

Barriers: Lack of reimbursement, increased workload, and burnout. A lack of compensation for utilization of nontraditional appointments was a common barrier to a provider's willingness to routinely use alternative encounters. Providers perceive insufficient allotted time to manage face-to-face appointments, respond to electronic communication, telephone contacts, and perform desktop medicine (Pearl, 2014). The theme of reimbursement occurs in 9 of 14 articles. Crotty et al. (2014) emphasize the need for compensation as electronic communication becomes more prevalent, providing a mechanism for compensating physicians and accounting for the workload will be significant (p. 1821). The literature supports that revision of reimbursement processes and dedicated time would serve to reinforce provider use of virtual encounters as a means of reducing provider burnout (Margolius & Bodenheimer, 2010; Pearl, 2014). Through dual template and empanelment management processes, Margolius & Bodenheimer (2010) and Pearl (2014) call for patient population stratification. The process of stratification involves categorizing patient needs into preventive, acute, and chronic health needs (Margolius & Bodenheimer, 2010), thus matching patient needs with the correct level of care (Margolius & Bodenheimer, 2010).

Team model, full scope of practice. Within the new PCMH model the provider must function as the leader of the team overseeing delegated tasks (Margolius & Bodenheimer, 2010). Because of demands placed on primary care providers because of large empanelment sizes, they are no longer able to see every patient, as it would require 18 hours per day to provide comprehensive care (Margolius & Bodenheimer, 2010). The most complex of patients would be managed by physicians, while advanced practice providers would be responsible for acute and

stable/chronic patient groups (Margolius & Bodenheimer, 2010). Registered nurses would take responsibility for health coaching and providing patient care using care practice guideline protocols for uncomplicated patient groups (Berry et al., 2014; Bishop et al., 2013; Bodenheimer & Pham 2010). Medical assistants would be responsible for identifying patients overdue for preventive care services (Bodenheimer & Pham 2010). As discussed above, this division of labor requires each team member to take responsibility for certain patient groups (Bodenheimer & Pham 2010; Margolius & Bodenheimer, 2010).

Patient satisfaction. Improved patient satisfaction occurred in 71% of the articles indicating that within those settings where a providers and patients used alternative encounters, patients responded with higher satisfaction scores, attributed to faster responses from healthcare providers than communication through direct care visits to address concerns (Liederman, Lee, Baquero, & Seites, 2005; Margolius & Bodenheimer, 2010; McGrail, Ahuja, & Leaver, 2017; Pearl, 2014). Patients emphasize that with alternative encounters they, “feel like they have direct access and a better line of communication...and were more satisfied after the initiation of electronic communication” (Bishop et al., 2013, p. 1364). Patients want to be able to communicate with providers and medical home staff team members in a way that is fast and convenient (Military Health System, 2014). When given the choice of sooner versus later care, patients repeatedly choose alternative encounters over traditional appointments. 85% of patients stated the alternative encounter was excellent in meeting their needs (Pearl, 2014).

Definitions

- *Access to Care* – A term used to the ability of a patient of communicate with their health care staff in their preferred method (secure messaging, telephone or traditional clinic appointment).

- *Alternative Clinical Encounter* – A term used to indicate non-traditional clinical encounters. Examples include electronic mail, telemedicine, telephone visits, remote consultation, and web messaging.
- *Beneficiaries* – For the purposes of this project, an individual eligible for and enrolled in MTF services.
- *Clinic Manager* – The person employed by MTF to coordinate, track and implement daily clinic functions.
- *Gap Analysis* – A tool designed to compare current practices to best practices, identify existing “gaps” and choose the best practices to implement (Agency for Healthcare Research and Quality, 2014)
- *Provider* – The primary care clinician who may be a family medicine physician, internal medicine physician, pediatrician, nurse practitioner or physician’s assistant. The PCM is responsible for managing the general health care (including referrals to specialists) and routine screening of individual patients.
- *Virtual Appointments* – A flexible demand management tool to create access, may be either templated or non-templated and scheduled by team as demand arises.
- *Satisfaction* – As measured by job satisfaction, control over workload, effective teamwork, EHR competence, and degree of self-reported burnout.

Setting

Naval Hospital Bremerton is a medium sized MTF located near Seattle, Washington. This location is a test site for the introduction of the pilot EHR for the DoD and VA overseen by the Western Region of Navy Medicine.

NHB's robust service to a diverse beneficiary population consists of four PCMH teams accredited by the National Committee for Quality Assurance. The primary area of focus for improving the use of VA within the template appointing process will be the primary care medical homeport.

Population

NHB serves beneficiaries including active duty service members, families, and TRICARE eligible retired veterans.

Key Stakeholders

Primary stakeholders for this project include primary care clinic providers and staff, beneficiaries, DNP students, the local site director, local command leadership, the Uniformed Services University, and the DoD.

Design

This evidence-based improvement proposal is descriptive and will examine and evaluate the system by which template management uses VA to provide care within the NHB primary care community as compared to established guidelines. The Learning Organization model of change will provide the framework for this project and guide the evaluation of the current process improvement (White, 2012). The project will be rolled out in five stages between two different DNP groups. DNP group 1 will address three stages of the project starting with step 2 as outlined in the Institute for Healthcare Improvement Project Road Map (Appendix B). In Stage I the project team will evaluate the current process for template management, VA use, and provider satisfaction to develop a value stream map (VSM) based on current PCMH certification/industry standards. In Stage II the project team will collect information from key stakeholders to generate the current state VSM.

And finally, in Stage III the team will compare the current state to the identified standards, develop an ideal state, and perform a gap analysis to provide follow-up recommendations. Stage IV: Monitor Performance and Stage V: Spreading the New Standard Throughout the System will be accomplished by the DNP group to follow.

Methodology

The primary methods of data collection are the evaluation of current guidelines, observation with detailed field notes of current template management processes, survey staff to obtain a baseline measurement of burnout, and guided discussions with key stakeholders.

Procedural Steps

Each procedural step will be performed with the Learning Organization Model embedded throughout the process.

Mental model and building a shared vision. Stage 1: will consist of identification of the recommended standards of practice for template management and VA use as defined by NCQA/AHRQ. The project team will then generate a VSM based on the recommended standards of practice; this will include data from the NCQA/AHRQ. Two steps of the Learning Organization Model will apply during this stage.

- A mental model will be achieved with the dissemination of recommended standards of practice and emphasizing VA support of accreditation requirements. Identification of the cause of barriers at NHB is necessary to address and disclose true beliefs, which will be exposed during 1:1 interviewing and survey completion (see Appendix B) (White, 2012). Through “learningful” conversation a dialogue will take place to enable providers an opportunity to accept change with a deeper understanding of the purpose of VA in their practice (White, 2012).

- Building a shared vision spreads through continual reinforcement of the process as a whole, this step will continue throughout each stage of the implementation of this project and will be central to implementing lasting change and seeing the vision to fruition (White, 2012). Simple yet effective interventions such as providing brief updates and or reminders during morning huddles of the project progression will be an essential step in building shared vision through positive reinforcement.

Personal Mastery, Team Learning, and Building a Shared Vision. Stage II: will consist of the evaluation of the current template management process. Template management information will be derived directly from the Primary Care Clinic Manager while satisfaction will be derived from each PCM within the PCMH teams. Collected data will be used to answer the following questions: Are virtual appointments currently used? What are local provider barriers to the use of virtual appointments? What is the current level of provider satisfaction of virtual appointments? The next step will compare and contrast the data obtained from Stage I VSM to the current template management process in Stage II. A needs assessment and gap analysis will be performed using the tools outlined in the Data Collection Tools section. Three steps of the Learning Organization Model will apply during this stage.

- Personal mastery will be achieved as representatives for the launch of new EHR provide instruction addressing the functionality of the new record (White, 2012). Simultaneously, our group will provide guidance addressing the value and benefits of the use of VA in addition to discussing the known barriers to its adoption.
- Team Learning will be achieved through sharing the value stream mapping data of the current processes and assist in identifying redundancies. Identification of extra steps without added value requires working with the team to build solutions. Incorporating the

team as part of the solution further develops the previous steps in the process as well as continues building on the process of a shared vision (White, 2012).

Systems Thinking - Building a Shared Vision. Stage III: When the gap analysis is complete, the recommendations will be compared to NCQA/AHQQR recommendations to ensure access to care standards are met. The project timeline and projected completion dates are outlined in Appendix A. The group will work closely with the new EHR implementation team to promptly identify barriers to implementation as described in the final two steps in the change model.

- Systems' thinking is the cornerstone of the Learning Organization Model (White, 2012). Once all the levels of personal mastery, building shared vision, mental model and team learning are achieved, systems thinking begins to occur (White, 2012). Failure to achieve systems thinking will halt the progression of lasting change. Therefore, it is of utmost importance that stumbling blocks within the interventional steps be identified and promptly addressed.
- Building a shared vision incorporates learning from real life experiences. It is necessary that the team be fully integrated into this process to rapidly identify process errors (White, 2012). Early identification of redundancy promotes a lasting change by preventing the development of workarounds in the form of additional effort and work steps.

HIPAA Concerns (IRB)

Process notes will be collected from the VSM observation and provider satisfaction responses to assess potential benefits and efficacy of this process improvement project.

Personally Identifiable Information (PII) will not be used during any stages of the project. All

notes will be free of personally identifiable information, stored in a locked cabinet located in a secure space within NHB. A request for an expedited Institutional Review Board (IRB) will be submitted to evaluate the use of any information violating standards set by the Health Insurance Portability and Accountability Act (HIPAA). As outlined above none of the project stages warrant the need to collect patient identifying data. All the data collected will only serve to provide the necessary quantitative data to direct the implementation of the EBP project. As such, the current framework of the project is not in violation of any HIPPA standards. Refer to Appendix H for Institutional Review Board letter of determination.

Data Collection Tools

Direct Observation

The use of direct observation was employed to construct current state VA use within a value stream map. Variations in verbiage, documentation, and execution of the VA were identified. IMC referred to the virtual encounter as a VA while FMC termed it “white space.” Continued process variations included documentation of VA. Documentation was placed in messaging application, a free text clinical note, and a traditional encounter note. Due to a lack of standardized protocol, providers had a rationale for their preferred form of documentation,. Execution of the VA differed within clinic settings. IMC appeared to have the most “standardized” process by building VA within their daily workflow. Their template reflects the integration of VA with traditional appointments at a ratio of 18:2. Allotted time for VA was ten minutes during which a brief history, review of systems, review of diagnostic studies, formulation of a plan of care, adjustment in prescription as needed, and recommendations for follow-on care were performed. In contrast, FMC delineates “white space” at clinic management discretion with different times allotted for each provider from 30 minutes to one hour. Providers

used the “white space” to perform a variety of work duties to include calling patients for diagnostic study follow up, closing out charts, and responding to message center. The appointments were reduced and “white space” eliminated. Refer to Appendix C for VSM of current state.

Search for Ideal State

In the team’s search for an ideal state, one-on-one interviews were conducted with an Assistant Medical Group Administrator and a Director of Nursing Services from a civilian managed care consortium functioning as the industry leader in the use of virtual appointing. Insights included a 50:50 ratio of VA to traditional appointments (TA). Decentralized clinic appointment booking took place, operated by licensed medical staff. A high rate of PCM continuity within PCMH allowed for the success of VA. Popular with providers and patients alike, providers are credited for time spent performing VA, Patients are not charged for these encounters. Although this process is efficient within a stable, non-mobile civilian staff and patient setting, this process is not easily translatable into the DoD’s current operational tempo, which includes adjustments for deployment and PCS of both patients and providers. Refer to Appendix D for interview notes for civilian entity.

An Air Force MTF at Ramstein Air Force base in Germany was identified as piloting a process improvement (PI) project shown to increase access to care through the use of VA, template management, and nurse-led clinics while mitigating lack of PCM continuity due to deployment and PCS requirements (Roberts et al., 2018; Berry et al., 2014). This PI project, called RESET, directly addresses and incorporates the four suggestions as mentioned earlier in the introduction that genuinely increase access (Roberts et al., 2018). For this reason, RESET has been identified as the ideal state (Roberts et al., 2018). The critical concept of RESET is to

simultaneously increase access and staff satisfaction, which directly speaks the PICO question in this project (Roberts et al., 2018).

Access has been significantly expanded with a careful balance of fewer templated visits and enhanced VA, driven by demand (Berry et al., 2014; Bishop et al., 2013; Crotty et al., 2014). Demand management tools such as the use of virtual team huddles assist in matching the purpose of the visit with the appropriate access venue focused on patient-centered appointments (Berry et al., 2014; Bishop et al., 2013). Once the patient initiates an appointment, the team previews all future appointments beginning an ongoing, virtual huddle process (Bishop et al., 2013). Contact is made with patients to determine their preference for sooner versus later care, with sooner care being delivered through a VA and later care to remain as a TA (Bishop et al., 2013). This choice is noted electronically within the EHR template format efficiently communicating the shift in appointment type to the entire team (Roberts et al., 2018).

Should the patient opt for sooner care in the form of a VA, a member of the support staff initiates the VA (Roberts et al., 2018). At this point in the process, the provider may be directly available to perform the VA, or they may be engaged in clinic activities (Roberts et al., 2018). Should the latter occur, the support staff obtains a working contact phone number and the patient is given a same day window of time during which the provider will contact him/her to begin their VA (Roberts et al., 2018). Whenever possible, the provider is directly transferred to the phone encounter to perform the VA with the patient (Bishop et al., 2013; Roberts et al., 2018). These unscheduled, untemplated VA follows each of the same steps that a TA would, except for vital signs and physical examination (Roberts et al., 2018). Each encounter begins with the collection of chief complaint, history of present illness and medication reconciliation documented and reported to the provider (Roberts et al., 2018).

The provider engages with the patient to collect subjective and objective data to assist in the formulation of a clear plan of care and follow up (Roberts et al., 2018). Should this encounter sufficiently meet the patient and provider needs the VA is then concluded, and the TA is canceled at this time. This TA is recaptured and available to meet future demand (Roberts et al., 2018).

In the case that a provider performs a VA and finds the encounter is not sufficient for medical decision making, the patient will either be asked to come in for their original TA or may be shifted to a priority access clinic (Berry et al., 2014; Bishop et al., 2013; Roberts et al., 2018). Priority access clinic is designed to address a need for confirmatory, face-to-face follow up. This preference is communicated via virtual team huddle with support staff, who then arrange for a priority access clinic encounter (Roberts et al., 2018).

Priority access clinics are established blocks of time designated for abbreviated face-to-face encounters, to conduct brief physical exams (Roberts et al., 2018). Each provider is responsible for providing one priority access clinic per week, supervising nurse and medical assistant led clinics to ensure continuity of care to their empanelment (Bishop et al., 2013). This concept of a priority access clinic performs a dual function; enabling each member of the team to work to the full scope of licensure while maintaining continuity of care (Crotty et al., 2014; Berry et al., 2014). Once the priority access clinic encounter is completed, the patient is given their plan of care and instructions for follow up (Roberts et al., 2018). Refer to Appendix E for the Ideal State VSM.

Gap Analysis

Table 2. Patient-Centered Medical Home NCQA Standards Gap Analysis

| Patient-Centered Medical Home NCQA Standards | Current State |
|---|---|
| Standard 1: Patient-Centered Access | Element IA: Patient-Centered Access <input checked="" type="checkbox"/> Element IB: 24/7 Access to Clinical Advice <input checked="" type="checkbox"/> Element IC: Electronic Access <input type="checkbox"/> |
| Standard 2: Team-Based Care | Element 2A: Continuity <input checked="" type="checkbox"/> Element 2B: Medical Home Responsibilities <input type="checkbox"/> Element 2C: Culturally/Linguistically Appropriate Services <input type="checkbox"/> Element 2D: The Practice Team <input type="checkbox"/> |
| Standard 3: Population Health Management | Element 3A: Patient Information <input type="checkbox"/> Element 3C: Comprehensive Health Assessment <input type="checkbox"/> Element 3D: Use Data for Population Management <input checked="" type="checkbox"/> Element 3E: Implement Evidence-Based Decision Support <input type="checkbox"/> |
| Standard 4: Care Management and Support | Element 4A: Identify Patient for Care Management <input checked="" type="checkbox"/> Element 4B: Care Planning and Self-Care Support <input checked="" type="checkbox"/> Element 4C: Medication Management <input checked="" type="checkbox"/> Element 4D: Use Electronic Prescribing <input checked="" type="checkbox"/> Element 4E: Support Self-Care and Shared Decision Making <input checked="" type="checkbox"/> |
| Standard 5: Care Coordination and Care Transitions | Element 5A: Test Tracking and Follow-Up <input checked="" type="checkbox"/> Element 5B: Referral Tracking and Follow-Up <input type="checkbox"/> Element 5C: Coordinate Care Transitions <input checked="" type="checkbox"/> |
| Standard 6: Performance Measurement and Quality Improvement | Element 6A: Measure Clinical Quality Performance <input type="checkbox"/> Element 6B: Measure Resource Use and Care Coordination <input type="checkbox"/> Element 6C: Measure Patient/Family Experience <input checked="" type="checkbox"/> Element 6D: Implement Continuous Quality Improvement <input checked="" type="checkbox"/> Element 6E: Demonstrate Continuous Quality Improvement <input checked="" type="checkbox"/> Element 6F: Report Performance <input type="checkbox"/> Element 6G: Use Certified EMR Technology <input type="checkbox"/> |

Table 3. Current/Ideal VSM Gap Analysis

| Best Practice | Best Practice Strategy | How This Practice Differs From Best Practice | Barriers to Best Practice Implementation | Will Implement Best Practice (Yes/No; why not?) |
|---------------|---|--|--|---|
| Ideal State | Non-templated VA | Templated VA or white space | New EHR rollout | Decision Pending: -Introduction of Ideal State -Process of learning and questioning ideal state -Currently in Personal Mastery stage with in new EHR |
| | Ongoing Virtual Team Huddles | Set huddle in morning, once a day | Fear of ideal state process | |
| | Standardized Scrubbing Procedure | No standardized process for team scrubbing | Lack time to huddle | |
| | Working at the top of clinical scope | Each member practices below level of training | Leadership roles not clearly delineated | |
| | Proactive approach to meeting demand | Reactive approach to meeting demand | Lack of team mindset | |
| | Patient centered appointment practices | Clinic centered appointment practices | Decline of VA use | |
| | Data collection methods | New EHR, incapable of collecting data at this time | No clear route to documentation of VA within EHR, Producing work arounds | |
| | PCM continuity through stopping cross booking | Approximately 40% cross booking rate | | |
| | Organized adjustment of empanelment during provider absence | Unorganized, randomized empanelment coverage | | |

(Agency for Healthcare Research and Quality, 2014; Roberts, Fletcher, Lutz, & Hubbard, 2018)

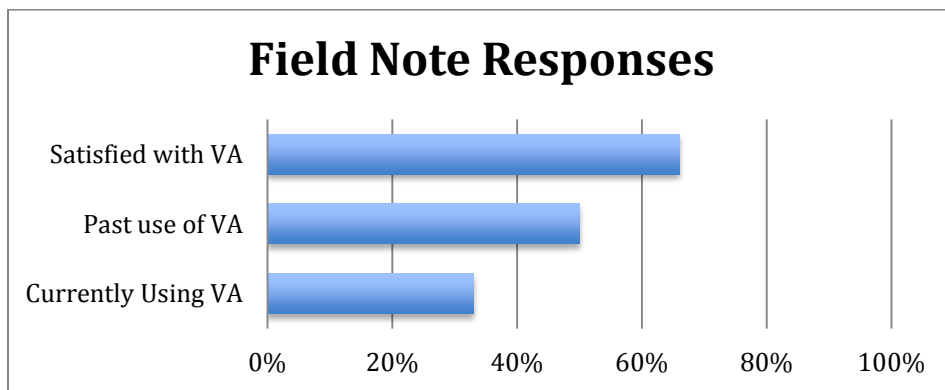
Field Notes

Data collection will be completed with the aid of both the Institute for Healthcare Improvement Project Road Map tool (2016) to assist in identifying the necessary project steps/needs, and the Gap Analysis Tool from the Agency for Healthcare Research and Quality (2014) to identify differences between current practice and best practices. Refer to Appendix B for a detailed description of the tools mentioned above. Interview responses of providers regarding their use of VA will be kept confidential and logged using field notes.

Project Results

All nineteen Primary Care Managers assigned to the Family Medicine Clinic (FMC) and the Internal Medicine Clinic (IMC) participated in one-on-one interviews regarding VA use, satisfaction, and barriers to use. Five respondents were assigned to IMC and fourteen were assigned to FMC. All responses to the field note questions are detailed in Figure 3.0.

Figure 3.0 Field Note Responses



Analysis of Results

Question 1: *Are you currently using virtual appointments (VA)?*

33% of providers are currently using VA. 50% used VA in the past.

Question 2: *If not, what are some of the barriers to use?*

After evaluation of all responses, four recurrent themes were identified.

Theme I: *Time not designated Within FMC.*

Eight providers identified this theme

Theme II: *Not built into workflow, no established charting process Within FMC.*

Six providers and one IMC provider identified this theme

Theme III: *Perceived additional workload.*

Five FMC providers identified this theme

Theme IV: *New EHR-no established workflow for booking process Within FMC.*

Six providers and one IMC provider identified this theme

Figure 4.0 Thematic Analyses

| | Team Identified Barriers | Time Not Designated | Not Built Into Workflow | Perceived Additional Workload | New EMR No Established Workflow |
|-------------|--------------------------|---------------------|-------------------------|-------------------------------|---------------------------------|
| FM Team I | ✓✓✓ | ✓ | ✓✓ | ✓ | |
| FM Team II | ✓ | ✓✓ | ✓ | ✓✓✓ | |
| FM Team III | ✓✓✓✓ | ✓✓✓ | ✓✓ | ✓✓ | |
| IM Team | ✓ | | | ✓ | |

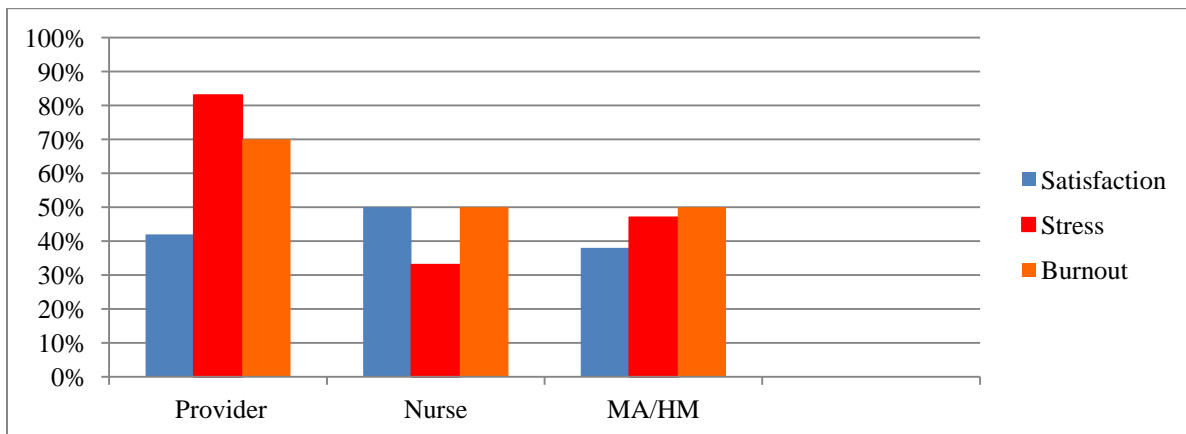
Question 3: *If using VA how satisfied are you?* 66% state satisfaction with VA experience.

Detailed below is a thematic analysis of the responses as detailed in Figure 3.0.

The Mini-Z Burnout Survey provided baseline measurements of satisfaction, stress and burnout within PCMH staff. 70% of PCMH staff participated in the Mini-Z burnout survey.

Responses to the survey questions are detailed in Figure 5.0.

Figure 5.0 Mini-Z Survey Responses



Limitations

While there was a 100% response rate within Primary Care. Specialty clinics were excluded due to differences in workload. Staff were recruited from areas the project team believed had the most exposure and use of VA. As was discussed in the data analysis, there is not standardized verbiage to identify and code VA at this time. During the process of collecting field notes, there were five experienced providers excluded due to deployment, permanent change of station orders, and career transition process. Their valuable insight was unable to be captured in the field note collection process.

Another limitation of this project is that NHB is not currently able to retrieve statistics for access due to the adoption of the new EHR. A baseline measurement of access was extensively sought by interviewing the PCMH leadership and management: Clinic Managers, Department Heads, Medical Expense and Performance Reporting System Manager, Health System Analyst of Healthcare Operations, and Managed Care Program Appointment Coordinator. The information is being placed on a server, but there is no current software available to extract the access to care data as it existed within previous EHR.

Organization Impact to Practice and Policy

The organizational impact would lead to a shift in strategy wherein outdated measurements of access to care are replaced with outcomes based measurements (Eads, 2007; Roberts et al., 2018). Current core measurements of standard primary care appointing processes are defined as the percent of PCM continuity, available appointments, network encounters potentially recapturable to primary care, and satisfaction with getting care when needed (MHS, 2017). A transformation of this nature would serve to align the DoD's PCMH structure and HIT

with current healthcare market legislative reforms aimed at value-based care (Eads, 2007). This outcome would be achieved through the adoption of an ideal state of VA use.

The results will be templates of 10 scheduled TA with the remainder of time non-templated VA and incorporation of priority access clinics, thus placing ownership of empanelment with the medical home team (Berry et al., 2014; Bishop et al., 2013; Margolius & Bodenheimer, 2010; Pearl, 2014; Roberts et al., 2018). The literature points to four main implications to practice achieved by this multi-tiered approach to mitigate issues routinely threatening access to care. First, refreshing the PCMH team model to emphasize each member functioning to full scope of practice providing patient-centered care. Second, the adoption of proactive template management in response to increased demand and simplified scheduling. Third, the necessity to fully exploit HIT, VA, and web messaging to manage demand. The opportunity to build an established workflow for the virtual team huddle and reformed templates within the new EHR, if successful, would be disseminated along with the EHR to adopting commands. And last, the standardization of practices enterprise-wide supporting efficiency resulting in improved patient and provider satisfaction. Each of these impacts would support a perception shift from VA as an additional workload to being viewed as the preferred method of delivery - sooner versus later care.

Future Directions for Research and Practice

Future directions for research and practice should be aimed toward a re-structuring of PCMH. Research should be focused on addressing the well documented, research proven themes of provider task saturation, workload imbalance, competing priorities and inefficient workarounds developed to build controls into their days. These challenges can be met and

conquered with a more streamlined PCMH - incentivizing the use of VA and efficiency, placing workload control with the PCMH team, and personal mastery of HIT.

Conclusion

Advances in technology have allowed the implementation of technology in platforms never thought possible. Creating a culture change and removing barriers within systems saturated in tradition are monumental undertakings. This is true of the current PCMH. Tradition dictated a provider-centric model where policies and procedures were provider driven. The current health model highlights patient-centered care and attempts to implement change based on best clinical outcomes as well as patient satisfaction (Moore, Hamilton, Krusel, Moore, and Pierre-Louis, 2016). The shift in culture has proven to be a challenge. Primary care clinics are expected to meet the demands made on the system, retain and exceed patient satisfaction scores, and maintain a supportive and productive work environment for providers.

Barriers to the full implementation of VA are two-fold. Specifically, there are barriers addressed by both providers and patients, each with differing needs. Although the concept of a PCMH has patient-centered care as its primary objective, creating this culture change brings unique challenges. The practical application of the model tends to be one-sided, concentrating on only one aspect of the system in isolation. In order for PCMH to be successful, as stated by Moore et al., 2016, it must be founded on the cornerstone of the model, which is the use of mutual decision-making by both parties involved.

While the evidence is clear that the use of VAs improve patient outcomes, increase patient satisfaction scores through perceived access to care, and improve the efficiency of PCMH, barriers to the implementation of VAs still exist (Moore et al.; Ralston et al. [a-c], 2009).

Providers are feeling the burden of meeting the daily demands of traditional clinic appointments

(TCA) in addition to alternative encounters. These are some of the barriers identified directly impacting the expansion and the use of the full capabilities of VA. Until these barriers are addressed the benefits of this technology will not be reaped.

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Appendix B: All Forms Used In Data Collection

Evidence Based Practice

Asking is the **Answer.**

Meeting Access to Care Through Innovation

Project Team:
LCDR Jean Ann Fortunato &
LCDR Schadaq Torres

Evidence Based Project at Naval Hospital Bremerton

The purpose of this project is to maximize access to care while simultaneously improving clinic efficiency and provider satisfaction.

Where We Need Your Help...

- Engage staff and management team to obtain background information on current processes
- Obtain provider input regarding barriers to use of VA and level of satisfaction with current template process via one on one interviews
- Data obtained will be used to refine and improve current clinic processes

Field Questions:

- Are you currently using virtual appointments (VA)?
- If not, what are some of the barriers to use?
- If using VA how satisfied are you?

ACCESS TO CARE

Per Capita Cost Patient Experience Population Health Readiness

Mini Z burnout survey – AFMS Version (rev. 31 Aug 17)

Answer the following questions as truthfully as possible to determine your workplace stress levels. When you have completed the survey, return it to the person who requested that you complete it. Thank you.

| Mini Z burnout survey | | | | | |
|--|---------------------|------------|-----------|-----------------|------------------|
| Role (circle one): Physician NP/PA Medical Technician Nurse 4A | | | | | |
| Other (write in): | | | | | |
| Unit (circle one): Primary Care Flight Medicine | | | | Date of survey: | |
| Other (write in): | | | | | |
| For questions 1-10, please circle the answer that best describes your experience. | | | | | |
| 1. Overall, I am satisfied with my current job: | 1 Strongly disagree | 2 Disagree | 3 Neutral | 4 Agree | 5 Strongly Agree |
| 2. I feel a great deal of stress because of my job: | 1 Strongly disagree | 2 Disagree | 3 Neutral | 4 Agree | 5 Strongly Agree |

3. Using your own definition of "burnout," **PLEASE CIRCLE ONE OF THE ANSWERS BELOW:**

- a. I enjoy my work. I have no symptoms of burnout.
- b. I am under stress, and don't always have as much energy as I did, but I don't feel burned out.
- c. I am definitely burning out and have one or more symptoms of burnout, e.g., emotional exhaustion.
- d. The symptoms of burnout that I am experiencing won't go away. I think about work frustrations a lot.
- e. I feel completely burned out. I am at the point where I may need to seek help.

| | | | | | |
|--|---------------------|---------------|------------------------------|-----------|----------------------|
| 4. My control over my workload is: | 1 Poor | 2 Marginal | 3 Satisfactory | 4 Good | 5 Optimal |
| 5. Sufficiency of time for documentation is: | 1 Poor | 2 Marginal | 3 Satisfactory | 4 Good | 5 Optimal |
| 6. Which number best describes the atmosphere in your primary work area? | 1 Calm | 2 | 3 Busy, but reasonable | 4 | 5 Hectic, chaotic |
| 7. My professional values are well aligned with those of my MTF leaders: | 1 Strongly disagree | 2 Disagree | 3 Neither agree nor disagree | 4 Agree | 5 Strongly Agree |
| 8. My work is valued by others: | 1 Strongly disagree | 2 Disagree | 3 Neither agree nor disagree | 4 Agree | 5 Strongly Agree |



Improvement Project Roadmap

Improvement teams often need a roadmap for applying the science of improvement to the project management tasks associated with their improvement efforts. This tool was developed by IHI Improvement Advisor, Richard Scoville, in collaboration with the North Shore–Long Island Jewish Health System, as part of their advanced illness collaborative. It has since been adapted to guide team participation in several other health care improvement collaboratives.

1. Set an Aim: What are you trying to accomplish?

| Tasks | Driver | Status 1: planned 2: in progress 3: complete | Next Steps |
|---|-----------|---|------------|
| Identify your patient/target population | Team Lead | | |
| Decide which delivery sites and providers will eventually be involved | Team Lead | | |
| Start getting prevalent ideas and agreement on best practices, protocols and guidelines, based on evidence as much as possible | Team Lead | | |
| Decide what should be measured and how, including outcomes and processes | Team Lead | | |
| Describe an ideal system: How will care be delivered? Identify major gaps between this and the current system. | Team Lead | | |
| Develop a preliminary picture about how all the elements work together to get the desired result, and note the most important elements (could be a driver diagram or other visual tool) | Team Lead | | |
| Write a formal aim statement: “How much, by when, for whom?” | Team Lead | | |



2. Develop an Improvement Strategy

| Tasks | Driver | Status 1: planned 2: in progress 3: complete | Next Steps |
|--|-------------------|---|------------|
| Assemble your team, assign roles, and plan for meetings | Sponsor/Team Lead | | |
| Make a plan for: <ul style="list-style-type: none"> • Real-time data collection • Placing the data on run charts • Review by the team • Share information about the improvement work with others | Team Lead | | |
| Develop a tactical plan: <ul style="list-style-type: none"> • Can you tackle an “easy” part of the system first? • How can you eventually spread to all sites and providers? • Consider the key players and decision makers for promoting or blocking this work | Team Lead | | |



3. Develop and Pilot a Reliable Standard Process of Care

| Tasks | Driver | Status 1: planned 2: in progress 3: complete | Next Steps |
|---|--------------------------------------|---|------------|
| Get to know the current processes in detail: Use observation, process maps, value stream maps, run charts, surveys, Pareto analysis, etc. | Team Lead | | |
| Sketch an initial process design | Team Lead/ Improvement Advisor | | |
| Select which changes and improved design elements to test using PDSA cycles | Team Lead | | |
| Test changes and refine the design by starting with 1 patient or event (testing and refining changes is an iterative, continuous process using PDSA cycles) | Team Lead | | |
| Regularly analyze how the process and the changes are working and test additional changes as needed based on your analysis | Team Lead/ Improvement Advisor | | |
| Track and document changes, tests, and results over time | Team Lead/ Improvement Advisor | | |
| Coach and support front-line staff on problem identification, PDSA testing | Team Lead | | |
| Provide regular feedback to process participants and the executive sponsor at least weekly | Team Lead | | |
| When you are confident that the change is producing improvement, begin planning for implementation (making the change permanent) | Team Lead | | |



4. Implement the Standard Care Process, Monitor Performance

| Tasks | Driver | Status 1: planned 2: in progress 3: complete | Next Steps |
|--|----------------------------|---|------------|
| Ensure that new, successful standard processes are truly adopted in the local system, units, or practice sites | Team Lead | | |
| Develop a regular system for continuous measurement and feedback on key results | Team Lead | | |
| Consider how to spread or scale up successful processes to all sites, providers, patients; identify required resources and support processes | Sponsor | | |
| Embed new standard processes in the local system: training, job descriptions, support processes | Sponsor with Local Manager | | |
| Loop back to step 3 (spread and scale up successful processes) for continuous improvement | Sponsor | | |

5. Spread the New Standard Throughout the System

| Tasks | Driver | Status 1: planned 2: in progress 3: complete | Next Steps |
|---|--------------------|---|------------|
| Develop a communication and dissemination plan | Sponsor | | |
| “Package” content for easy implementation by new teams, sites | Quality Department | | |
| Spread to additional sites, monitor adoption and performance | Quality Department | | |

INSTRUCTIONS

Gap Analysis

What is this tool? The purpose of the gap analysis is to provide project teams with a format in which to do the following:

- Compare the best practices with the processes currently in place in your organization.
- Determine the “gaps” between your organization’s practices and the identified best practices.
- Select the best practices you will implement in your organization.

Who are the target audiences? The project liaison will be the primary individual to prepare this written gap analysis, but the entire improvement project team should be engaged in performing the gap analysis.

How can the tool help you? Upon completion of the gap analysis, project teams will have the following:

- An understanding of the differences between current practices and best practice.
- An assessment of the barriers that need to be addressed before successful implementation of best practices.

How does this tool relate to others? Information from the *Self-Assessment* (Tool A.3) about the readiness of the hospital to perform quality improvement for the Quality Indicators can be considered in the gap analysis as possible strengths or weaknesses (i.e., barriers) to be managed when implementing improvements. The best practice elements defined in the *Selected Best Practices and Suggestions for Improvement* (Tool D.4) are prefilled in the gap analysis tool. This provides the elements for the *Implementation Plan* (Tool D.6).

Instructions

1. List the expected evidence-based best practice in Column 1.
2. In Column 2, list all the steps associated with the best practice process.
3. In Column 3, document your organization’s practices and describe how they differ from each best practice element. Be specific and include information such as policies, protocols, guidelines, and staffing.
4. In Column 4, identify barriers that may hinder successful implementation of each best practice strategy. Consider systems, procedures, policies, people, equipment, etc.
5. In Column 5, indicate whether your organization will implement the best practice strategy. If not, explain why.
6. Repeat steps 2-4 for each best practice.

Gap Analysis Tool

Project:

Best Practice:

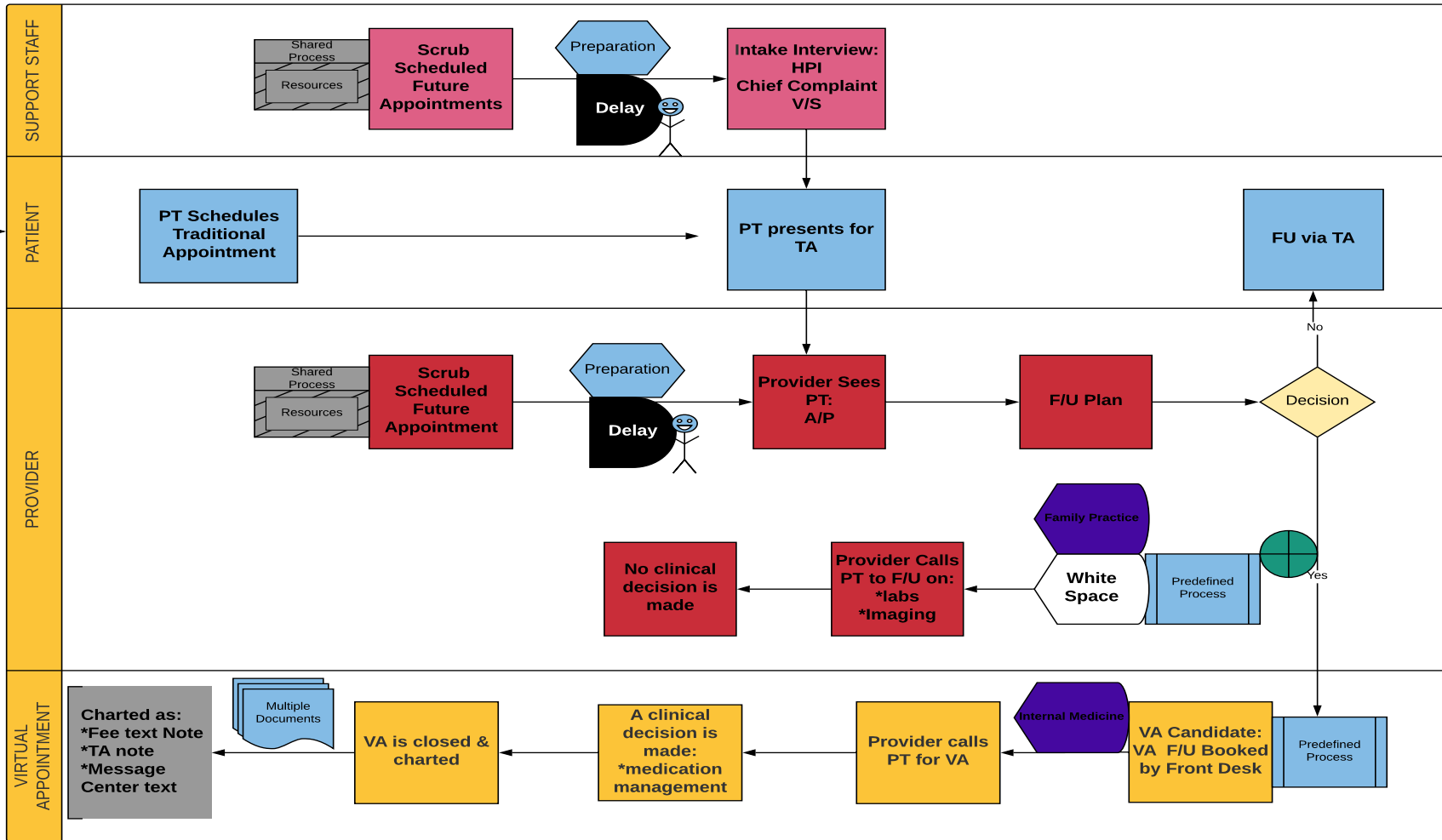
Individual Completing This Form:

| Column 1 | Column 2 | Column 3 | Column 4 | Column 5 |
|---------------|--------------------------|--|--|---|
| Best Practice | Best Practice Strategies | How Your Practices Differ From Best Practice | Barriers to Best Practice Implementation | Will Implement Best Practice (Yes/No; why not?) |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Appendix C: Current State Value Stream Map

CURRENT STATE

Jean Ann Fortunato & Schadaq Torres | February 5, 2018



Appendix D: Interview Notes for Civilian Entity

Interview Notes from Civilian Entity:

- virtual appointments were originally introduced into templates due to shortage of dermatologists which caused an access to care issue
- the virtual appointment was built into the daily template, forms were provided education on how to use the appointments
- appointments were available for booking by patients (via phone/internet), staff initiated or by the provider
- slots were opened for traditional booking if unbooked
- management reviews usage regularly
- Current Process is 2/12 with half of these daily slots being traditional and the remainder virtuals
 1. All departments have virtuals, it was introduced one clinic at a time, slowly and gradually
 2. Very popular with patients and providers
 3. Providers are credited for time spent but no cost to patient (this is a big driver in civilian care)
 4. Pediatrics has not experienced this popularity, they have more traditional appointments booked and higher Nurse Advice Line use
 5. Secure Messaging are answered within 24 hours
 6. Once appointments are set up, the patient is advised to be available within 30 minute window of appointment
 7. 90% of virtuals are booked via Virtual App's Line
 8. When virtual appointment goes unbooked, it is converted to an acute appointment (4 hrs)
 9. Virtuals are built into templates 50:50 ratio
 10. Careful telephone triage helps to ensure appropriateness of virtual booking (KP has 5 question template)
 11. KP Health Connect is the name of this virtual service, it is led by a Provider Champion
 12. Standardization is the key, once patients and staff are trained they are likely to use the virtuals

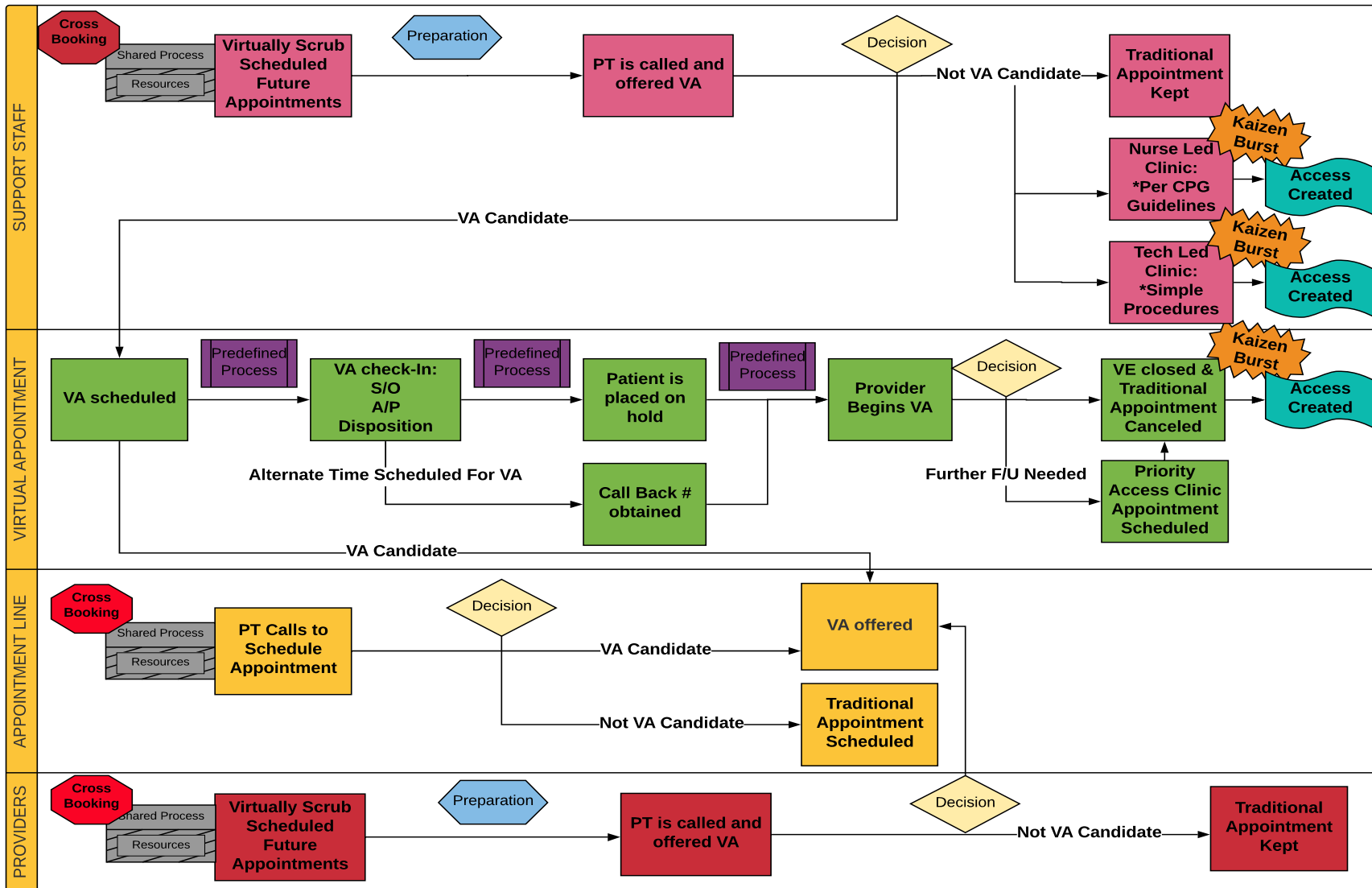
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Appendix E: Ideal State Value Stream Map

IDEAL STATE

Jean Ann Fortunato & Schadaq Torres | February 7, 2018



(Roberts, Fletcher, Lutz, & Hubbard, 2018)

Appendix F: Citi Certificates

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM) COURSEWORK REQUIREMENTS REPORT*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Jean Ann Fortunato (ID: 4989241)
- **Email:** jeanann.fortunato@usuhs.edu
- **Institution Affiliation:** Uniformed Services University of The Health Sciences (ID: 395)
- **Institution Unit:** GSN
- **Phone:** 7035555555

- **Curriculum Group:** OUSD P&R Human Research (Current)
- **Course Learner Group:** Biomedical Investigators and Research Study Team
- **Stage:** Stage 1 - Biomedical Investigators

- **Report ID:** 16981379
- **Completion Date:** 08/22/2015
- **Expiration Date:** 08/21/2018
- **Minimum Passing:** 80
- **Reported Score*:** 98

| REQUIRED AND ELECTIVE MODULES ONLY | DATE COMPLETED |
|---|----------------|
| Records-Based Research (ID: 5) | 08/22/15 |
| Vulnerable Subjects - Research Involving Children (ID: 9) | 08/22/15 |
| Vulnerable Subjects - Research Involving Pregnant Women, Human Fetuses, and Neonates (ID: 10) | 08/22/15 |
| FDA-Regulated Research (ID: 12) | 08/22/15 |
| Basic Institutional Review Board (IRB) Regulations and Review Process (ID: 2) | 08/22/15 |
| Informed Consent (ID: 3) | 08/22/15 |
| History and Ethics of Human Subjects Research (ID: 498) | 08/22/15 |
| Social and Behavioral Research (SBR) for Biomedical Researchers (ID: 4) | 08/22/15 |
| Genetic Research in Human Populations (ID: 6) | 08/22/15 |
| Populations in Research Requiring Additional Considerations and/or Protections (ID: 16680) | 08/22/15 |
| Recognizing and Reporting Unanticipated Problems Involving Risks to Subjects or Others in Biomedical Research (ID: 14777) | 08/22/15 |
| Conflicts of Interest in Research Involving Human Subjects (ID: 488) | 08/22/15 |
| Avoiding Group Harms - U.S. Research Perspectives (ID: 14080) | 08/22/15 |
| Office of the Under Secretary of Defense (Personnel and Readiness) (ID: 912) | 08/22/15 |
| Module for Non-DoD Personnel Conducting Research Involving Human Subjects Supported by the DoD (ID: 16769) | 08/22/15 |
| Vulnerable Subjects - Research Involving Prisoners (ID: 8) | 08/22/15 |

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

CITI Program

Email: citisupport@miami.edu

Phone: 305-243-7970

Web: <https://www.citiprogram.org>

**COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)
COURSEWORK REQUIREMENTS REPORT***

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** SCHADAQ TORRES (ID: 4988903)
- **Email:** schadaq.torres@usuhs.edu
- **Institution Affiliation:** Uniformed Services University of The Health Sciences (ID: 395)
- **Institution Unit:** GSN 2018
- **Phone:** 973-932-9362

- **Curriculum Group:** OUSD P&R Human Research (Current)
- **Course Learner Group:** Biomedical Investigators and Research Study Team
- **Stage:** Stage 1 - Biomedical Investigators

- **Report ID:** 17048386
- **Completion Date:** 08/27/2015
- **Expiration Date:** 08/26/2018
- **Minimum Passing:** 80
- **Reported Score*:** 95

| REQUIRED AND ELECTIVE MODULES ONLY | DATE COMPLETED |
|---|----------------|
| Records-Based Research (ID: 5) | 08/27/15 |
| Vulnerable Subjects - Research Involving Children (ID: 9) | 08/27/15 |
| Vulnerable Subjects - Research Involving Pregnant Women, Human Fetuses, and Neonates (ID: 10) | 08/27/15 |
| FDA-Regulated Research (ID: 12) | 08/27/15 |
| Basic Institutional Review Board (IRB) Regulations and Review Process (ID: 2) | 08/27/15 |
| Informed Consent (ID: 3) | 08/27/15 |
| History and Ethics of Human Subjects Research (ID: 498) | 08/27/15 |
| Social and Behavioral Research (SBR) for Biomedical Researchers (ID: 4) | 08/27/15 |
| Genetic Research in Human Populations (ID: 6) | 08/27/15 |
| Populations in Research Requiring Additional Considerations and/or Protections (ID: 16680) | 08/27/15 |
| Recognizing and Reporting Unanticipated Problems Involving Risks to Subjects or Others in Biomedical Research (ID: 14777) | 08/27/15 |
| Conflicts of Interest in Research Involving Human Subjects (ID: 488) | 08/27/15 |
| Avoiding Group Harms - U.S. Research Perspectives (ID: 14080) | 08/27/15 |
| Office of the Under Secretary of Defense (Personnel and Readiness) (ID: 912) | 08/27/15 |
| Module for Non-DoD Personnel Conducting Research Involving Human Subjects Supported by the DoD (ID: 16769) | 08/27/15 |
| Cultural Competence in Research (ID: 15166) | 08/27/15 |

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

CITI Program

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Appendix G: USUHS Form 3202 N

USUHS FORM 3202N
DANIEL K. INOUE GRADUATE SCHOOL OF NURSING
EVIDENCE-BASED PRACTICE/PERFORMANCE IMPROVEMENT PROPOSAL

VPR Date Stamp

Project Number: TO 61 9005
Project Title: Meeting Access To Care Through Innovation

SECTION A: STUDENT POC INFORMATION

1. Name (Last, First, MI): Terres, Schadaq NMN Student E-mail: schadaq.terres@usuhs.edu

SECTION B: COMMITTEE CHAIR / SENIOR MENTOR INFORMATION

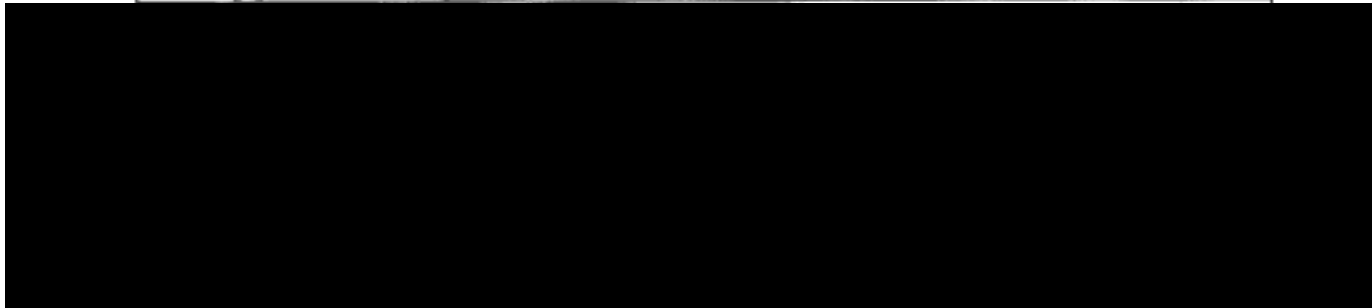
3. Name (Last, First, MI): Sheehy, Susan
4. Telephone: 301-295-1064 Fax: _____ E-mail: susan.sheehy@usuhs.edu
5. USUHS Building/ Room No.: G8N Building E-1052

SECTION C: PROJECT INFORMATION

6. Attach the Abstract for the proposal, including the following sections: Site Location of the Project, Title, Authors, Background or Problem/Issue, Clinical Question/Purpose, Project Design, Anticipated Organizational Impact/Implications for Practice and also include the Proposed Timeline. Single space the abstract and use Times New Roman font, size 12.
7. Is this proposal related to an active research project of the Chair/Senior Mentor identified in Section B? Yes No
If yes, complete below; if no, proceed to Part 8.
Project Number: _____
Project Title: _____
Project Start Date: _____ Project End Date: _____
8. Anticipated period of performance: Project Start Date: 5/1/2017 Project End Date: 4/1/2017
9. Performance Site(s): Naval Hospital Bremerton, Family Practice Clinic
10. Does this project involve any classified information? (Contact the USUHS Security Office for guidance) Yes No
11. Do you have a funding source for this project? Yes No NA
If yes, specify the funding agency and the amount provided: _____

SECTION D: SIGNATURES

The following signatures attest to the validity of the above information:



In light of the above information, the project is approved:

USUHS Vice President for Research Date: 4/11/17

Appendix H: IRB Determination Letter

For CID Use Only
QI Number:

NMCSD.QI.2018.0004

**INTENT TO ENGAGE IN PERFORMANCE IMPROVEMENT
 PROJECT INVOLVING LIVING HUMAN BEINGS OR
 IDENTIFIABLE PATIENT INFORMATION**

Complete and submit this form to [Maria Devore](#) when an investigator proposes a performance improvement project involving humans that s/he does not believe constitutes human subject research. The investigator must provide adequate information for the IRB Chair/ Vice Chair and/ or delegate to determine whether the project constitutes human subject research. If the reviewer determines that a project is not human subjects research, the IRB will have no on-going involvement with the project. If the project is deemed to meet the definition of human subject research, a complete IRB submission will be required.

A data sharing agreement checklist must also be included in this submission. Contact the Clinical Investigation Department or Maria Devore for the most recent version.

Be as specific as possible when answering the below questions.

| | |
|---|---|
| <u>Investigator Name (LAST, FIRST):</u> | <u>Rank, Designation and/or Degree:</u> |
| TORRES, SCHADAQ | LCDR, 2900, BSN |
| <u>E-mail:</u> | <u>Phone Number:</u> |
| schadaq.torres@usuhs.edu | 973-932-9362 |
| <u>Command:</u> | <u>Department:</u> |
| Bremerton, WA | Family Practice Clinic |
| <u>Project Title:</u> | |
| Meeting Access to Care Through Innovation | |

1. Provide a detailed synopsis of the intent of your project. Be sure to provide a detailed methodology (i.e. exact description of how the project will be carried out):

This is a quality improvement project and not a research project:

Objective 1: Describe the current virtual appointment (VA) template process .

Objective 2: Measure current internal provider satisfaction with virtual appointments.

Objective 3: Identify opportunities to improve the template appointing process to minimize any gaps in care or inappropriate appointment conversions.

Stage I: will consist of identification of the recommended standards of practice for template management as defined by NCQA/AHRQ. The project team will then generate a value stream map (VSM) based on the recommended standards of practice.

Stage II: will consist of the evaluation of the current template management process. Template management information will be derived directly from the Primary Care Clinic Manager while internal satisfaction will be derived from providers within the Family Practice Medical Home Port teams. Collected data will be used to answer the following questions: What are local provider barriers to the use of VA? What is the current level of provider satisfaction with VA? What is the current conversion rate of virtual to traditional clinical appointments? The next step will compare and contrast the data obtained from Stage I VSM to the current template management process in Stage II. A needs assessment and gap analysis will be performed.

Stage III: Once the gap analysis is complete, the recommendations will be compared to NCQA/AHQR recommendations to ensure access to care standards are met.

2. Do you have intentions to publish and/or present the outcome/findings of this project?

YES

NO

If YES, please indicate the forum in which you primarily plan to disseminate the information (e.g. local conference, international conference, peer-reviewed manuscript)

Findings will be reported during a school presentation at the Uniformed Services University of Health Sciences. This project is also part of our Doctorate of Nursing Practice requirement to complete an evidenced based practice project.

3. Does the project include testing the safety and efficacy of a drug or device in a human subject?

YES

NO

If YES, please explain:

4. Specifically, what population/program will be evaluated?

Our group is hoping to answer the following PICOT question by the end of the project:
Do primary clinics that build virtual appointments into their template experience greater provider satisfaction than those who do not?

Virtual appointments (VA) is a way to provide patients continued access to their providers when it is most convenient for them. We know it will become more common to communicate with patients via both asynchronous and synchronous communication. VA template slots maybe used to address messages sent via a secure messaging portal or to have a synchronous virtual visit through the use of telehealth. Minimizing variability and learning to successfully incorporate VA into the provider's current work flow will improve internal satisfaction and determine how successful this new technology will be.

Long Term Goals:

1. Increase in provider satisfaction
2. Reduction in the conversion rate of virtual appointments to traditional clinical appointments
3. Increase productivity within primary care clinics

5. Do you PRIMARILY intend the information you learn from this project to be generalizable beyond your institution?

Research is defined as a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Activities which are designed to contribute "generalizable knowledge" would be those whose original intent is to make public via oral presentation, poster, or journal publication outside of the Command at which the activity occurs, or outside of an Educational program (PhD program, for example) for which the activity was done.

- YES
 NO

If Yes, please explain:

Information learned from this quality improvement project may contribute to the knowledge that other military healthcare facilities may use to improve their appointment processes.

6. Do you PRIMARILY intend the information you learn to provide immediate and continuous improvement and feedback at your institution?

- YES
- NO

If Yes, please explain:

We intend the findings to provide the institution immediate feedback regarding current virtual appointment practices.

7. Are the activities or interventions considered standard of care?

- YES
- NO

If Yes, please explain:

Activities measured are considered standards of care per NCQA/AHQR recommendations to ensure access to care standards are met.

8. Are participants expected to benefit directly from these activities?

- YES
- NO

If Yes, please explain:

9. How will findings of this project will be implemented – E.G. will implementation occur continuously throughout the project, follow immediately upon completion of the project, be held for further data collection and analysis?

Initially, the project will consist of an observation state in order to value stream map the current virtual appointing practices of the clinics. This information will be gathered and compared to an ideal state of virtual appointment template management by observing a local private institution known to successfully use virtual appointments. This information will be presented to the Command leadership. At this point, the Command leadership may allow us to proceed with the implementation portion of the project or choose to further analyze our findings and evaluate the practicality of implementation in our institution.

10. Will you collect data from living individuals through some type of intervention?

- YES
- NO

If Yes, please explain:

11. Will you interact in ANY way with a living individual?

- YES
- NO

If Yes, please explain:

Protection of Human Subjects

Process notes will be collected from the value stream mapping process of observation and provider satisfaction responses to assess potential benefits and efficacy of this process improvement project. Personally Identifiable Information (PII) will not be used during any stages of the project. All notes will be free of personally identifiable information and stored under lock and key in a cabinet located in a secure space within NHB.

12. Will you have access to individually identifiable information?

- YES
- NO

If Yes, please explain:

13. Will you be utilizing the electronic medical record in any way?

- YES
- NO

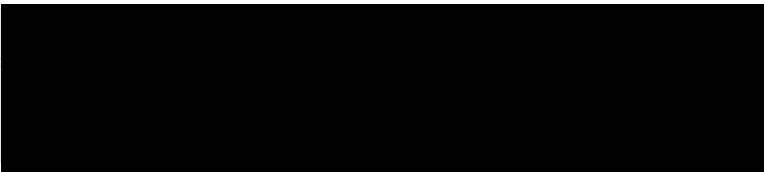
If Yes, please explain:

Only to collect data to support conversion rates from virtual appointments to traditional appointments. No other data points will be collected.

14. Please use this space to include any other information you would like considered in the determination of this review:

Investigator Signature and

Date:



IRB DETERMINATION

(CID USE ONLY)

More information is required, specifically:

This is a Performance Improvement / Quality Assurance project.

NOTES:

Nice Project!

This appears to be a human subject research project and warrants full submission to the IRB

NOTES:

Reviewer Signature and
Date:


INVESTIGATORS, DO NOT COMPLETE THIS PAGE
***Reviewer Checklist: Human Subject Research-vs.-
Quality Improvement/Process Improvement***

Each Assessed Element must meet criteria for Quality Improvement in order for this project to be conducted without IRB review and approval. This form must accompany the signed QI checklist submitted by the POC of the project.

| <i>Assessed Element</i> | <i>Human Subject Research</i> | <i>Quality Improvement</i> | <i>Notes</i> |
|--|---|---|--------------|
| Intent | <input type="checkbox"/> Contribute to “generalizable” knowledge | <input checked="" type="checkbox"/> Improve a program or service or ensure it conforms with expected norms | |
| Design | <input type="checkbox"/> Develop or contribute to “generalizable” knowledge, may involve randomization of individuals to different treatment regimens or processes. | <input checked="" type="checkbox"/> Not intended to develop or contribute to “generalizable” knowledge, does not involve randomization of individuals, but may involve comparison of variations in programs | |
| Effect on Program or Practice Evaluated | <input type="checkbox"/> It is not the specific intent that findings of the activity will directly affect institutional or programmatic practice; however, they may influence future policies | <input checked="" type="checkbox"/> Findings of the activity are expected to directly affect institutional practice and may identify corrective action(s) needed | |
| Population | <input type="checkbox"/> Usually involves a subset of individuals; generally, statistical justification for sample size is used to ensure endpoints are met | <input checked="" type="checkbox"/> Includes all or most receiving a particular treatment or process; exclusion of information from some individuals significantly affects conclusions | |
| Benefits | <input checked="" type="checkbox"/> Participants may or may not benefit directly; benefit, if any, to individuals is incidental or delayed | <input type="checkbox"/> Participants are expected to benefit directly from the activities | |
| Dissemination of Results | <input type="checkbox"/> The intent to publish or present the findings is generally presumed at the outset; dissemination of information usually occurs in research/scientific publications or other research/scientific fora; results expected to develop or contribute to “generalizable” knowledge | <input checked="" type="checkbox"/> The intent to publish or present is generally NOT presumed at the outset; dissemination of information does not occur beyond the institution evaluated; dissemination of information may occur in quality improvement publications; when published or presented to a wider audience, the intent is to suggest potentially effective models, strategies, assessment tools or provide benchmarks or base rates rather than to develop or contribute to “generalizable” knowledge. | |

Appendix I: Public Affairs Office letter of clearance

| REQUEST FOR CLEARANCE FOR AUTHORIZED WORK | | |
|--|--|---|
| A. AUTHOR | | |
| 1. Name (Last, First, MI) Fortunato, Jean, A & Torres, Schadeq | 2. Grade / Rank LCDR/O4 | 3. Title Family Nurse Practitioner-Student |
| 4. Command / Workplace Naval Hospital Bremerton/Family Medicine | 5. E-Mail Address jean.a.fortunato.mil@mail.mil | 6. Telephone Number (include Area Code) 619-550-7922 |
| B. AUTHORED WORK | | |
| 1. Authored Work Title Meeting Access to Care through Innovation | | |
| 2. Relevance of authored work to operational medicine / Navy Medicine Standardization of the virtual appointing process will result in improved provider satisfaction and efficiency of the PCMH team. Implementation of the findings of this project will enable use of already purchased health information technology to be used to the fullest capacity, benefit the organization's goal of patient centered model of care and support the priorities of the Military Health System's Quadruple Aim. | | |
| 3. Summary of media sensitive subject matter USUHS Scholarly Presentation | | |
| 4. Format | | |
| a. Select type of Authored Work Presentation | | |
| b. Presentation Date (DD MMM YYYY) 17 May 2018 | | |
| c. Venue/Location Uniformed Services University of Health Sciences | | |
| d. Audience Trade Professionals: Faculty, Staff, Students | | |
| e. Will media be attending the presentation? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | | |
| 5. Synopsis (In layman's terms) | | |
| a. Background The Military Health System is challenged to meet the needs of beneficiaries while ensuring a platform that provides care to deployed military service members. This includes experience of care, population health, per capita cost while maintaining a state of perpetual readiness. Increased access to primary care directly influences military readiness and the ability to deploy active duty military to remote areas. Through a combination of training, diversification of empanelment and open access to care, nurses and PCMH staff may best preserve deployable skills and support operational readiness. | | |
| b. Results A strong relationship exists between use of virtual appointments and provider satisfaction levels. Direct observation, filed notes, and a questionnaire yielded the following results: virtual appointments are not used to their full capacity. A value stream map comparison and gap analysis identified barriers to virtual use and adoption of best practice methods. | | |
| c. Conclusions A shift in strategy wherein outdated measurements of access to care are replaced with outcomes based measurements, aligning the patient centered medical home structure and health information technology with current healthcare market legislative reforms. The standardization of virtual appointment practices would support efficiency resulting in improved patient and provider satisfaction. Each of these impacts would support a perception shift from the virtual appointment as an additional workload to being viewed as the preferred method of care delivery. | | |
| d. Sensitive Areas / Media Interest | | |
| C. LOCAL / REGIONAL PUBLIC AFFAIRS OFFICER I have reviewed this authored work and request a BUMED/PA review and approval | | |
| 1. Name Douglas H Stutz | 2. Grade / Rank NHB PAO | 3. Telephone Number (include Area Code) 360-475-4665 |
| 4. E-Mail Address douglas.h.stutz.civ@mail.mil | [REDACTED] | |

| D. BUMED PUBLIC AFFAIRS | | |
|--|--|---|
| 1. Approval | | |
| <input checked="" type="checkbox"/> a. BUMED Public Affairs has approved for submission / presentation | Date | 20 APR 2018 |
| <input type="checkbox"/> b. BUMED Public Affairs has forwarded for higher review | Date | |
| <input type="checkbox"/> c. BUMED Public Affairs has received from higher review | Date | |
| <input checked="" type="checkbox"/> d. BUMED Public Affairs has notified sender | Date | 20 APR 2018 |
| 2. BUMED Public Affairs Officer | | |
| a. Name Mzariah Felipe | b. Grade / Rank CIV | c. Telephone Number (include Area Code) 703-681-9551 |
| d. E-Mail Address mzariah.m.felipe.civ@mail.mil |  | |

Appendix J: DNP Project Completion Form



Appendix J Daniel K. Inouye Graduate School of Nursing
DNP Project Completion Verification Form

**DOCTOR OF NURSING PRACTICE PROJECT
Completion Verification Form**

The DNP Project titled: Meeting Access to Care through Innovation was completed at Naval Hospital Bremerton by the following student(s):

| <i>(type student name)</i> |  | <i>(date)</i> |
|----------------------------|--|---------------|
| __ Jean Ann Fortunato | | 16MAR2018 |
| __ Schadaq Torres | | 16MAR2018 |

The DNP Practice Project Team verifies that the following components of the DNP project, accomplished by the above students, is of sufficient rigor and demonstrates doctoral level scholarship to meet the requirements for USUHS GSN graduation:

- Presentation of DNP project to the leadership/stakeholders at the Phase II Site,
- Abstract/Impact Statement (*Appendix I*), and
- DNP Project written report.

Verified by:

| <i>(type name)</i> | <i>(signature)</i> | <i>(date)</i> |
|--------------------|--|--|
| __ Dr. Sue Sheehy |  | 3/21/2018 Senior Mentor |
| __ Dawn E. Galvez | | 3/20/18 Team Mentor & Phase II Site Director |