Gap Analysis: Evaluating the Military PHA Process at a Readiness Clinic at JBSA

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Abstract

Background: For Service Members (SM), the Periodic Health Assessment (PHA) along with the Mental Health Assessment (MHA) are components of Individual Medical Readiness (IMR) and must be completed with a provider to meet deployment readiness standards. The advent of the COVID-19 pandemic caused a sharp reduction in appointment availability and access to care. Subsequently, IMR delinquency rates of SMs increased, partly due to teleworking, limited manning, and fast-evolving clinical dynamics. As of May 2022, a Joint Base San Antonio (JBSA) Randolph readiness clinic had an overdue backlog of 181 PHAs and 933 at risk of being overdue in the next 60 days.

To be identified as cleared for deployment, SMs must complete a PHA within the last fifteen months (ASIMS-PHAQ2, 2022). The Air Force Instruction (AFI) mandates completion of the MHA portion of the PHA within 30 days from when the SM initiates the process by completing step 1 or PHA Questionnaire (PHA-Q) online. Due to the current backlog of SMs needing to complete their PHA, the current average time to complete the PHA is over 60 days. The delay in completing PHAs undermines force mission readiness.

Clinical Question: In the PHA workflow at a JBSA-Randolph readiness clinic, how does the current PHA process compare to the standards outlined in AFI 48-170?

Project Design: Lean Six Sigma (LSS) principles are the foundational structure for this evidence-based practice (EBP) gap analysis evaluating the efficiency and productivity of the current PHA processes. A staff questionnaire and system reports guided the identification of deficiencies in the current PHA process, serving as the foundation for rapid performance improvement process design and mitigating delays further complicated during the ongoing COVID-19 pandemic.

Results: The data collected from 23 staff questionnaires, 3 data pulls obtained six weeks apart, and two 5-month retrospective provider utilization rates identified prolonged processing time significantly longer than the timelines prescribed in the AFI and ASIMS. Key barriers to efficient workflow included task saturation of technicians and lack of clearly defined roles and responsibilities among nurses and technicians within the readiness clinic. Access to care, however, was not a limitation contributing to the delay in the PHA process.

Organizational Impact/Implications for Practice: This EBP Gap Analysis aimed to employ LSS principles to evaluate the effectiveness of the current PHA process as part of deployment readiness based on IMRs. The intent was to identify areas that can be optimized and to offer stakeholders evidence-based recommendations to reduce the backlog and improve the medical and mission readiness of the unit, the branch, and the entire organization.

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Introduction

The United States maintains one of the largest Armed Forces, with more than 1.3 million active-duty service members (SM) stationed around the world [1] (*Defense Manpower Data Center*, n.d.). According to the Texas Comptroller of public accounts, in 2017, approximately 24,000 active-duty Army, Navy, Air Force, and National Guard SMs were stationed in Joint Base San Antonio (JBSA) alone. In order to deploy to various locations around the world, the SM must be evaluated for any medical conditions, medical readiness status, and deployability status as either "deployable" or "deployable with limitations" in accordance with DoDI 1332.45. The periodic health assessment (PHA) provides an opportunity for medical providers to identify medical concerns, educate SMs as to their medical conditions, and refer them for further care as needed. DoDI 6025.19 (2014) mandates PHA annually to assess the overall health, medical readiness, and deployable status of every SM. A PHA is considered overdue, and the SM is not fully medically ready if it is not completed within three months of the annual due date. The goal outlined in DoDI 6200.05 prescribes an 85 percent unit benchmark that unit personnel must be medically ready for deployment.

In terms of completing MHA/PHAs, the Air Force, Navy, and Army may utilize face-to-face, telephone, or video teleconference platforms to conduct the person-to-person assessment (DoDI 6200.06, 2016). Regardless of which appointment type is utilized, medical readiness and access to care can be hindered by inefficient workflow strategies. PHA workflows directly impact Individual Medical Readiness (IMR) and, subsequently, unit deployment readiness.

Problem Synthesis

On 14 March 2021, Defense Secretary Marc Esper issued a memo stopping movement

for all SMs, bringing US Military operations to a screeching halt. Large gatherings and indoor activities were avoided to mitigate exposure to the COVID-19 virus (CDC, 2020). Many SMs were then authorized to work remotely. The advent of the COVID-19 pandemic caused a sharp reduction in appointment availability and access to care. In addition to the DoD PHA, SMs must also be current in their dental readiness assessment and have received all required immunizations and laboratory studies to be fully medically ready to deploy. These restrictions made it challenging for SMs to maintain their IMR, negatively impacting unit and mission readiness. One JBSA Air Force squadron was found to only have approximately 45%, fully medically ready to deploy during the COVID-19 pandemic (L. Nouwamey, personal communication, March 17, 2022).

As movement restrictions were lifted, units once again prepared to deploy, with SMs rushing to maintain medical readiness requirements. Due to the influx of SMs needing to complete PHAs, a JBSA-Randolph Base Operation Medical Clinic (BOMC) was taking an average of more than 90 days to complete PHAs. During the pandemic, military medicine also began the rollout of a new electronic health record (EHR), known as MHS Genesis, to replace the existing three across inpatient and outpatient services. It was unclear why JBSA-Randolph could not consistently complete an SMs PHA in a timely manner. Regardless of the barriers or limitations, optimizing workflow would be best accomplished through a whole system strategy rather than dependency on individual staff or providers (Smith et al., 2020). Conducting a gap analysis to assess and identify shortfalls in the PHA process at JBSA-Randolph was needed to optimize PHA workflow encounters.

Relevance to Military Nursing

Military Nurses, alongside other healthcare providers, are responsible for ensuring the

medical readiness of SMs during each clinical encounter (DoDI 6025.19, 2014). The primary care provider, whether it be the advanced practice registered nurse (APRN), physician, or physician assistant, is charged with leading the clinical team and is responsible for the coordination of services (Reid et al., 2009). From the support staff and technicians to the nurses and providers, PHAs must incorporate all care team members to maximize efficiency (Helfrich et al., 2014). Change to the EHR, organizational structure, or healthcare delivery platform can enhance or hinder patient care. Doctorally prepared APRNS must help shape the policies, guidelines, and minimum standards to meet the dynamic healthcare needs of SMs effectively.

Clinical Question

In the PHA workflow at a JBSA-Randolph MTF, how does the current PHA process compare to the standards outlined in AFI 48-170?

Search Strategy

A literature search, guided by the above PICO question, was conducted to produce relevant evidence-based articles. The PubMed and Cumulative Index to Nursing and Allied Health Literature (CINAHL) databases were utilized to review current literature. The following keywords were used in all databases "primary care" or "outpatient" or "healthcare*" or "clinics" AND "gap analysis" or "optimization" or "workflow" or "application" or "screening "AND "lean six sigma" AND "reduc*" or "improv*". Filters were applied to limit results by publication date within ten years, article type, English language, and adult population. The initial query yielded 43 and 20 matching results from PubMed and CINAHL, respectively, for a total of 63 articles. After eliminating 14 duplicates, 49 titles and abstracts were screened for relevance to the PICO question. Twenty-five full-text articles were reviewed for overall quality and level of evidence. Articles with less relevance, methodological limitations, or weaker validity/reliability were

excluded based on a systematic evaluation of structural design, sample selection, data collection, experiment implementation, and statistical analysis. Finally, six articles were selected for the solution synthesis. See Appendix A for more details.

Solution Synthesis

MTFs are essential in providing a wide variety of healthcare services, including prevention, diagnosis, treatment, and care coordination. The MTF is also charged with the no-fail mission of supporting SMs to maintain their IMR, specifically PHA compliance. The increasing rate of overdue PHAs undermines deployment readiness and patient satisfaction. Low IMR compliance can be a complex issue influenced by many factors. This section will explore the possible causes and serve as the compass for goal-oriented data collection and analysis.

Staffing shortage is probably the most common cause of inadequate access to care in healthcare settings. Staffing shortage should not be determined by simply looking at the number of employees as it could result from other issues such as low staff engagement, incompetent skills, poor staff satisfaction, etc. If uncorrected, staffing shortages may cause low patient satisfaction, decreased access to care, and burnout, negatively impacting PHA compliance (Unertl et al., 2020).

Another common cause of low productivity is ineffective leadership, which may lead to flawed/unsynchronized workflow, poorly defined clinical roles, and uncoordinated teamwork. Strong leadership guidance and support are the foundation for team success, as they could influence various areas positively. Examining leadership functions within clinical settings is imperative to ensure optimized practice (Schretlen et al., 2021).

Resource scarcity is also common within healthcare settings, which COVID-19 has aggregated. This could include lacking clinical space and equipment, insufficient medical

supplies, and outdated technologies. Inadequate resources can lead to delays in patient care, increased frustrations among clinical staff, decreased patient dissatisfaction, and, inevitably, inadequate access to care (Hoefsmit et al., 2023).

The current productivity and access to care issues within the MTF could be complex and influenced by many factors. It was prudent to thoroughly examine the common causes mentioned above to propose process improvement recommendations. It is reasonable to infer that using the Lean Six Sigma (LSS) methodology, as a highly recognized industrial tool, to evaluate the current practice would be beneficial in identifying existing issues.

Focus Areas

The focus of this project is closely aligned with our organization's priority - medical readiness. It was concerning that we have non-deployable military units due to low IMR compliance. AFI 48-170 mandates completion of the MHA and PHA within 30 and 120 days, respectively, from completion of the PHA-Q online by the ADMS.

This project focused on identifying gaps in the MTF's current PHA process to provide insightful solutions to promote teamwork and improve clinical workflow. There was a focus on close communication and trust-building with clinical staff as the success of this project depended heavily on leadership support and the buy-in from the entire healthcare team. Ultimately, the goal was to promote IMR compliance and ensure unit medical readiness (R. Faucher, C.A. Liggayu, C. Shen, personal communication, November 2021).

Business Case Analysis

The LSS model was utilized to conduct a gap analysis to evaluate the current PHA process at JBSA-Randolph. Given the collaborative nature between the SM, support staff, and provider to complete PHA's, a comprehensive and systematic approach was needed for

optimization. LSS is a validated methodology to identify system inadequacies and enhance organizational performance (Patel & Patel, 2021). Several assumptions were made to include inadequate support staff and resources, limited access to care, extended PHA completion times, and a lack of adherence to standard operating procedures (SOP) or training standards regarding PHAs.

As components of medical readiness, PHAs directly hinder a unit's deployment readiness. A lapse in unit medical readiness can delay deployment readiness which incurs a daily operational cost. The cost-benefit is illustrated in a Military Times Article released in 2018, placing the estimated daily operational cost of one unit composed of 5,900 SMs at approximately $1.2 million per day (Copp, 2018). In order to prevent unnecessary delays to unit mobilization, units must maintain their medical readiness. A streamlined and well-designed PHA process is not only cost-effective but also helps mitigate PHA delinquencies and improve IMR compliance.

Organizing Framework

LSS is a philosophy, methodology, tool, and approach that seeks to optimize organizational performance by eliminating waste and imperfections in business processes. It has its roots in the quality improvement efforts of scientists at Toyota and Motorola. Applying LSS within organizations, people and data are used to identify the underlying causes of waste, problems, and defects and offer potential solutions. Eliminating waste by implementing identified solutions modernizes and improves organizational processes and performance (Patel & Patel, 2021).

LSS as a tool consists of several steps/stages, such as the define, measure, analyze, improve, and control (DMAIC) approach, developed to streamline the process and reduce waste. The first step involves defining the problem. The extent of the problem is measured in the second

step. The root causes of the problem are identified in the third step. In the improvement stage, solutions to the problems are identified and improvements verified. The final step, control, involves implementing measures to sustain the gains and pursuit of perfection (Gerard et al., 2021).

Based on the above reasons, the LSS methodology was adopted for the DNP project to guide this Gap Analysis of the PHA processes at one of the MTFs at JBSA-Randolph (see Appendix B for LSS flowchart design).

Project Design

General Approach

As stated above, when considering the best approach to achieving the goal, the most relevant evidenced-based design methodology suited to the project was identified. The LSS philosophy and Total Quality Management (TQM) were the two contenders the group believed would be most appropriate. According to Melnyk & Fineout-Overholt (2019), "There is increasing recognition that conceptual models or frameworks should guide efforts to change practice." To that end, the team proposed a gap analysis project to evaluate the effectiveness of the current PHA process at JBSA-Randolph utilizing the LSS methodology.

Per DoDI 6025.19 (2014), the completion of a PHA requires a 2-phase, 3-step process that involves:

1. The SM to complete an annual questionnaire when due PHA-Q (step 1, PHA phase I)
2. A support staff member to review the questionnaire and the SMs' records for any items that need attention (step 2, Records Review)
3. An appointment with a provider to complete or close out the PHA (step 3, PHA phase 2)

The overall approach was to observe, examine and analyze the practices at the JBSA-Randolph readiness clinic where the PHA's are conducted. The first step consisted of gathering data on the current backlog of PHA's for the identified population. A questionnaire was developed and disseminated it amongst staff members intimately involved in the process while simultaneously observing their day-to-day activities for one week. A retrospective system reports of SMs due for records review and PHA completion was also obtained.

Setting and Population

JBSA is home to Brooke Army Medical Center, the Department of Defense's only level 1 trauma center, with a 450 inpatient beds capacity and its largest outpatient medical center (Wilford Hall Ambulatory Surgical Center), serving hundreds of thousands of beneficiaries yearly (Military One Source, 2023). The 359th Medical Group at JBSA Randolph is part of the San Antonio military medical market, servicing over 25,000 eligible beneficiaries, including Active Duty SMs and their dependents (Health.mil, 2023).

Within San Antonio's market, MTFs provide dedicated care to ensure SMs are deployment ready at any given time. Twenty-eight staff members were invited to complete the questionnaire voluntarily:

Table 1

Clinic Staff by Position

Role	Frequency
Admin	3
Nurse	4
Provider	6
Technician	10

Procedural Steps and Timeline

In designing the project, articles by Gerard et al. (2021) which described a LSS project to improve the screening and follow-up rates for depression among cancer patients at a metropolitan oncology center in North Texas, and Montella et al. (2017) that utilized the DMAIC method served as the foundation for this gap analysis.

In Gerard et al. (2021), the team applied a systematic phased process informed by data and a multidisciplinary approach to improve the processes of depression screening and treatment in oncology clinics. The project team conducted Gemba walks in the oncology MTF to understand the current practice, made observations, and talked to the staff. Montella et al. (2017) took a similar approach using LSS principles to identify factors contributing to bacterial colonization of surgical patients and corrective actions using a questionnaire to collect stakeholder data.

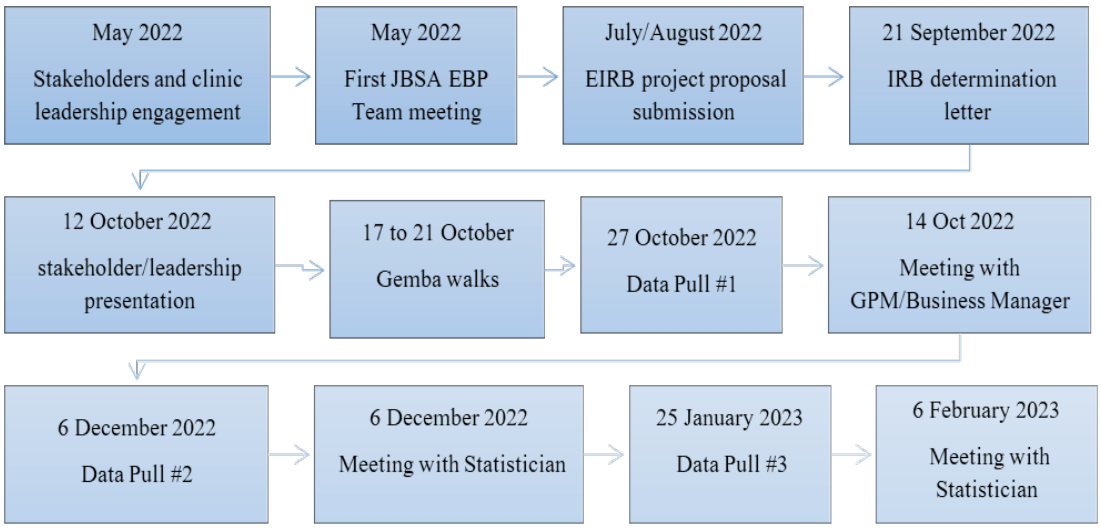
A preliminary assessment of the existing PHA backlog was completed in May 2022 to establish a baseline status. Following this review, meetings were held with the stakeholders, leadership, and JBSA evidence-based practice (EBP) team. Electronic Institutional Review Board submission was completed in Aug 2022, and determination received in September 2022. The questionnaire included 11 carefully designed Likert-Scale questions adapted from Montella et. Al (2017) and Pittman et. al (2021). The questions encompassed aspects of the patient-centered medical home (PCMH) healthcare delivery model implemented by outpatient MTFs. It was designed to measure clinic staff's perception of the PHA process within the context of the PCMH model and assess their views on the potential solutions (Appendix H). Specifics of the questionnaire are reviewed in the results and analysis sections. Gemba walks were completed in October 2022 per LSS methodology (Gerard et al., 2021). Three data pulls were performed

serially in October/ December 2022 and January 2023. Finally, retrospective scheduling templates and appointment utilization rates were obtained for the dedicated PHA provider and a clinic counterpart to assess access to care availability.

A stakeholder/leadership meeting initiated the process. The session introduced the identified problem, a review of the Department of Defense and AFI medical readiness requirements, and an overview of the LSS gap analysis. The following week, Gemba walks were incorporated. "Gemba" walks are a most important component for the LSS team. Gemba walks involves observing and evaluating the process (Gerard et al., 2021). Figure A below provides a detailed view of the chronological sequence of events.

Figure 1

Project Timeline



Data Analysis

Table 2

Data Analysis Plan

PCMH Principle	Current State	Gap	Desired State
Team-based care (Q1)	4.13	0.13	5-Apr

Access to care	n/a	n/a	n/a
Coordinated care (Q2, Q3, Q4)	3.06	-0.94	5-Apr
Comprehensiveness (Q5)	2.78	-1.22	5-Apr
A systems-based approach to quality & safety (Q6, Q7, Q8)	3.56	-0.44	5-Apr
Sustained partnerships (Q9, Q10)	2.89	-1.11	5-Apr
Reorganization of care delivery (Q11)	3.48	-0.52	5-Apr

HIPAA Concerns

Protection of sensitive patient health information was ensured by storing information on common-access-card-enabled computers at secure locations. No patient-informed consent was required as metrics were measured without interviewing patients. All information collected will be disposed of upon completing the gap analysis project. Team members safeguarded all data and materials to ensure HIPAA compliance.

Project results

LSS Staff Questionnaire

All multidisciplinary roles of the MTF, including administrators, technicians, nurses, and providers, were considered.

Table 3

Lean Six Sigma Questionnaire

Sequence	Question	Question Type
1	There are regular team meetings or other mechanisms to discuss/communicate /coordinate patient care prior to the patient appointment.	Likert-Scale
2	You have the necessary support in terms of staffing to complete PHAs.	Likert-Scale
3	You have clearly described tasks and timelines for your role as supporting staff or as a provider with regard to PHAs.	Likert-Scale
4	The implementation plan for completing PHAs identifies specific roles and responsibilities.	Likert-Scale

5	You have all the resources that you need to complete the task efficiently. (Likert scale 1-5). If you disagree or strongly disagree, please specify what resources are lacking ranked by importance.	Combined (Likert-Scale and short answer)
6	Can you describe the potential structural and organizational aspects which may have contributed to the current delay in the PHA process?	Short answer
7	SOPs, Operating Instructions or policies are established for conducting PHAs with SMs in your clinic.	Likert-Scale
8	I have been trained in how to complete the portion of the PHA I am responsible for	Likert-Scale
9	You feel you have the necessary support in terms of staffing and resources. If not, please specify what the issues are ranked by importance. If yes, how are they conducted?	Combined (Likert-Scale and short answer)
10	There is a process that holds staff members accountable for completing assigned task results.	Likert-Scale
11	Your clinic implements quality/performance measures to ensure compliance with SOPs, Operating Instructions, or policies.	Likert-Scale

Based on Statistical Analysis Software (SAS) results, the means of all Likert-Scale questions range from 2.09 to 4.13 on a scale of 5. Question 2 received the lowest mean of 2.09 with a standardized deviation of 0.79. In addition, Questions 9 and 5 have yielded the second and third-lowest means of 2.35 and 2.78, respectively. Question 6 received no value as team members answered using the short-answer option. Three questions contained an additional short-answer option for further clarification if indicated (see Appendix H).

Table 4

Staff Questionnaire Results

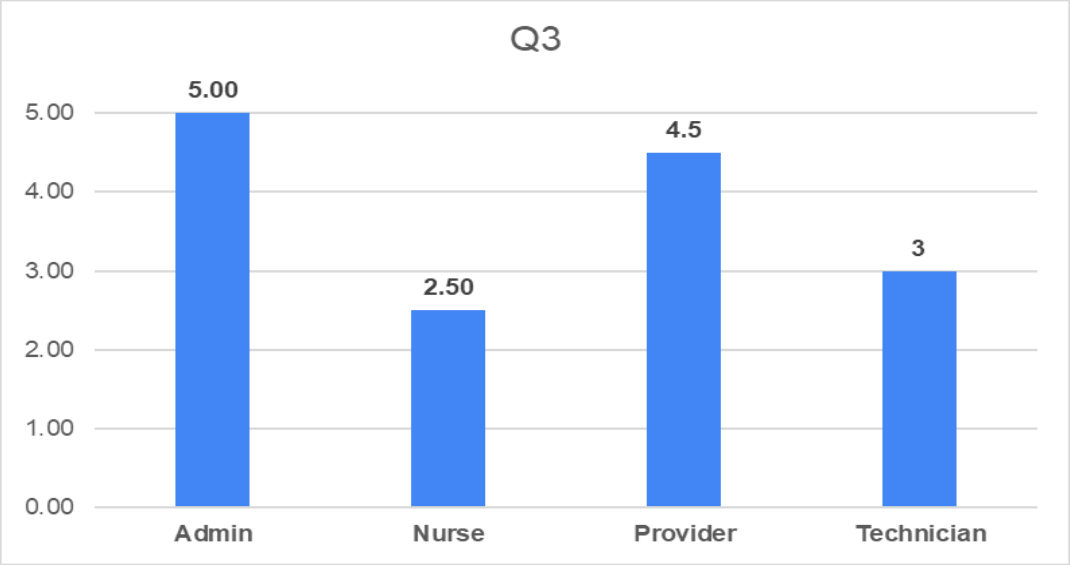
ALL (n = 23)							
Variable	**Mean**	**Std Dev**	**Minimum**	**Maximum**	**Median**	**Lower Quartile**	**Upper Quartile**
Q1	4.13	1.06	1	5	4	4	5
Q2	2.09	0.79	1	4	2	2	3
Q3	3.48	1.31	1	5	4	3	5
Q4	3.61	1.12	1	5	4	3	4

Q5	2.78	1.28	1	5	3	2	4
Q7	3.43	1.08	1	5	3	3	4
Q8	3.70	1.52	1	5	4	2	5
Q9	2.35	0.88	1	4	2	2	3
Q10	3.43	1.20	1	5	3	3	4
Q11	3.48	1.16	1	5	4	3	4

Kruskal-Wallis Test was used to assess for any statistical differences among the role groups. The pair-wise comparison of Q3 showed that Admin vs. Technician had a significant difference (p=0.039). Even though nurse had a smaller median, the N was too small (Admin n = 3 vs. nurse n = 4) and didn't have enough power to detect statistical significance.

Figure 2

Question Three Significance



Finally, the answers conveyed that most of the staff had concerns regarding inadequate manpower to accomplish its PHA mission effectively.

Data Pull 1

On 27 October 2022, the first data pull was obtained. There were 405 SM records in the queue pending a record review (RR) and/or a scheduled appointment with a provider to complete the PHA. Of those records, 131 had already been reviewed for an average of 33.01 days from the

completion of the PHA-Q to the records review (figure 3). Of the remaining records, 103 were within 14 days and were excluded leaving 171 records over the 14 days records review timeline for an average of 43 days (figure 4).

Figure 3

Record Reviews Completed for October

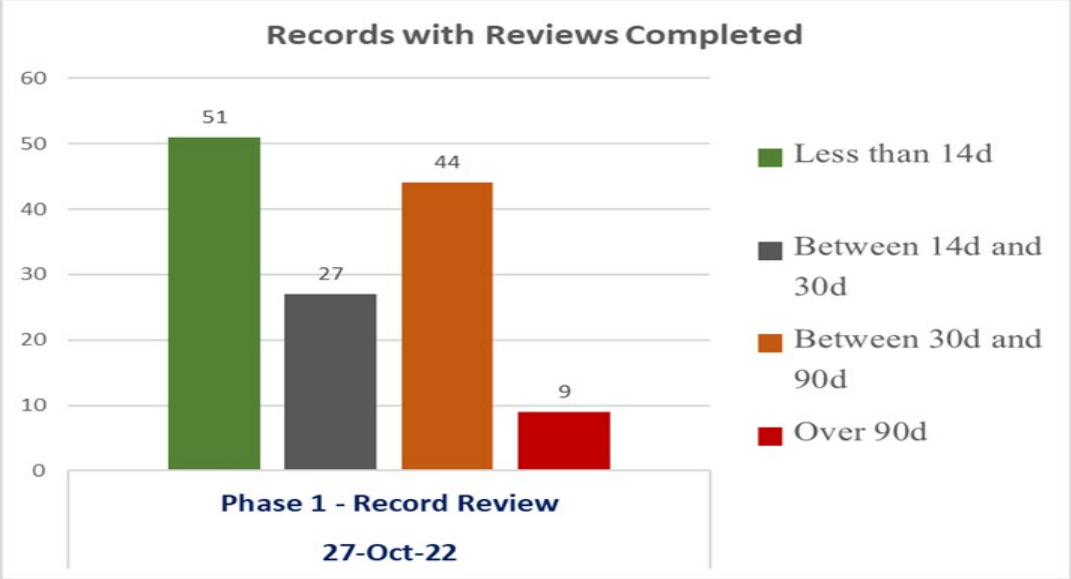
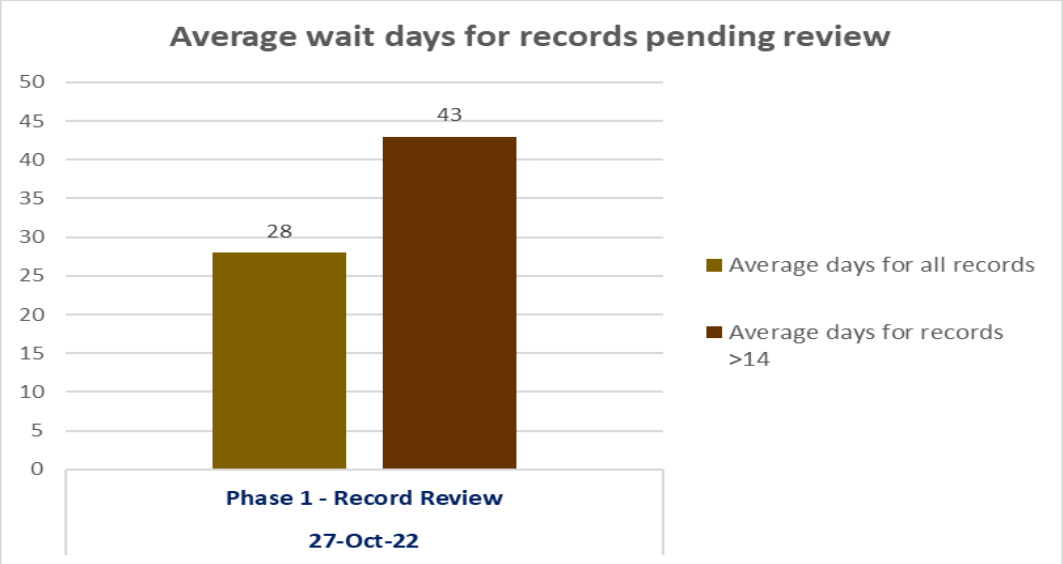


Figure 4

Average Days Pending Record Review for October

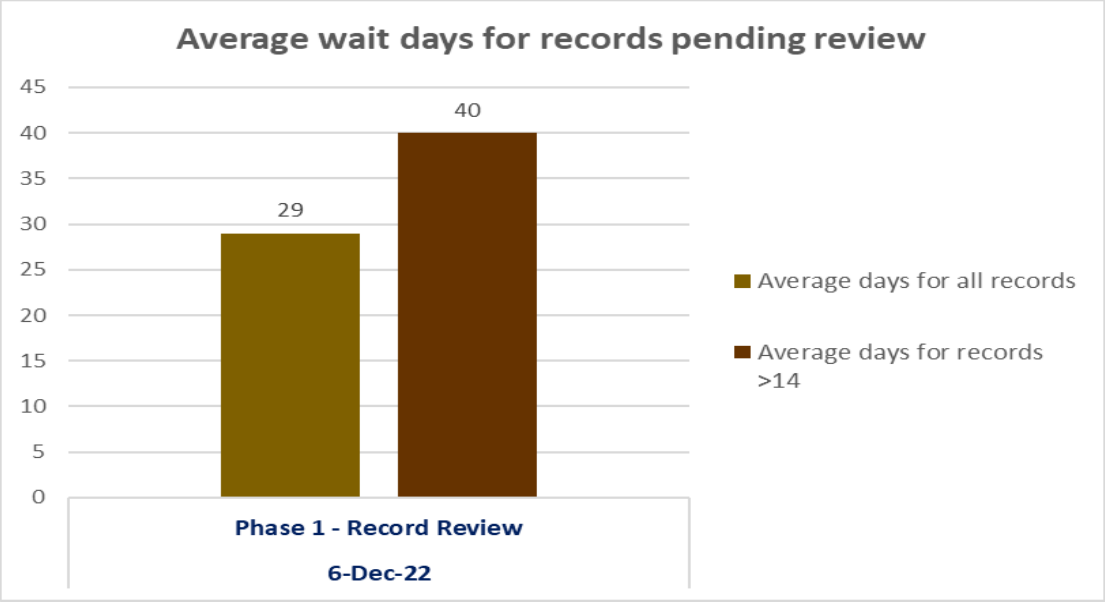


Data Pull 2

On 6 December 2022, a second data pull was obtained. There were 320 SM completed PHA-Q records in the queue pending a RR and/or a scheduled appointment with a provider to complete the PHA. From that batch, no records had a completed records review. Of those, 99 were within 14 days and were excluded leaving 221 records over the 14 days records review timeline for an average of 40 days (figure 5).

Figure 5

Average Days Pending Record Review for December



Data Pull 3

On 25 January 2023, the last data pull was retrieved from ASIMS. There were 488 SM completed PHA-Q records w in the queue pending a RR and/or a scheduled appointment with a provider to complete the PHA. Of those records, 127 had already been reviewed for an average of 36.2 days from the completion of the PHA-Q to the records review (figure 6). Of the remaining records, 119 were within 14 days and were excluded, leaving 242 records over the 14 days records review timeline for an average of 48 days (figure 7).

Figure 6

Record Reviews Completed for January

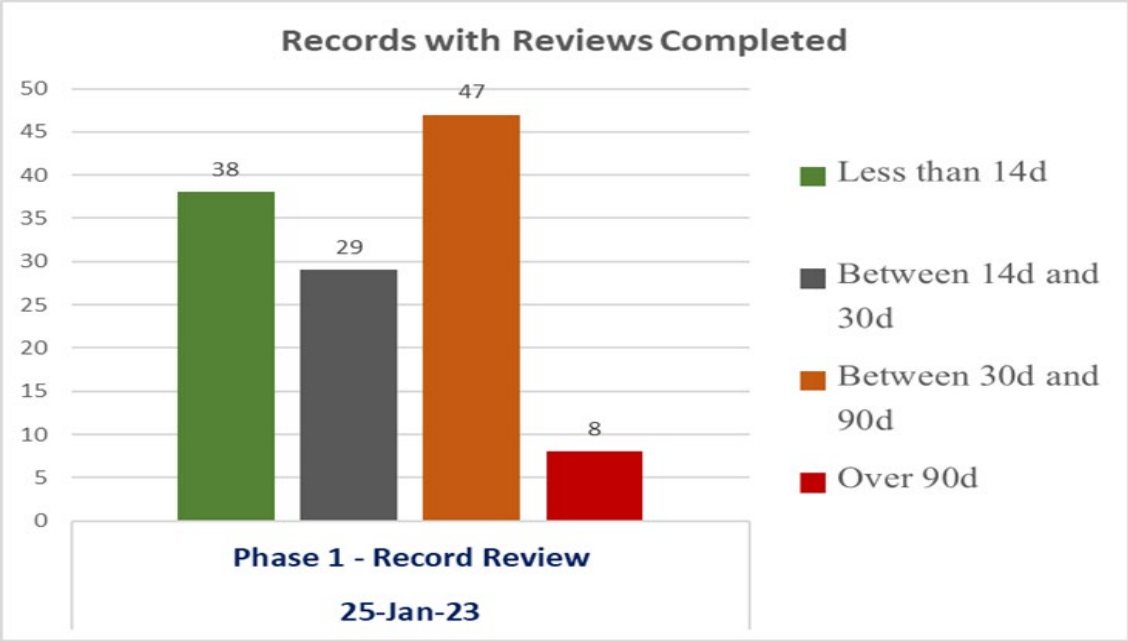
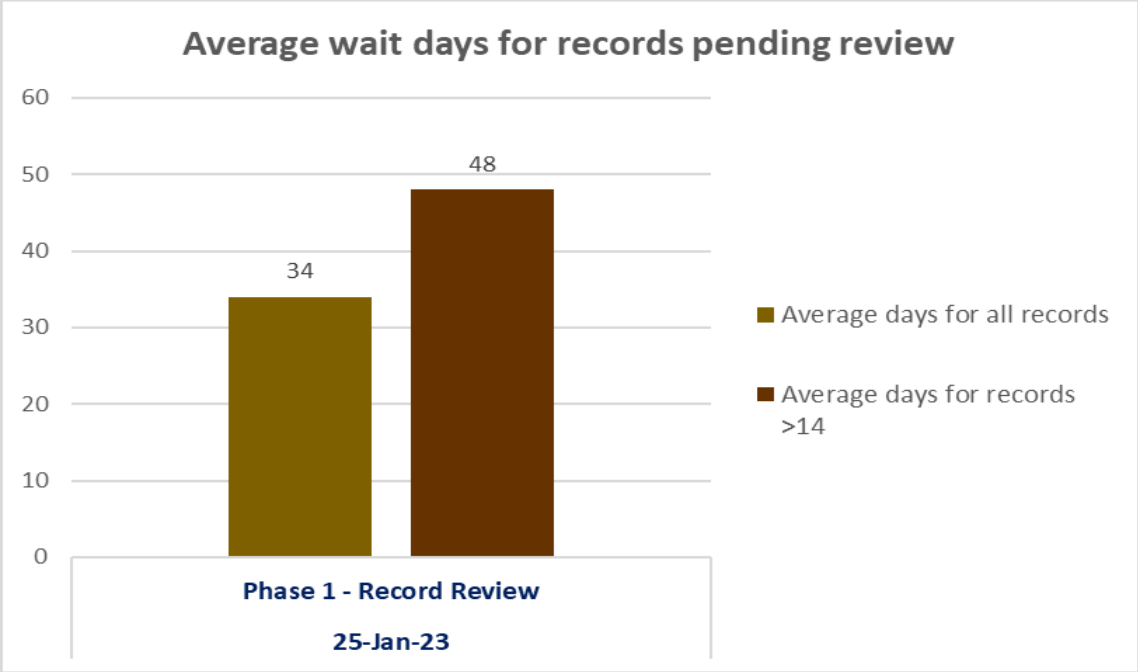


Figure 7

Average Days Pending Record Review for January



Analysis of the results

The analysis was conducted based on data collected via three different modalities starting with an anonymous staff questionnaire, procuring serial PHA reports pulled from the Aeromedical Services Information Management System (ASIMS), and a six month retrospective appointment utilization rate review of two providers within the medical readiness clinic.

LSS Staff Questionnaire

Valuable insights from a subjective perspective were collected via a questionnaire from 23 out of 28 full-time employees. Questions 2, 5, and 9 aimed to assess care coordination, comprehensiveness, and sustained partnerships. Additionally, questions 2 and 9 had the lowest medians of 2 on a scale of 5, largely consistent with their means. These low scores strongly indicated a lack of training, staffing/resource, and effective workflow strategy was believed to be the top reasons for the PHA backlog. In contrast, Question 1 achieved a mean of 4.13, the only mean scored above four. The intent of this question was to assess team-based care through adequate staff meetings and/or communication before patient encounters. The higher score indicated excellent team dynamics and good staff communication.

Additionally, question 3 also assessed care coordination through well-defined clinical roles. Remarkably, the results differed dramatically depending on specific clinical roles: 4.5 and 5 among providers and administrators compared to 2.5 and 3 among nurses and technicians, respectively. Furthermore, the pair-wise comparison of Q3 demonstrated the most significant difference ($p=0.039$) between administrative personnel and Technicians. This considerable difference indicated nurses and technicians believed they did not have clearly delineated tasks and timelines for completing PHAs compared to the other clinical roles.

Table 5

Staff Questionnaire Analysis

ALL (n = 23)				
Variable	**Mean**	**Std Dev**	**Minimum**	**Maximum**
Q1	4.13	1.06	1	5
Q2	2.09	0.79	1	4
Q3	3.48	1.31	1	5
Q4	3.61	1.12	1	5
Q5	2.78	1.28	1	5
Q7	3.43	1.08	1	5
Q8	3.70	1.52	1	5
Q9	2.35	0.88	1	4
Q10	3.43	1.20	1	5
Q11	3.48	1.16	1	5

Lastly, the responses to the short answer options provided unique value regarding staff perception of the current issues. The staff reported task saturation, particularly among the technicians, which significantly undermined the workflow of the PHA screening and scheduling processes. These responses coincided with the low scores on the Likert-scale questions, further suggesting the lack of manpower and/or dedicated personnel for completing PHAs as the most significant constraint. Concerns regarding inadequate staff training, ambiguous clinic responsibilities regarding PHAs, and RRs not being completed to meet providers' expectations were also common themes in the short answer questions.

Pending PHA Reports

In conjunction with the questionnaire, three PHA reports specific to the JBSA-Randolph readiness clinic were pulled from ASIMS, a web-based application used by the Air Force to track medical readiness of all SMs through a web portal. The data was divided into two sets, with the first focused on the number of SMs with completed RR dates. In contrast, the second set contained the remaining number of SMs without previously completed RR dates.

For the first data set, the focus was on three important targets during the PHA process -

the PHA-Q date initiated by the SM, the RR date, and the phase II completion date. The current process was evaluated by calculating the average interval between the PHA-Q to RR, RR to phase II date, and PHA-Q to phase II date. Additionally, each interval was analyzed by dividing the processing time into four groups: fewer than 14 days, from 14 to 30 days, from 31 to 90 days, and over 90 days based on prescribed timelines outlined by DoDI 6200.05 (2016). The same processing timeline was adopted for the second data set, focused solely on the PHA-Q to RR intervals. In cases where SMs did not have a RR and/or phase II date, the date the data pull was used to stratify them within these groups.

The first data set illustrates a significant delay in RR completion times across two of the data reports (see figure 8). As discussed in the results section, the Oct 2022 report had 131 records reviewed at the time of data collection. Of those records, 80 or 61% took more than 14 days to complete the RR, with 27, 44, and 9 RR conducted within windows of 14 to 30 days, 31 to 90 days, and over 90 days, respectively, with a mean processing time of 50 days. Similarly, the overall timing from RR to PHA-II completion was also alarming (figure 9).

Figure 8

Record Reviews Completed After 14 Days in October

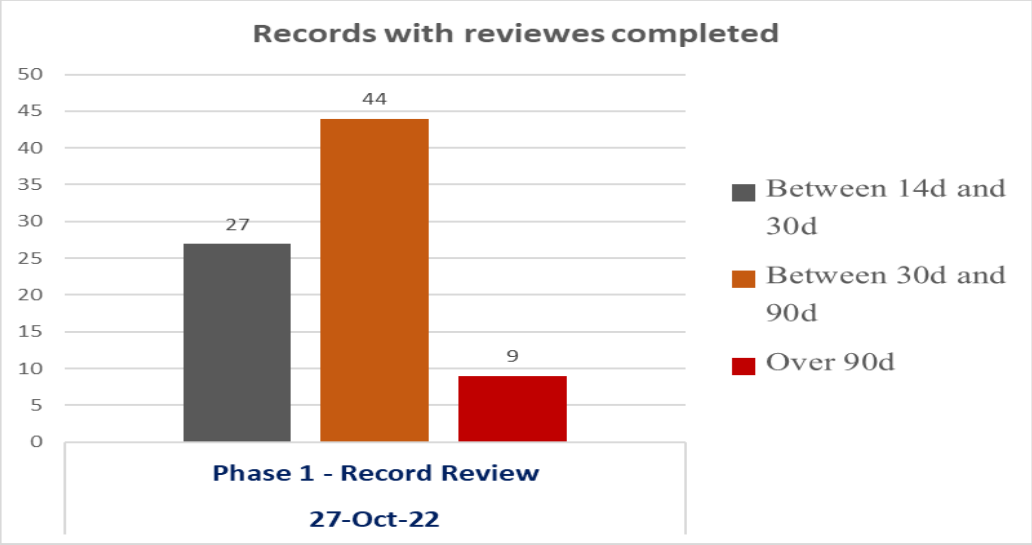
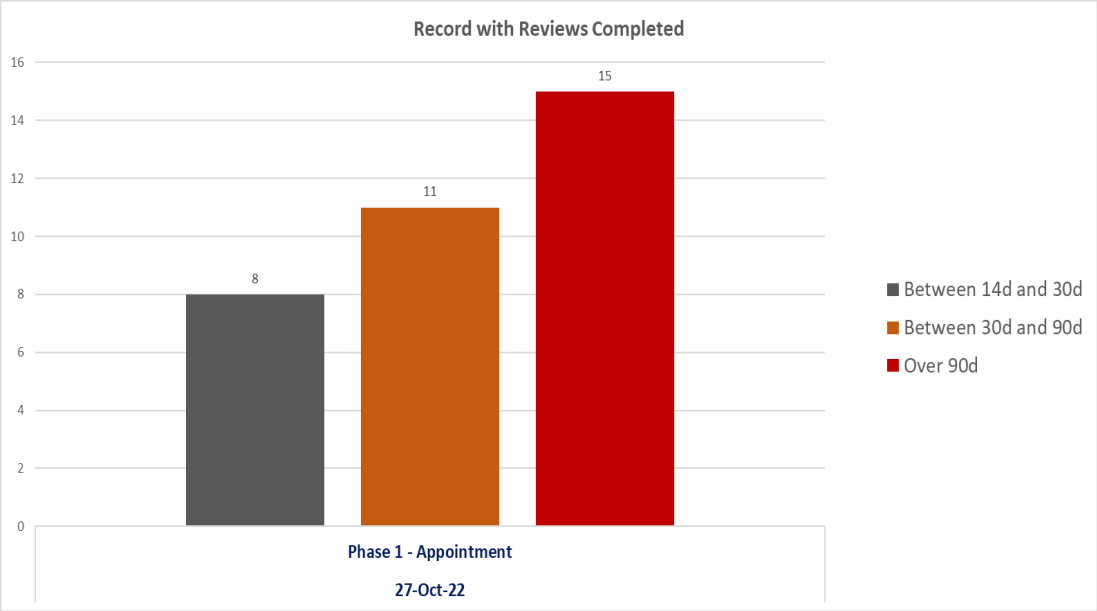


Figure 9

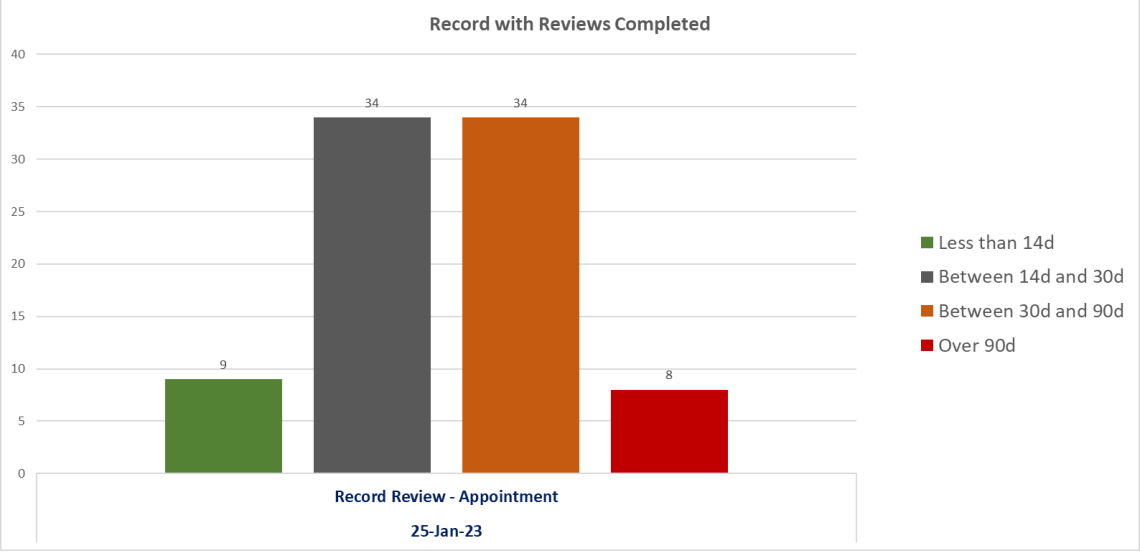
Phase I to Phase II appointments completed in October



According to the Jan 2023 report, the readiness clinic completed only 9 appointments within 14 days of RR, leaving 76 out of 90 SMs outside the 30 days window upon PHA-Q completion per AFI 48-170 (figure 10).

Figure 10

Record Reviews Completed After 14 Days in January

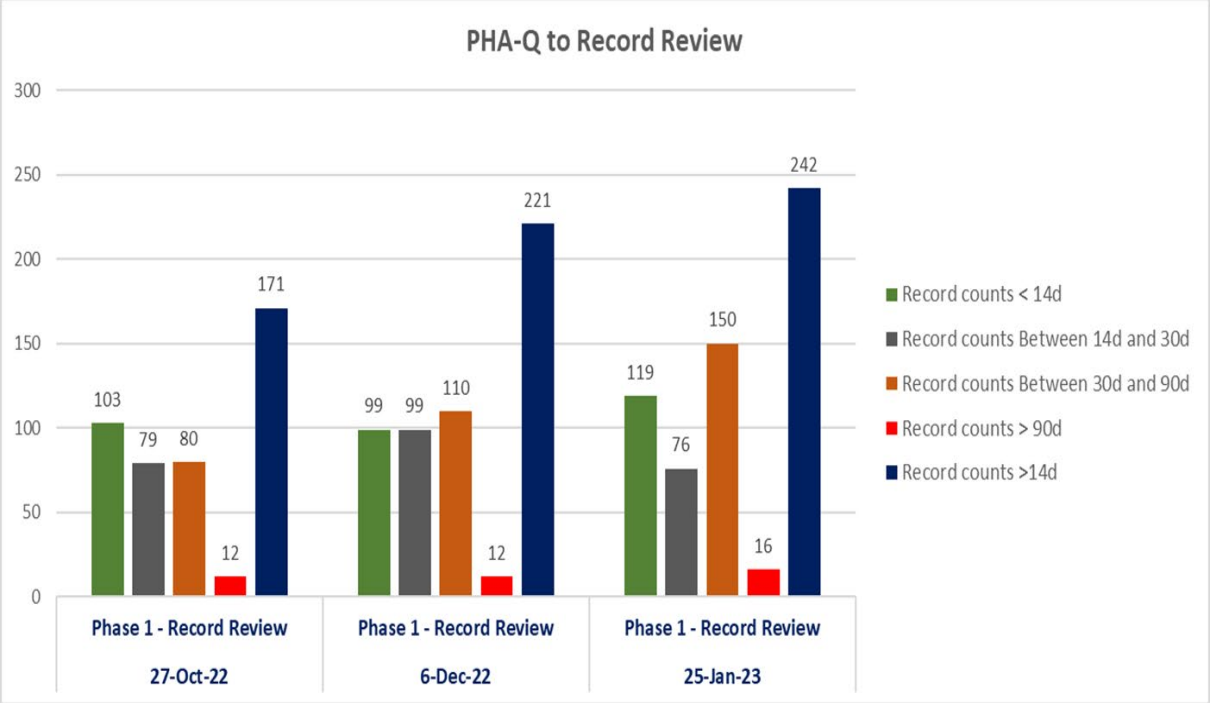


This counts for 89% of all the records, with a mean of 41 days to complete Phase II appointments. The RR and Phase II completion delays were consistent across all reports.

The results from both data sets indicated a significant delay in RR completion rates in all three reports. For instance, the Dec 2022 report shows that only 99 of the 320 records, or 18%, were within the recommended 14 days window per ASIMS (figure 11). Of the remaining records, 99, 110, and 12 have RR were still waiting on RR completion and are now between 14-30 days, 31-90 days, and over 90 days, respectively, with a mean wait time of 40 days (figure 11).

Figure 11

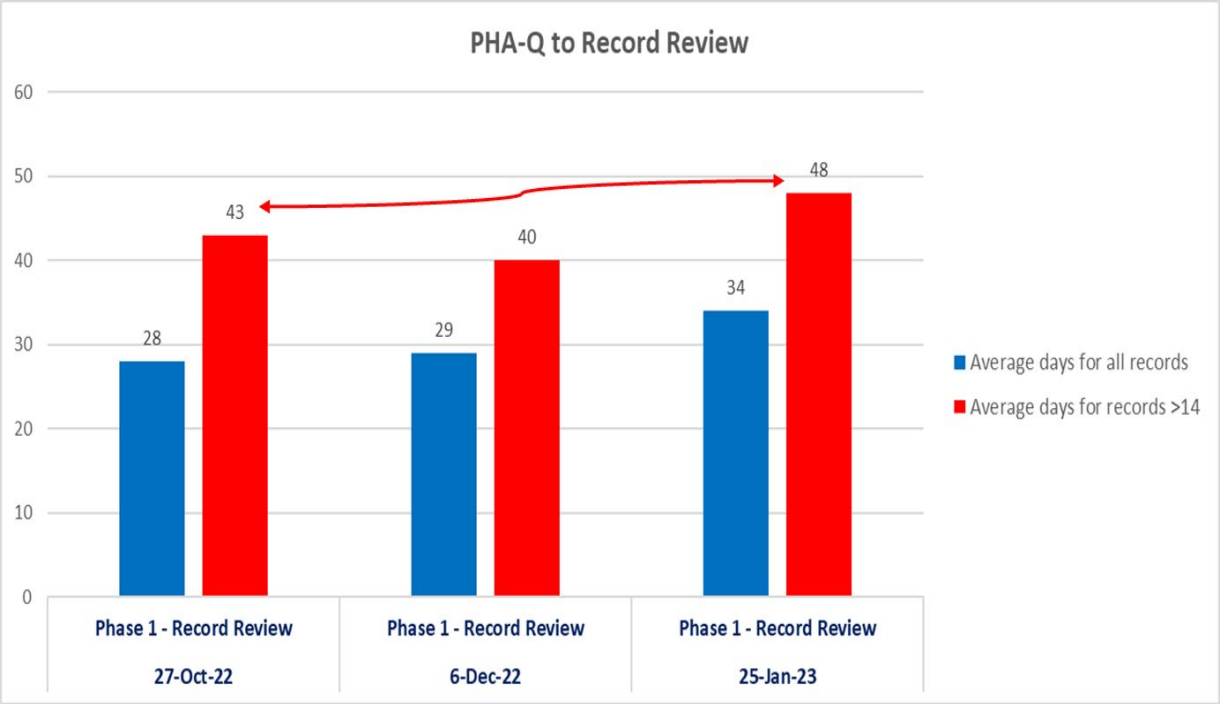
PHA-Q to Record Review Data



The analysis of the data sets has provided solid objective evidence that the current PHA process has significant delays at the RR phase, which negatively impacts and completion of phase II (figure 12)

Figure 12

PHA-Q to Record Review Average Days

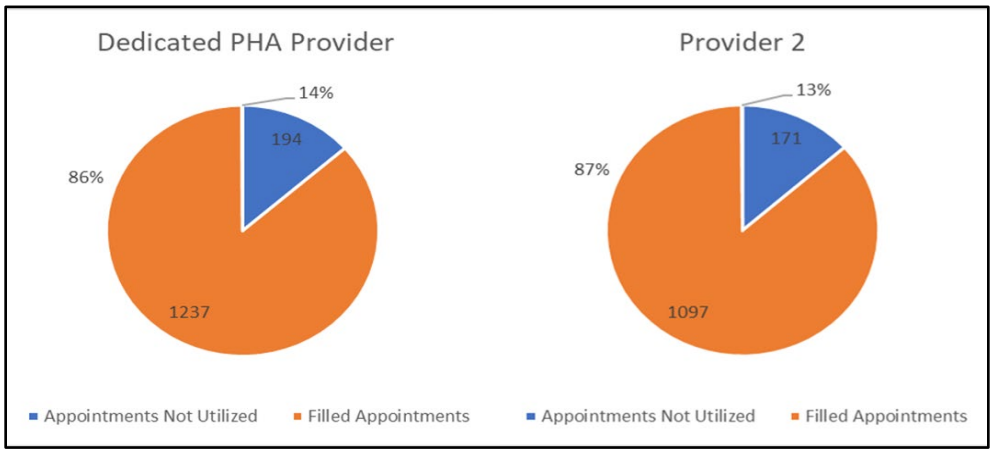


Provider Retrospective Schedule Review

Finally, two pertinent providers' schedules to evaluate access to care were examined. Provider 1 is the only dedicated full-time provider dedicated to PHA appointments at JBSA-Randolph BOMC. According to the retrospective schedule report from 1 June to 6 December 2022, Provider 1 had 194 unutilized appointments, including 71 virtual and 14 in-person appointments, with a mean utilization rate of 86% (figure 13). In comparison, Provider 2 from the same Active-Duty clinic but not solely dedicated to readiness and PHAs had 171 unutilized appointments, including 20 virtual and 28 in-person appointments during the same period. With an 86% and 87% utilization rate between provider 1 and provider 2, respectively, access did not stand out as the problem within the PHA process. This was an unexpected finding as limited access to care was initially suspected as a common barrier to delays in care.

Figure 13

Six Month Provider Utilization Rate



Potential Barriers and Dissemination Plan

The potential barriers were trifold. When procuring the data, support was needed from the leadership team and dedicated administrative time to collect it. These were addressed by highlighting the project's relevance and doing most of the data collection on a schedule. The perceived increase in workload for the support staff was also identified as a potential barrier. This perception was remedied by keeping interactions with staff to the minimum and aligning efforts with existing training events. Finally, transparency was key while emphasizing how understanding the process and identifying the gaps assist in creating a standardized operating procedure that will increase productivity and efficacy in the long run.

The dissemination plan was simple and involved the leadership, stakeholders, and peers. A written report to local leadership of the project findings and opened a dialogue to clarify and address questions raised. When publicizing to the stakeholders, briefs and huddles were offered throughout the process and provided with evidence-based recommendations upon completion. Lastly,a poster presentation for peers at USUHS's Research Day and the Tri-Service Nursing Research Program at JBSA was created.

Organizational Impact/Implication to Practice and Policy

Recurring themes across the different staffing roles included a lack of necessary support staffing and resources. Most staff did not believe they were provided with clearly defined tasks and timelines for their respective role in the PHA process. Matulis et. al. suggested that unclear roles and responsibilities make it difficult for staff to adjust efforts accordingly (2022).

The components of the PHA process lacked cohesion with the newly adopted EHR. So new in fact that MTFs in other parts of the country are still operating on the previous EHR platforms that have been in place for decades. Successful collaboration requires role clarity, task clarity, and building trust among team members (Matulis et al., 2022). Incorporating an optimal workflow strategy through unit-level SOPs that outline specific tasks, roles, and responsibilities helps mitigate workflow disruption when implementing a new EHR system (Sung et al., 2022).

The systematic review conducted by Sung et al. identified a lack of administrative support, resources, and workforce as barriers to workflow implementation and adoption of new EHRs (2022). These fndins directlysupport Sung's findings. Conversely, administrative, and technical support were identified as facilitators. A national online survey conducted by Lucas et al. (2021) and distributed to 589 German emergency department staff associated the absence of SOPs with a subjective delay in patient treatment. Establishing an SOP to allocate the appropriate number of personnel dedicated to PHA related tasks can help streamline workflow.

Table 6

Recommendations

Problem	Recommendation
Perceived lack of training, staffing/resource, and effective workflow strategy	1. Create an SOP a) Define roles and responsibilities b) Assign staff/Allotted time c) Ensure training/competency

Delayed RR completion and scheduling an appointment with a provider	1. Implement a Notification/Tracker b) Live Excel spreadsheet or c) ASIMS embedded tracker or d) Messages

The delay in completing the RR portion and scheduling the SM for the phase II appointment warranted further investigation. Consistent use of a tracking system or reminder to progress the SM through the PHA process was observed to be lacking. Although ASIMS provided a comprehensive list of SMs due for PHAs, the evaluated workflow did not have regular times or personnel assigned to systematically access and review reports. EHR and/or workflow can more efficiently track and process PHAs for completion when embedded within xxx (Hung et al., 2021).

It will require a concerted effort from leadership and team members to prioritize tasks related to PHA RRs and scheduling phase II appointments to reduce the current backlog of more than 300 SMs. Once able to consistently complete PHAs within 30 days, the MTF will need to maintain weekly if not daily intervals in which support staff and technicians can focus efforts and dedicate time for SMs waiting in the PHA queue.

Future Directions for Research and Practice

The first three of five steps in the DMAIC approach were completed in defining, measuring, and analyzing the PHA process at JBSA-Randolph. The remaining steps consist of implementing the proposed recommendations, verifying improvements, and sustaining the gains. Military nursing leaders can employ the LSS methodology at their respective MTFs to conduct a gap analysis and find solutions to their specific challenges. A larger sample size and access to more retrospective data would increase validity to the observations. Proven PHA workflow strategies should be distributed and accessible to all MTFs within JBSA since PHAs are required

of all military SMs. Although the challenges and shortfalls may differ from one location to the next, a solution may have already been identified at similar facilities.

Conclusion

Joint efforts between the Defense Health Agency and medical services of the Army, Navy, and Air Force are aimed at providing *a medically ready force and a ready medical force* to combat and command in peacetime and wartime (*Defense Health Agency*, n.d.). The scale at which this must be accomplished necessitates the optimization of system workflows across multiple MTFs with varying resources and personnel. Analysis of the data from JBSA-Randolph's MTF on completion timelines from initiating the PHA process by the SM, to the records review by the technician, and finally completed with the assigned provider highlighted bottlenecks in the current workflow. Defining roles and responsibilities through SOPs and embedding reminders to complete RRs and scheduling phase II of the PHA are proven methods that can be applied to the JBSA-Randolph PHA process (Sung et al., 2022). It falls on military nursing leaders to lead the charge in providing and optimizing the PHA process at their MTF to ensure the medical readiness of the SMs and units assigned to them.

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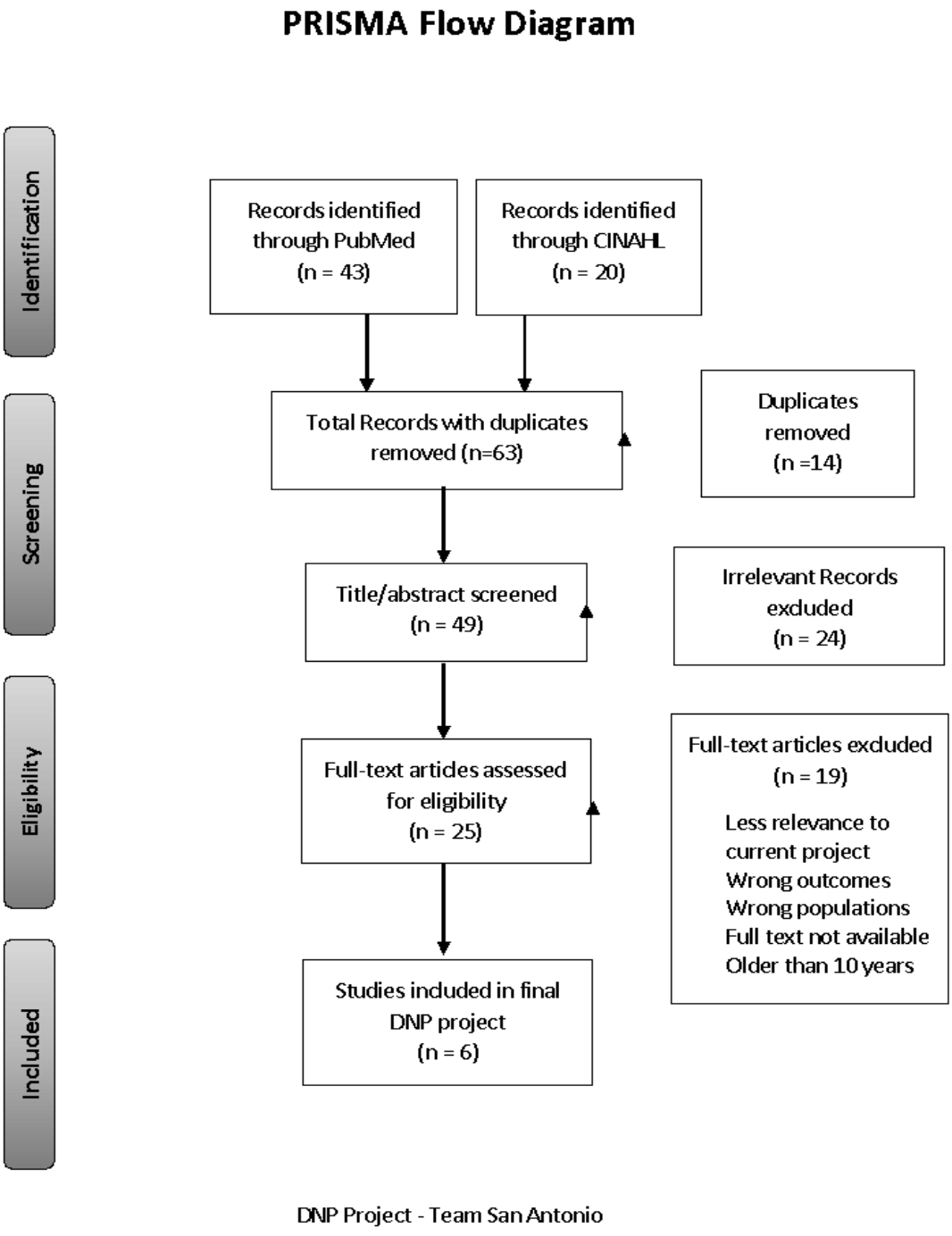
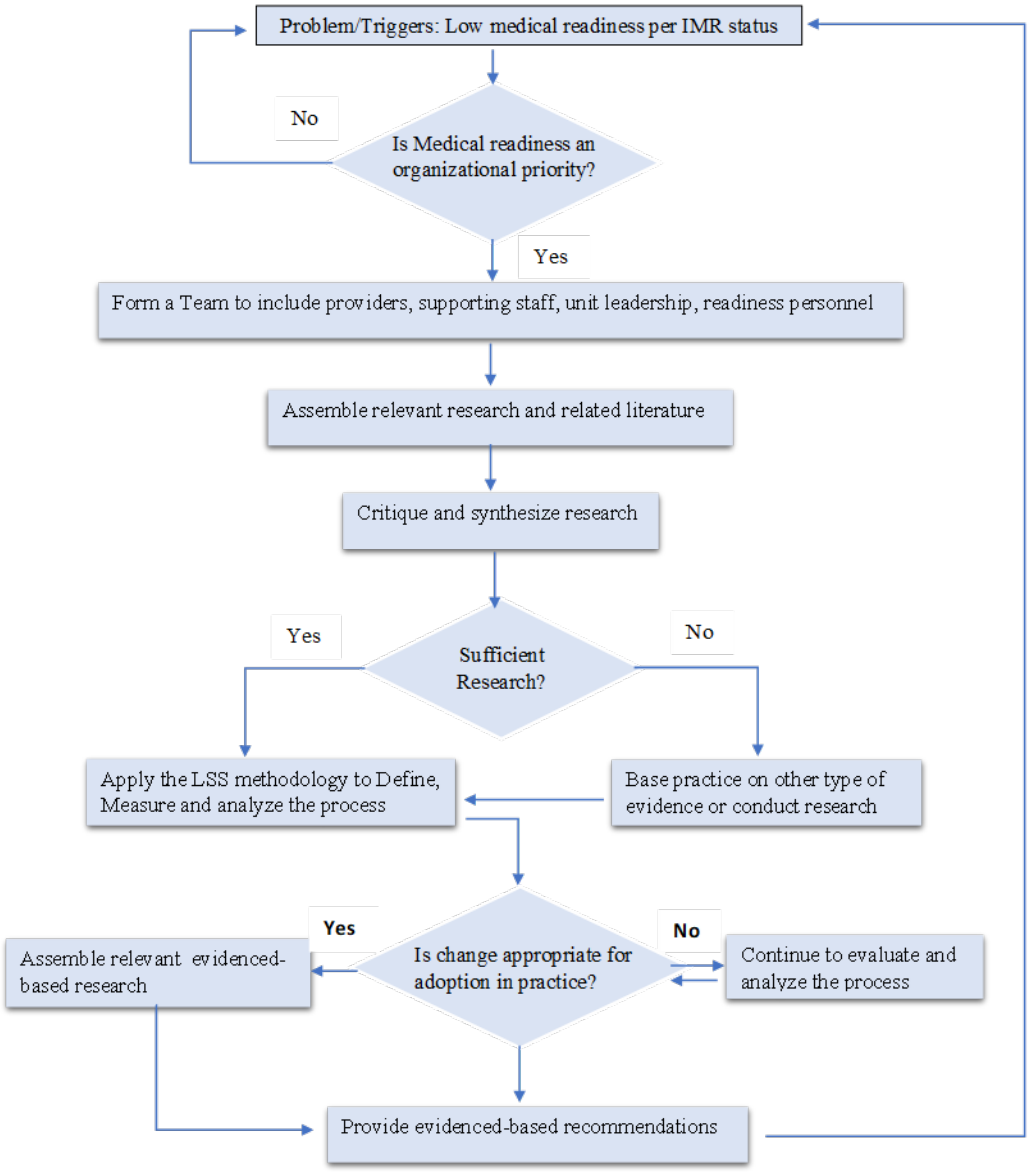
Appendix A


PRISMA Flow Diagram
Identification
Screening
Eligibility
Included
Records identified through PubMed (n = 43)
Records identified through CINAHL (n = 20)
Total Records with duplicates removed (n=63)
Duplicates removed (n =14)
Title/abstract screened (n = 49)
Irrelevant Records excluded (n = 24)
Full-text articles assessed for eligibility (n = 25)
Full-text articles excluded (n = 19)
Less relevance to current project
Wrong outcomes
Wrong populations
Full text not available
Older than 10 years
Studies included in final DNP project (n = 6)
DNP Project - Team San Antonio

Appendix B (LSS)

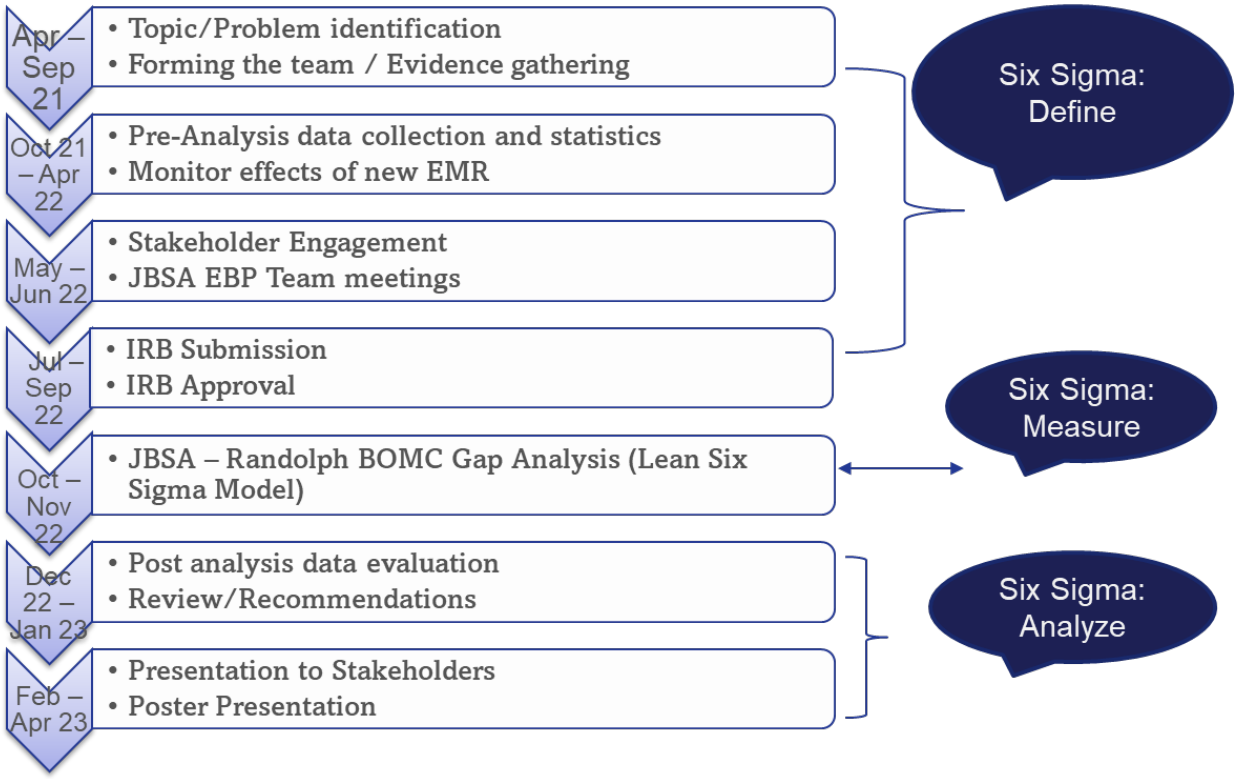


Appendix C (Data Analysis Table)

Data Analysis Table

PCMH Principles	Current State	Gap	Desired State
Team-based care (Q1)	4.13	+.13	4/5
Access to care	n/a	n/a	n/a
Coordinated care (Q2, Q3*, Q4) *Kruskal-Wallis Test	3.06	-0.94	4/5
Comprehensiveness (Q5)	2.78	-1.22	4/5
A systems-based approach to quality & safety (Q6, Q7, Q8)	3.56	-0.44	4/5
Sustained partnerships (Q9, Q10)	2.89	-1.11	4/5
Reorganization of care delivery (Q11)	3.48	-0.52	4/5

Appendix D (Timeline)



Appendix E (Consent Form)

UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES
GRADUATE SCHOOL OF NURSING
4301 JONES BRIDGE ROAD
BETHESDA, MARYLAND 20814-4712

You are invited to participate in a Gap Analysis conducted by USUHS GSN residents CPT Regine Faucher, CPT Cid Anthony Liggayu, and MAJ Chao Shen. The purpose of the analysis is to assess and evaluate the current telehealth PHA workflow at Randolph AFB. Participation should take approximately 15 minutes to complete.

PARTICIPATION
Your participation in this questionnaire is voluntary. You may refuse to take part in the Gap Analysis or exit the questionnaire at any time without penalty. You may skip any question you do not wish to answer for any reason.

BENEFITS & RISKS
You will receive no direct benefits from participating in this gap analysis. However, your responses may help us learn more about optimizing the PHA workflow. There are no foreseeable risks involved in participating in this Gap Analysis other than those encountered in day-to-day life.

CONFIDENTIALITY
Our analysis will not involve any sensitive patient health information or storing patient information on personal or common-access-card-enabled computers. All information collected will be disposed of upon completion of our gap analysis project. Team members will safeguard all data and materials to ensure compliance.

At the end of the questionnaire, you will be asked if you are interested in participating in an additional interview (by phone, in person, or by email). If you choose to provide contact information such as your phone number or email address, your questionnaire responses may no longer be anonymous to the investigator. However, no names or identifying information would be included in any publications or presentations based on these data, and your responses to this questionnaire will remain confidential.

CONTACT
If you have further questions or concerns about your rights as a participant in this Gap Analysis, contact us at regine.faucher@usuhs.edu, cid-anthony.liggayu@usuhs.edu or chao.shen@usuhs.edu. Thank you for your participation.

ELECTRONIC CONSENT: Please select your choice below. You may print a copy of this consent form for your records. Clicking on the "Agree" button indicates that

- You have read the above information
- You voluntarily agree to participate
- You are 18 years of age or older

☐ Agree

☐ Disagree

Print/Signature: _____ Date: _____

Appendix F (Questionnaire)

Lean Six Sigma Questionnaire - Team San Antonio

** Note: For questions with Likert Scales, please indicate your agreement with the following statements: (1. strongly disagree, 2. disagree, 3. neutral, 4. agree, 5. strongly agree)*

1. Are there regular team meetings or other mechanisms to discuss/communicate/coordinate patient care prior to the patient appointment?

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

---

2. You have the necessary support in terms of staffing to complete PHAs.

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

---

3. You have clearly described tasks and timelines for your role as supporting staff or as a provider with regard to PHAs.

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

Appendix F (Questionnaire)

4. The implementation plan for completing PHAs identifies specific roles and responsibilities.

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

---

5. You have all the resources that you need to complete the task efficiently.

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

If you disagree or strongly disagree, please specify what resources are lacking, ranked by importance.

_____

_____

_____

---

6. Can you describe the potential structural and organizational aspects which may have contributed to the current delay in the PHA process?

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

Appendix F (Questionnaire)

7. SOPs, Operating Instructions or policies are established for conducting PHAs with SMs in your clinic.

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

---

8. I have been trained in how to complete the portion of the PHA I am responsible for.

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

---

9. You feel you have the necessary support in terms of staffing and resources.

	1	2	3	4	5	
Poor	○	○	○	○	○	**Excellent**

If not, please specify what the issues are ranked by importance.
If yes, how are they conducted?

_____

_____

_____

Appendix F (Questionnaire)

10. There is a process that holds staff members accountable for completing assigned task results.

	1	2	3	4	5	
Poor	●	●	●	●	●	**Excellent**

---

11. Your clinic implements quality/performance measures to ensure compliance with SOPs, Operating Instructions, or policies.

	1	2	3	4	5	
Poor	●	●	●	●	●	**Excellent**

THANK YOU FOR YOUR PARTICIPATION!

Appendix G (Team Mentor Agreement Form)

Appendix C: Daniel K. Inouye Graduate School of Nursing
DNP Project Team Mentor (Committee Membership) Agreement Form

DOCTOR OF NURSING PRACTICE PROJECT
DNP Project Clinical Question and Team Mentor (Committee Membership) Agreement Form

Graduation Year: 2023

Name(s) of DNP Project Student Team:

1. Faucher, Regine Phase II Site: AGCNS ☐ FNP ■ PMHNP ☐ RNA ☐ WHNP ☐
2. Liggayu, Cid Anthony Phase II Site: AGCNS ☐ FNP ■ PMHNP ☐ RNA ☐ WHNP ☐
3. Shen, Chao Phase II Site: AGCNS ☐ FNP ■ PMHNP ☐ RNA ☐ WHNP ☐
4. _____ Phase II Site: AGCNS ☐ FNP ☐ PMHNP ☐ RNA ☐ WHNP ☐
5. _____ Phase II Site: AGCNS ☐ FNP ☐ PMHNP ☐ RNA ☐ WHNP ☐
6. _____ Phase II Site: AGCNS ☐ FNP ☐ PMHNP ☐ RNA ☐ WHNP ☐

The tentative title of the DNP Project Proposal for this student group is:
In ADSMs completing PHA's at JBSA-Randolph, a gap analysis evaluating the effectiveness in the delivery of PCMH Telehealth Model will be conducted.

Committee Approved DNP Project Clinical Question:
Gap Analysis: Evaluating the Military PHA Process at a Readiness Clinic at JBSA?

Names of DNP Project Team Mentors *(type the name and obtain signatures)*:

I agree to serve as a member of the DNP Project Team (Team Mentors) for the above DNP Student Project Team. As a Project Team Mentor, I agree to the duties and responsibilities outlined within the DNP Project Manual which include but are not limited to the provision of consultation and guidance supporting the entire DNP project journey and to ensure the DNP project is of sufficient rigor and demonstrates doctoral level scholarship to meet the requirements for USUHS GSN graduation.

Form Version: 1 Jun 2016

Appendix G (Team Mentor Agreement Form)

Appendix C: Daniel K. Inouye Graduate School of Nursing
DNP Project Team Mentor (Committee Membership) Agreement Form

NOTE: You may have 3-4 DNP Team Mentors [committee members including your DNP Senior Mentor (Chair)]. The Phase II Site Director may also be a member of the group, as well as other USUHS faculty or others who may serve as content experts. All non-USUHS faculty selected as a Team Mentor must be approved by the DNP Project Director.

Senior Mentor (Chair):	Taylor, Laura	Signature:	Laura Taylor, PhD, RN, ANEF, FAAN Digitally signed by Laura Taylor, PhD, RN, ANEF, FAAN Date: 2023.04.21 06:04:26 -04'00'	Date:	
Team Mentor (Committee):	Roberts, Cindy L.	Signature:	ROBERTS.CINDY.LATRICE.1109086742 Digitally signed by ROBERTS.CINDY.LATRICE.1109086742 Date: 2023.04.21 07:43:27 -04'00'	Date:	4/21/2023
Team Mentor (Committee):	Allen, Micheal	Signature:	ALLEN.MICHEAL.PAUL.1118640680 Digitally signed by ALLEN.MICHEAL.PAUL.1118640680 Date: 2023.04.21 15:34:58 -05'00'	Date:	4.21.2013
Team Mentor (Committee):		Signature:		Date:	

Form Version: 1 Jun 2016

Appendix H (CITI certificates)

CITI PROGRAM

Completion Date 16-Apr-2021
Expiration Date 15-Apr-2024
Record ID 41966780

This is to certify that:

Regine Faucher

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Responsible Conduct of Research (RCR)
(Curriculum Group)
Responsible Conduct of Research (RCR)
(Course Learner Group)
1 - Basic Course
(Stage)

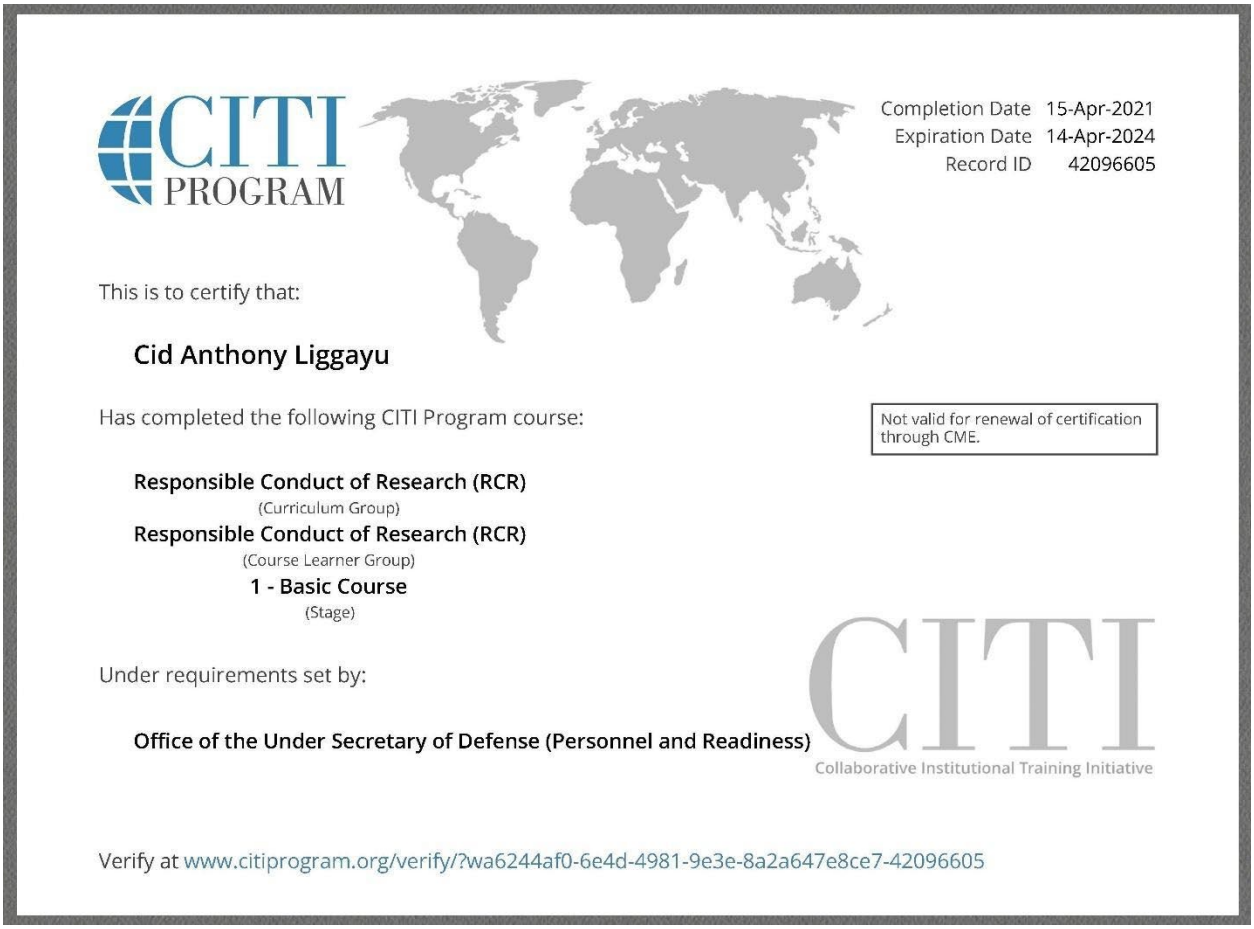
Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w76418b50-e41f-48ec-b2e2-73c9b377fee5-41966780

Appendix I (CITI certificates)



CITI PROGRAM

Completion Date 15-Apr-2021
Expiration Date 14-Apr-2024
Record ID 42096605

This is to certify that:

Cid Anthony Liggayu

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Responsible Conduct of Research (RCR)
(Curriculum Group)
Responsible Conduct of Research (RCR)
(Course Learner Group)
1 - Basic Course
(Stage)

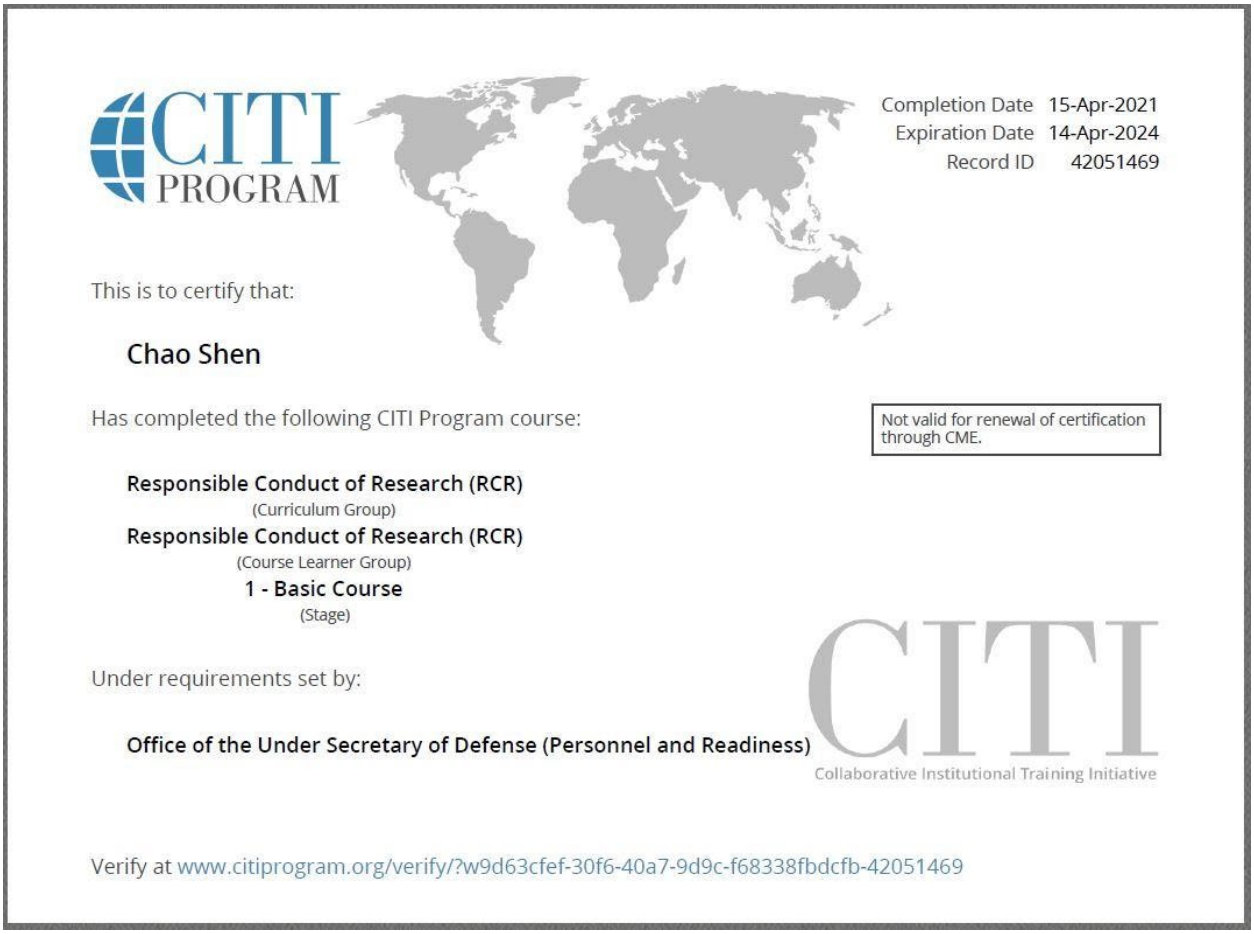
Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wa6244af0-6e4d-4981-9e3e-8a2a647e8ce7-42096605

Appendix J (CITI certificates)



CITI PROGRAM

Completion Date 15-Apr-2021
Expiration Date 14-Apr-2024
Record ID 42051469

This is to certify that:

Chao Shen

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Responsible Conduct of Research (RCR)
(Curriculum Group)
Responsible Conduct of Research (RCR)
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w9d63cfef-30f6-40a7-9d9c-f68338fbdcfb-42051469

Appendix K (Form 3202N)

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

VPR Date Stamp

Project Number: GSN-61-13096 (VPR will assign)

Project Title: Gap analysis: evaluating the military PHA process at JBSA Randolph Warrior Health Clinic

SECTION A: STUDENT POC INFORMATION

1. Name (Last, First, MI): Faucher, Regine — Student E-mail: regine.faucher@usuhs.edu
2. Home Address: [redacted] — Cell Number [redacted]

SECTION B: COMMITTEE CHAIR / SENIOR MENTOR INFORMATION

3. Name (Last, First, MI): Taylor, Laura
4. Telephone: [redacted] — Fax: N/A — E-mail: laura.taylor@usuhs.edu
5. USUHS Building/ Room No.: Bldg E - 1014

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: 10/12/2022 Project End Date: 1/11/2023
9. Performance Site(s): JBSA - Randolph BOMC_WOMC_FOMC
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:

FAUCHER.REGINE.1296134658 Digitally signed by FAUCHER.REGINE.1296134658 Date: 2022.11.21 16:18:14 -05'00'	Laura Taylor, PhD, RN, ANEF, FAAN Digitally signed by Laura Taylor, PhD, RN, ANEF, FAAN Date: 2022.12.14 11:28:04 -05'00'
Student (Project Point of Contact for the Group) (Signature and Date)	Chair/Senior Mentor (Signature and Date)
JOHNSON.HEATHER.L.1073935110 Digitally signed by JOHNSON.HEATHER.L.1073935110 Date: 2022.12.14 16:02:04 -05'00'	
Chair/Program Director (Signature and Date)	Chair/Program Director (Signature and Date)
	SEIBERT.DIANE.C.1084932279 Digitally signed by SEIBERT.DIANE.C.1084932279 Date: 2022.12.15 17:16:46 -05'00'
DNP Project Director or PhD Director (Signature and Date)	Associate Dean for Academic Affairs, GSN (Signature and Date)
SIMMONS.ANGELA.MARIE.1143313375 Digitally signed by SIMMONS.ANGELA.MARIE.1143313375 Date: 2022.12.16 11:37:38 -05'00'	ROMANO.CAROL.A.1032050294 Digitally signed by ROMANO.CAROL.A.1032050294 Date: 2022.12.16 15:47:29 -05'00'
Associate Dean for Research, GSN (Signature and Date)	Dean, DKI Graduate School of Nursing (Signature and Date)

In light of the above signatures, the project is approved.

BOJANOWSKI.LEODAYAN.ARPA.1458235860 Digitally signed by BOJANOWSKI.LEODAYAN.ARPA.1458235860 Date: 2022.12.21 08:12:01 -05'00'

USUHS Vice President for Research — Date

USUHS Form 3202N (VPR) - Revised Sep 2015 v1.2
Previous versions are obsolete

Appendix L (IRB letter)

DEPARTMENT OF THE AIR FORCE
59TH MEDICAL WING (AETC)
JOINT BASE SAN ANTONIO - LACKLAND TEXAS

19 Sep 22

FINAL DETERMINATION – NOT-RESEARCH

Determination Date: 16 Sep 22

Project Lead: CPT Regine Faucher

Reference Number: FWH20220125N

Project Title: In ADSMs completing PHA's at JBSA-Randolph, a gap analysis evaluating the effectiveness in the delivery of PCMH Telehealth Model will be conducted.

You may begin your project, as you would any other clinical or operational activity, with the approval and sponsorship of your leadership.

Your project was determined on 16 Sep 2022 to be considered **not research** as defined by DoD regulation **32 CFR 219 and FDA regulation 21 CFR 56**. Continued IRB oversight for this activity is not required. The proposed project does not include non-routine intervention or interaction with a living individual for the primary purpose of obtaining data regarding the effect of the intervention or interaction, nor do the researchers obtain private, identifiable information about living individuals.

Since the IRB does not have regulatory oversight for your study, it is the investigator's responsibility to validate the study's scientific merit and research design and to ensure the conduct of the study is upheld by the highest ethical standards, as required by the Wing. Should you require assistance in reviewing the scientific merit and research design of your study, please contact the Office of Clinical Research Support. Protection of subjects' rights safety and welfare and the responsibility for protecting PHI/PII and research data, now fall on the investigator and their commander.

In accord with DoDI 6000.08 any intramural funding of this study as research or as a clinical investigation may continue to be received or sought regardless of this IRB determination.

Your study has received a one-time research determination. If the goals and/or activities of the project change during the course of the project, or if new activities are proposed that would constitute human subjects research, re-contact the Office of Clinical Research Support, so that a regulatory expert may determine whether or not the revised plan involves human subject research activities.

GIBBONS.THO
MAS.F.1128005
281

Thomas Gibbons, PhD
Designated Exempt Reviewer

Warrior Medics – Mission Ready – Patient Focused

Appendix M (PAO Clearance)

PROCESSING OF PROFESSIONAL MEDICAL RESEARCH/TECHNICAL PUBLICATIONS/PRESENTATIONS

1. AUTHOR'S NAME: Last, First, MI; RANK	2. GRADE	3. OFFICE SYMBOL	4. GME/GHSE STUDENT	5. TYPE OF STUDY
Faucher, Regine MAJ	04		☒ YES ☐ NO	Gap Analysis

6. IRB or IACUC PROTOCOL NUMBER	7. PROTOCOL TITLE: (Attach approval or Determination Letter)
FWH20220125N	In ADSMs completing PHA's at JBSA-Randolph, a gap analysis evaluating the effectiveness

8. TITLE OF MATERIAL TO BE PUBLISHED OR PRESENTED
Gap Analysis: Evaluating the Military PHA Process at a Readiness Clinic at JBSA

9. FUNDING RECEIVED FOR THIS STUDY? ☐ YES ☒ NO
If yes, Funding Source:

10. IS A DHA/OGC ETHICS REVIEW REQUIRED (JER DOD 5500.07-R?) ☐ YES ☒ NO
Refer to #11 on page 1 for more information.

11. WILL THIS PUBLICATION OR PRESENTATION INCLUDE MATERIAL THAT IS POTENTIALLY PATENTABLE? ☐ YES ☒ NO
If yes, contact the 59 MDW Office of Research and Technology Applications (ORTA) immediately for support and information (usaf.jbsa.59-mdw.mbx-st-technology-transfer-office@health.mil, 210-292-2571), prior to 59 MDW Form 3039 submission. Note: Disclosure of an idea before filing may jeopardize ability to maintain rights, title, interest, and royalties with regard to any invention.

12. MATERIAL IS FOR: ATTACH COPY OF MATERIAL TO BE PUBLISHED/PRESENTED.

☒ 12a. PUBLICATION/JOURNAL ARTICLE/MANUSCRIPT (List intended publication/journal. You can list up to three venues for approval.)
USUHS Library

☐ 12b. ABSTRACT (List intended journal. Conference, city, state and date. You can list up to three venues for approval.)

☒ 12c. POSTER (Name of meeting/conference, city, state, and date of meeting. You can list up to three venues for approval.)
USUHS Research Week and library
May 17 and 18
Bethesda MD 20814

☒ 12d. PRESENTATION/POWERPOINT SLIDES (Name of meeting/conference, city, state, and date. You can list up to three venues for approval)
USUHS GSN Colloquium
May 18th 2023
Bethesda MD 20814

☐ 12e. OTHER (Example: Picture, Flyer, Newsletter, etc, if applicable: (Name of meeting, city, state, and date.)

13. HAS YOUR ATTACHED RESEARCH/TECHNICAL MATERIALS BEEN PREVIOUSLY CLEARED FOR PUBLICATION/PRESENTATION?
BY WHOM? Will be reviewed by USUHS TRACKING # DATE

14. IS SUBMISSION TO DTIC REQUIRED? No

15. PRIMARY POINT OF CONTACT (Last Name, First Name, M.I.)	16. EMAIL	17. DUTY PHONE/CELL NUMBER
Faucher, Regine	regine.faucher@usuhs.edu	[redacted]

18. AUTHORSHIP AND CO-AUTHOR(S) List in the order they will appear. At a minimum, list the 59 MDW government authors.)

LAST NAME, FIRST NAME AND M.I.	GRADE/RANK	SQUADRON/GROUP/OFFICE SYMBOL	INSTITUTION (If not 59 MDW)
Liggayu, Cid Anthony	CPT		USUHS/ D. Det BAMC
Chao, Shen	MAJ		USUHS/ D. Det BAMC

I CERTIFY ANY HUMAN OR ANIMAL RESEARCH RELATED STUDIES WERE APPROVED AND PERFORMED IN STRICT ACCORDANCE WITH DoDI 3216.02 and 14 C.F.R. 1230. I HAVE READ THE FINAL VERSION OF THE ATTACHED MATERIAL AND CERTIFY THAT IT IS AN ACCURATE MANUSCRIPT FOR PUBLICATION AND/OR PRESENTATION.

19. AUTHOR'S PRINTED NAME, RANK, GRADE	20. AUTHOR'S SIGNATURE	21. DATE
Faucher, Regine MAJ O-4	FAUCHER.REGINE.1296134658 Digitally signed by FAUCHER.REGINE.1296134658 Date: 2023.04.18 15:23:25 -04'00'	April 18, 2023

22. APPROVING AUTHORITY'S PRINTED NAME, RANK, TITLE	23. APPROVING AUTHORITY'S SIGNATURE	24. DATE

59 MDW FORM 3039, 20221206 PREVIOUS EDITIONS ARE OBSOLETE Page 2 of 3 Pages
Prescribed by 59 MDWI 41-108

Appendix M (PAO Clearance)

PROCESSING OF PROFESSIONAL MEDICAL RESEARCH/TECHNICAL PUBLICATIONS/PRESENTATIONS

1st ENDORSEMENT (59 MDW/STC Use Only)

TO: Clinical Investigations and Research Support; 59 MDW/STC Contact 292-7141 for email instructions.	25. DATE RECEIVED	26. ASSIGNED PROCESSING REQUEST FILE NUMBER
27. DATE REVIEWED	28. DATE FORWARDED TO DHA/OGC	

29. AUTHOR CONTACTED FOR RECOMMENDED OR NECESSARY CHANGES: ☐ NO ☐ YES If yes, give date. ☐ N/A

30. COMMENTS ☐ APPROVED ☐ DISAPPROVED

31. PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER	32. REVIEWER SIGNATURE	33. DATE

2nd ENDORSEMENT (DHA/OGC Use Only)

34. DATE RECEIVED	35. DATE FORWARDED TO 59 MDW/PA

36. COMMENTS ☐ APPROVED (In compliance with security and policy review directives.) ☐ DISAPPROVED

37. PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER	38. REVIEWER SIGNATURE	39. DATE

3rd ENDORSEMENT (59 MDW/PA Use Only)

40. DATE RECEIVED	41. DATE FORWARDED TO 59 MDW/STC
April 21, 2023	

42. COMMENTS ☒ APPROVED (In compliance with security and policy review directives.) ☐ DISAPPROVED

43. PRINTED NAME, RANK/GRADE, TITLE OF REVIEWER	44. REVIEWER SIGNATURE	45. DATE
Alex Delgado, Chief, Public Affairs	DELGADO.ALEJANDRO.1126865879 Digitally signed by DELGADO.ALEJANDRO.1126865879 Date: 2023.04.26 14:39:54 -05'00'	April 26, 2023

NOTIFICATION (59 MDW/STC Use Only)

46. DATE RECEIVED	47. DATE NOTIFIED	48. NAME	Phone ☐ Email ☐

49 ☐ Upload this publication/presentation into DTIC

50. COMMENTS/NOTES (If Applicable)

59 MDW FORM 3039, 20221206 PREVIOUS EDITIONS ARE OBSOLETE Page 3 of 3 Pages

Prescribed by 59 MDWI 41-108

Appendix N (Project completion verification form)

Appendix O (Evidence Table)

1st Author Name (Publication Yr)	Study Purpose/Aims	Research Questions/Hypotheses (IF different from/specifically described separately from study purpose & aims)	Study Design	Total Sample Size (How many initially, how many at final analysis?)	Sampling Plan	Independent Variables AND LEVEL OF MEASUREMENT	Dependent Variables AND LEVEL OF MEASUREMENT	Statistical Analyses - what tests were used for which research questions?	Results	Strengths (how promoted internal/external validity)	Weaknesses (biases; poorly controlled threats to internal/external validity)	LEVEL OF EVIDENCE - using JHNEBP tool (Strength and Quality)
Gerard et al., 2021	1. Understand the existing procedures in psychiatry and oncology. 2. Identify, develop, and propose ideal procedures. 3. Implement proposed changes and interventions. 4. Evaluate and maintain established improvements.	None specified	Use of questionnaires. Step 1. PGQ-2/9 (Patient Health Questionnaires 2 and 9) were used for initial depression screening. Step 2. Depression follow-up was evaluated using the PHQ-9 on patients with a positive score on the PHQ-2.	14,000 patients.	Setting: A metropolitan cancer centre in North Texas. Sampling methods not specified.	LSS phases. Definition and measurement, analysis, improvement, and control.	Depression screening completion performance. Depression follow-up in oncology and psychiatry.	None specified.	Follow-up and screening rates improved by over 40% in individual clinics. In less than 6 months the cohort achieved 90% of the project goal.	The clinically integrated nature of the study's setting provides data-acquisition advantage for the project.	Delays were experienced in technology acquisition as funds had to be appropriated and budgeted for. Late arrivals to the clinic for patients without online portals reduced their survey times before meeting healthcare providers.	IIIB
Montella et al., 2016	Assess the application of the LSS (Lean Six Sigma) methodology in reducing the number of patients affected by sentinel bacterial infections who are at risk of health-care associated infections	None specified	Quantitative research. The LSS methodology was applied with data on patients undergoing surgical procedures for a period of 3 years. Pre and post-intervention phases were compared to examine the effects of the implemented methodology.	11,555 patients in the preliminary phase.	Setting: General surgery department. The most prevalent sentinel bacteria was determined among all infected patients.	The number of procedures. The number of days spent in the hospital. Patient age. Pre-operative hospitalization days. Diagnosis-related group classification.	Patient biological samples with positive results for sentinel bacteria. Continuous level of mesurement.	Risk factors for infection occurrence were analyzed using histograms, statistical tests (Fisher exact test for univariate analysis and chi-square test), and a control chart.	1. The process resulted in a reduced average number of hospitals stays by 20%, between the pre-intervention and control phases. A decrease in the mean (SD) of hospitalization days was achieved - from 45 (30.78) to 36 (5.68). 2. The corrective procedures resulted in a significant reduction of the colonized patients (0.37% - 0.21%).	The use of a control group provided a benchmark to facilitate comparison to the experimental results. The large sample size improved the confidence in the study. The use of the integrated methodology (Lean and Six Sigma) allowed for overall improvement in performance.	The results of the study indicate the difficulty to managing clinical care in a standardized and systematic manner to improve security and increase performance due to limited resources.	IIIB
Unertl et al. 2020	Provide a report on the development and application of SIOD (Systematic Iterative Organizational Diagnostics) to support procedures and technology improvement in healthcare organizations.	How can healthcare organizations build on existing process and technology improvement frameworks and the foundations of organizational research in informatics to systematically diagnose	Data was collected using both qualitative and quantitative methods. Observation and semi-structured interviews in the initial stages.	42 participants.	Setting: Ambulatory clinics. Sampling methods not specified.	Healthcare organizations' existing processes and technology frameworks.	Systematic Iterative Organizational Diagnostics	Qualitative data was analyzed using a study-developed iterative open-ended approach resulting in the development of a qualitative codebook applied to all the data-sets.	Initial SIOD application reduces the chaos, putting patients first, matching space to function, technology, staffing is more than numbers, and making work harder were identified as main analysis themes, grounded in the data. Other themes were identified based on additional SIOD applications. SIOD applications satisfy the needs and requirements of work and technology structures in healthcare organizations.	The project employed a multi-disciplinary and data-driven approach to identify existing gaps in clinical systems aimed at improvement of quality healthcare.	1. The study questions whether its SIOD approach can be effectively applied by other groups new to the concepts. 2. To date the full-scale evaluation of SIOD development has not been completed by the study.	IIIB

Appendix O (Evidence Table)

1st Author Name (Publication Yr)	Study Purpose/Aims	Research Questions/Hypotheses (IF different from/specifically described separately from study purpose & aims)	Study Design	Total Sample Size (How many initially, how many at final analysis?)	Sampling Plan	Independent Variables AND LEVEL OF MEASUREMENT	Dependent Variables AND LEVEL OF MEASUREMENT	Statistical Analyses - what tests were used for which research questions?	Results	Strengths (how promoted internal/external validity)	Weaknesses (biases; poorly controlled threats to internal/external validity)	LEVEL OF EVIDENCE - using JHNEBP tool (Strength and Quality)
Schretlen et al., 2021	Report on the use of Lean Six Sigma (LSS) methodology to reduce last-minute cardiac surgical cancellations.	None specified	Surgery numbers and cancellation reasons were registered in the hospital information system by the surgery planning team. The system then generated data on prolonged referrals to treatment time (RTT) and patients with repeated diagnostics.	945 patients.	Setting: A University Medical Center in the Netherlands. Sampling methods not specified.	LSS processes and interventions.	Number of last-minute cancellations. Repeated preoperatives diagnostics. RTT (Referral to Treament Time). Net Promoter Scores.	Patient and RTT data were analyzed using Minitab Statistical Software V.18.1. Patient satisfaction levels were analyzed using the Student t-test. Phone interviews were used 30 days from discharge to determine the Net Promoter Score.	The results indicate the effectiveness of LSS as last-minute cancellations were reduced by 50% (p=0.010). Reductions in repeated preoperative diagnostics (67%) and referral to treatment time (35%). The Net Promoter Score increased by 14% (p=0.005).	The project team conducted an in-depth root cause analysis involving healthcare professionals across the CABG pathway with an increased focus on patient input.	The research is a single-centered study focused on a single specified procedure. The evaluation of meaningful interventions is made difficult by the multiple countermeasures implemented at the same time period coupled with the intrinsic motivations of the involved team. The interrupted time series in the study compromised the causal relationship between interventions and results.	IIA
Hoefsmit et al., 2023	Application of LSS processes and interventions to improve efficiency and quality of healthcare.	None specified	Interviews were conducted with healthcare professionals. Surveys were conducted to measure center and staff satisfaction, requirements, and challenges.	17 health professionals. 14 staff members. 21 referring centers. 3500 patients.	Setting: Cardiac center in Amsterdam University Medical Center	LSS processes and interventions.	Number of referred patients, total time of minutes spent on a patient, and time from referral to heart team (HT) decision	LSS data was analyzed using Minitab Statistical Software V.18.1.	LSS processes developed an optimized multi-disciplinaryy HT aimed at improving efficiency through better resource use, swift decision-making, waste reduction, balanced patient planning, and improved access to information.	The project employed a multi-disciplinary and data-driven approach to identifying CTQ characteristics and translating quality and efficiency into measurable elements. The multi-disciplinary approach ensured an optimized HT.	The quality improvement project was developed as a merger of two academic centers to optimize the HT causing difficulties in engagements of healthcare professionals.	IIB
Pittman et al. 2021	Develop a procedural guide for the implementation of e-screening in the Veterans Health Administration (VHA) clinics to automate the screening of psychosocial challenges and mental health symptoms	None specified	A two-phase, mixed methods implementation project. In the pre-implementation stage, data was collected anonymously as, participants filled out quantitative e-screening questionnaires. Mini-interviews were conducted for the implementation process through phones.	Phase 1 - 12 interdisciplinary team members, Phase 2 (implementation Stage), 10 members	Setting: Four VHA clinical settings.	Lean Six Sigma RPIW interventions. Nominal	Satisfaction rates with the RPIW implementation. Ordinal level of measurement.	Quantitative e-screening data were analyzed using Excel's descriptive statistics. Qualitative data was analyzed using pre-defined codes and a rapid analytic approach.	The use of the Lean Six Sigma Rapid Process Improvement Workshop (RPIW) with quality improvement methods to develop an e-screening playbook and implementation strategy created a testable process to facilitate an automated, patient-facing assessment.	The findings of the study support prior research on the importance of technology as an implementation strategy in complex healthcare programs. The results of the study are consistent with other projects applying RPIW and other quality improvement procedures in VHA.	Both sites experienced implementation challenges in technology, education, and support. Staffing resource and workflow challenges were experienced in one site.	IIB

Gap Analysis: Evaluating the Military PHA Process at a Readiness Clinic at JBSA

Regine Faucher, Cid Anthony Liggayu, Chao Shen

Dr. Laura Taylor

LTC(P) Cindy Roberts

Maj Micheal P. Allen

JBSA - Randolph Air Force Base Clinic

The Daniel K. Inouye Graduate School of Nursing

Doctor of Nursing Practice Project

Disclaimer

- The views expressed in the presentation are those of the authors and do not necessarily reflect the official policy or position of the Uniformed Services University, the Department of Defense, or the United States Government
- There are no financial relationships that exist between the speakers and a commercial entity

Introduction

Approximately 24,000 active-duty Service members (SM) in Joint Base San Antonio (JBSA) and 1.3 million SM stationed around the world

- Periodic Health Assessment (PHA) is a component of Individual Medical Readiness (IMR) which is a deployment readiness standard
- Annual PHAs are required for Military SM
- Must have a completed PHA within the last fifteen months
- Prescribed 85 percent unit medical readiness benchmark

https://media.defense.gov/

(DoDI 6025.19, ASIMS-PHAQ2, AFI 10-250, AFI 48-170, DoDI 6200.05)

USU
Uniformed Services University

Introduction

PHA process

2 phase - 3 step process that involves:

1. SM completes annual questionnaire, also known as the PHA-Q (step 1, PHA phase I)
2. Support staff member conducts a records review (step 2, Records Review)
3. Appointment with a provider to complete MHA within 30 days and PHA within 120 days (step 3, PHA phase 2)

(DoDI 6025.19, ASIMS-PHAQ2, AFI 10-250, AFI 48-170, DoDI 6200.05)

Significance

As of May 2022

- Randolph Base Operation Medical Clinic had a backlog of 181 PHAs overdue, 417 due, 297 due within 30 days, and 219 due within 60 days
- JBSA-Lackland Air Force squadron only had 80 out of 176 SMs, or approximately 45%, fully medically ready to deploy
- Average time to complete the PHA is over 90 days

BLUF

- Compromises IMR required for deployment and undermines unit readiness
- Estimated daily operational cost of one unit composed of 5,900 SMs at approximately $1.2 million per day

(DoDI 6025.19, ASIMS-PHAQ2, AFI 10-250, AFI 48-170, DoDI 6200.05)

Literature Search

Final search criteria:

("primary care" or "outpatient" or "healthcare*" or “clinics”)

AND

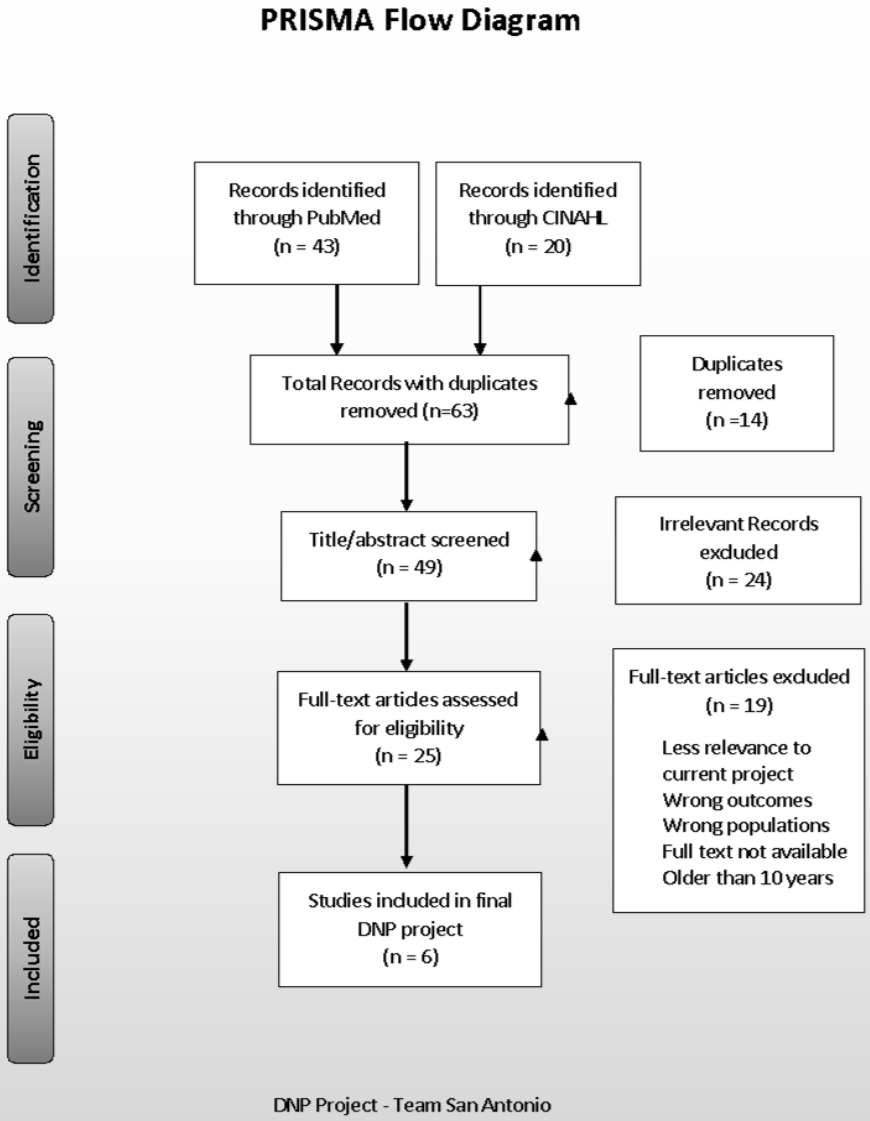
("gap analysis" or "optimization" or "workflow" or "application" or “screening”)

AND

("lean six sigma")

AND

("reduc*" or "improv*")

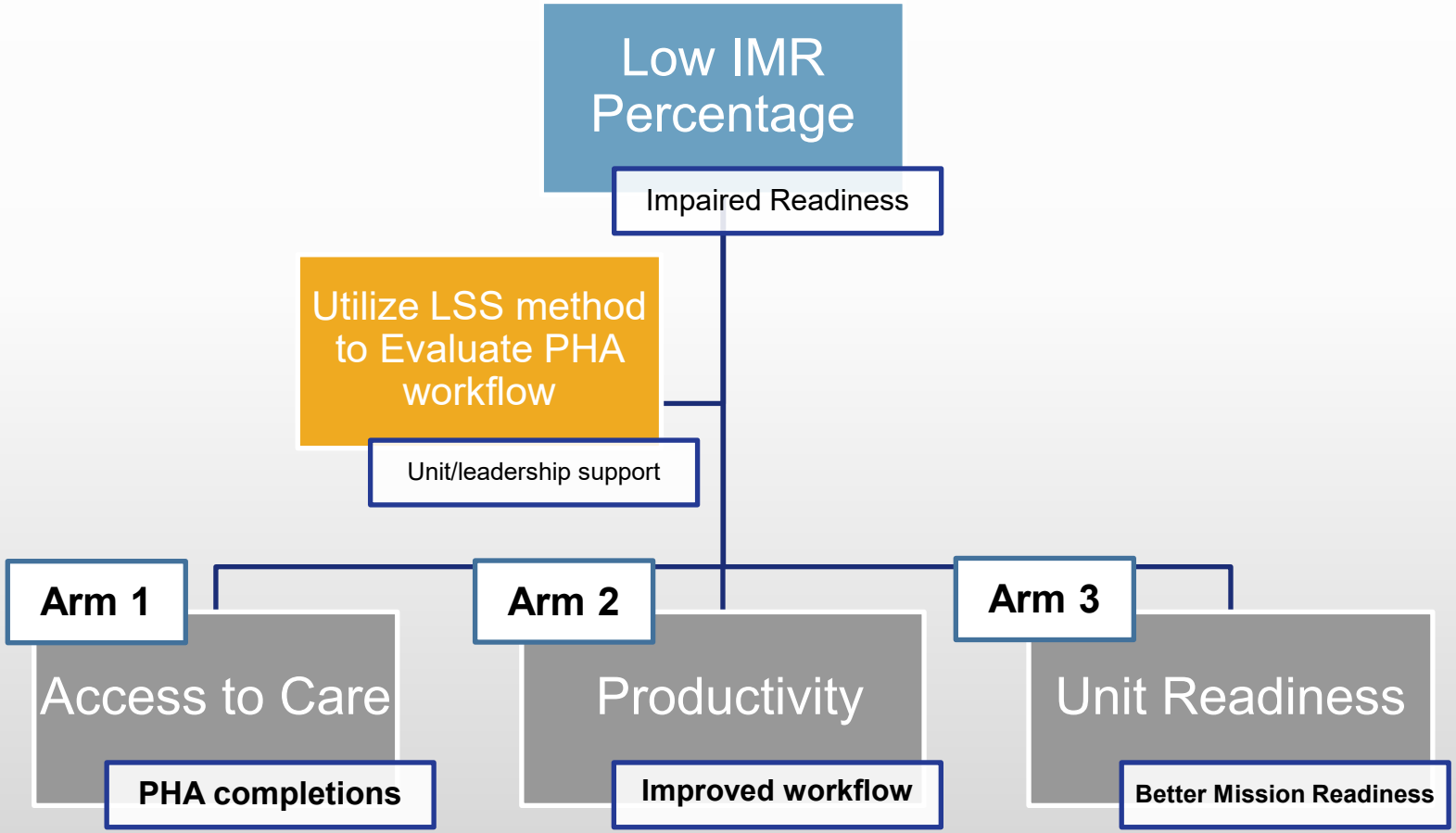


Clinical Question

In the PHA workflow at a JBSA-Randolph MTF, how does the current PHA process compare to the standards outlined in AFI 48-170?

Focus Areas / Arms

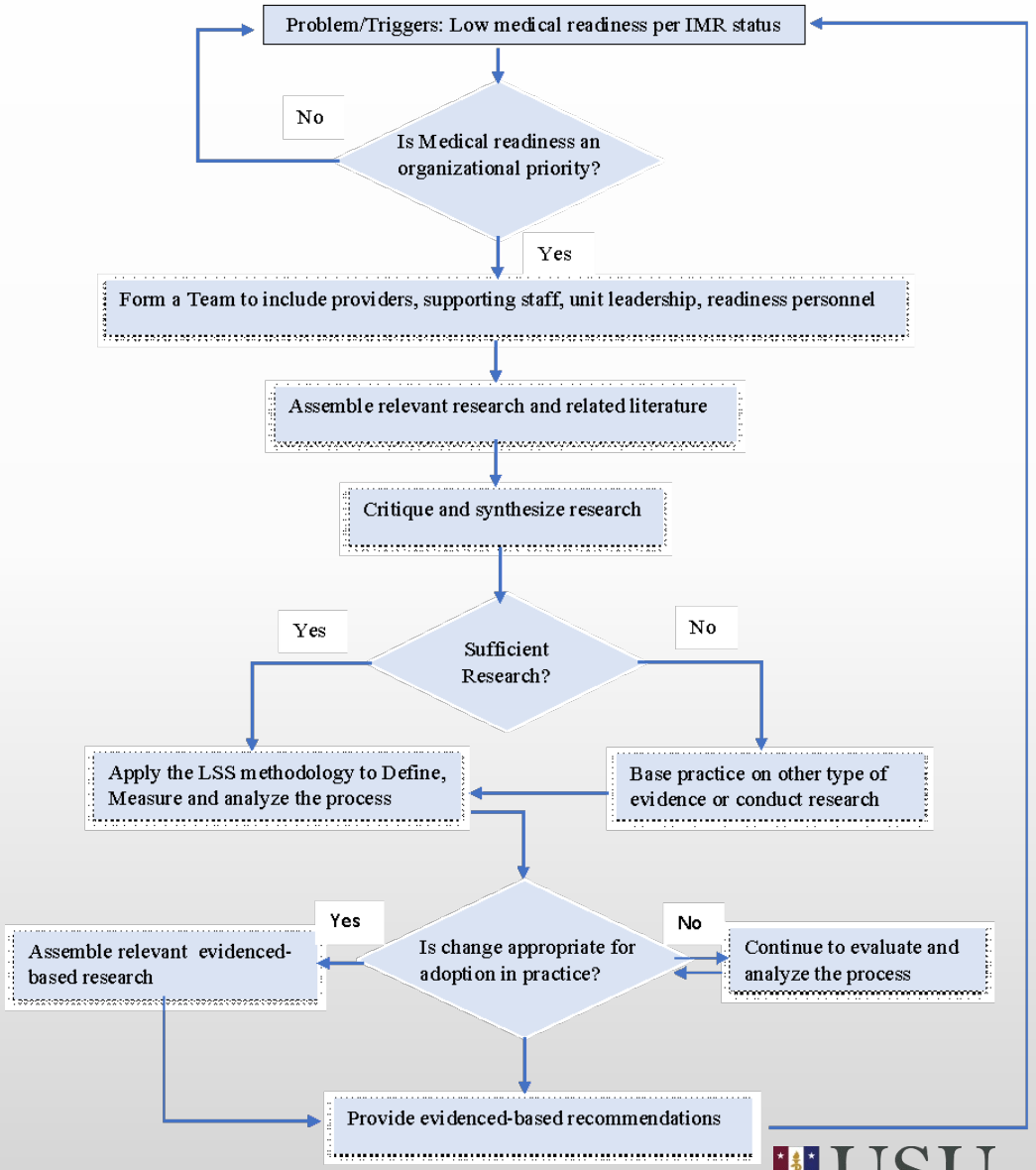
- This project is closely aligned with our organization's priority - medical readiness
- The goal is to promote IMR compliance and ensure unit medical readiness



USU
Uniformed Services University

Organizing Framework

- Lean six sigma (LSS) is a philosophy, methodology, tool, and approach that has been widely adopted for optimizing organizational performance
- LSS is a validated method to identify systems inadequacies and enhance organizational performance that involves several steps/stages, such as the define, measure, analyze, improve, and control (DMAIC) approach, which has been developed to streamline processes



(Patel & Patel, 2021)

Project Design

Setting

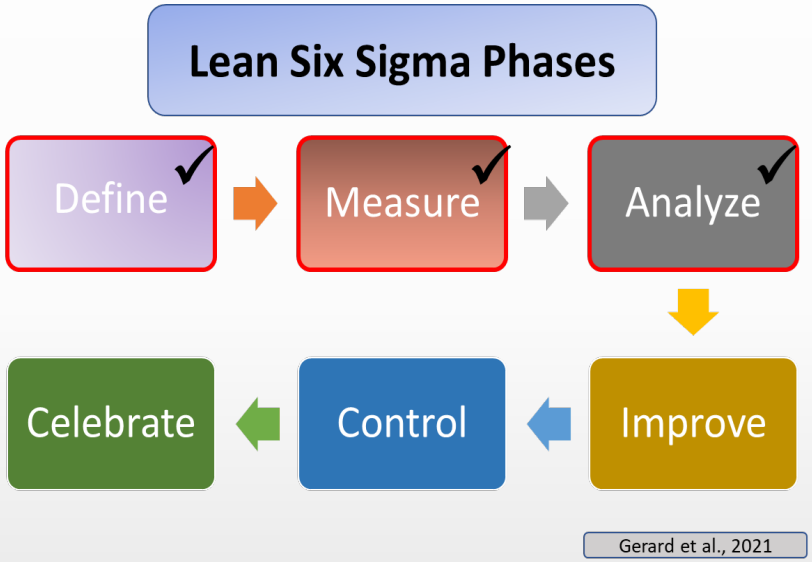
- JBSA-Ft Sam Houston
  - Brook Army Medical Center is DoD's only level 1 trauma center, with a 450 inpatient beds capacity
- JBSA-Lackland
  - Wilford Hall Ambulatory Surgical Center is Air Force's largest outpatient medical center
- JBSA-Randolph
  - 359th Medical Group Randolph Clinic

(Military One Source, 2023)

Project Design

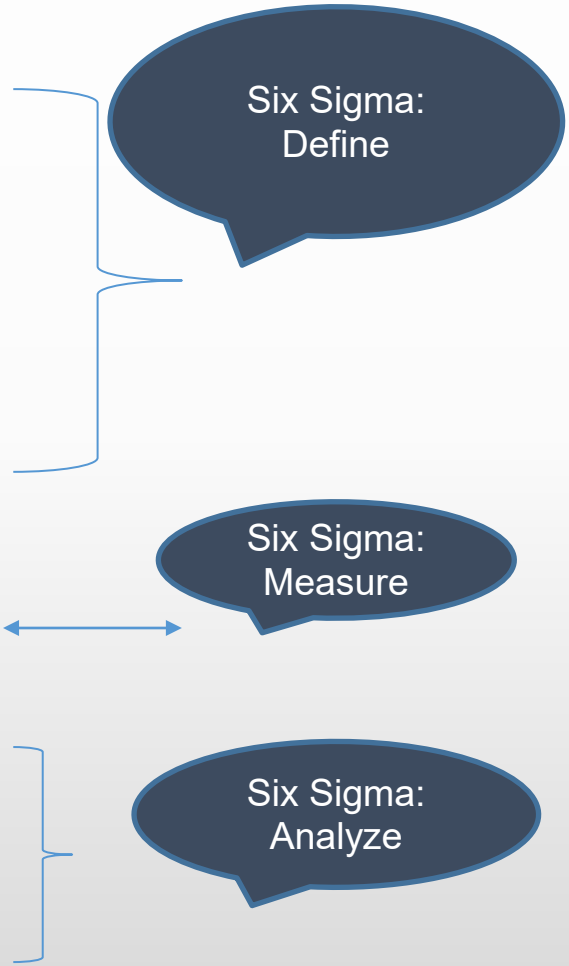
General Approach

- Observe, examine and analyze the practices at the readiness clinic where the PHA's are conducted
- Pre-analysis data collection: statistics on the current backlog of PHA's for our identified population
- Data gathering through a questionnaire from staff members intimately involved in the process
- Obtain system reports of Service Members due and in a queue for records review and PHA completion



Procedural Steps

Apr – Sep 21	• Topic/Problem identification • Forming the team / Evidence gathering
Oct 21 – Apr 22	• Pre-Analysis data collection and statistics • Monitor effects of new EMR
May – Jun 22	• Stakeholder Engagement • JBSA EBP Team meetings
Jul – Sep 22	• IRB Submission • IRB Approval
Oct – Nov 22	• JBSA – Randolph Gap Analysis (Lean Six Sigma Model)
Dec 22 – Feb 23	• Post analysis data evaluation • Review/Recommendations
Mar – Apr 23	• Presentation to Stakeholders • Poster Presentation



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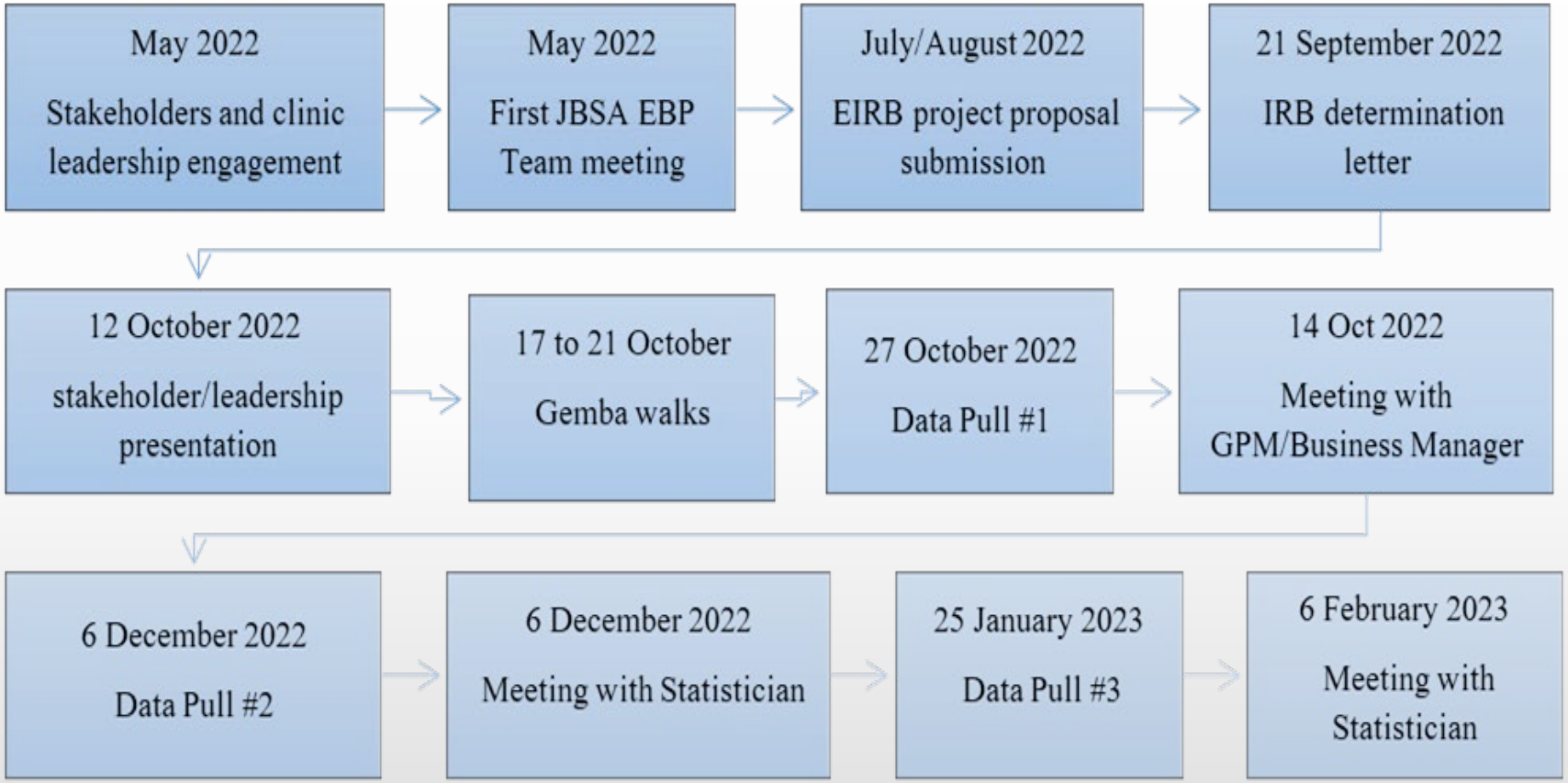
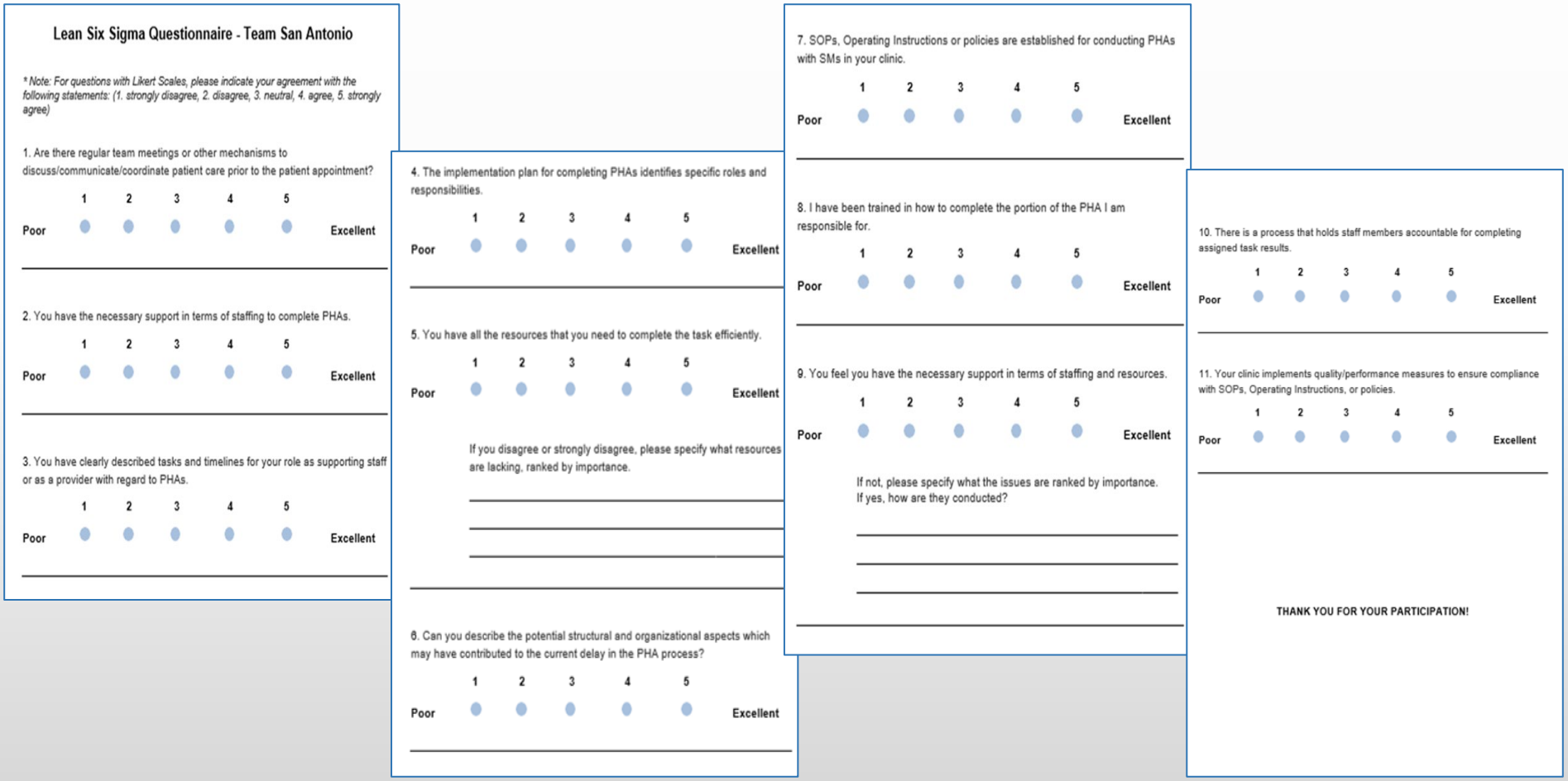
Procedural Steps



Tool

Lean Six Sigma Staff Questionnaire

- 11 Likert-Scale questions, 3 with an additional short-answer option



Lean Six Sigma Questionnaire - Team San Antonio

** Note: For questions with Likert Scales, please indicate your agreement with the following statements: (1. strongly disagree, 2. disagree, 3. neutral, 4. agree, 5. strongly agree)*

1. Are there regular team meetings or other mechanisms to discuss/communicate/coordinate patient care prior to the patient appointment?

Poor 1 2 3 4 5 Excellent

2. You have the necessary support in terms of staffing to complete PHAs.

Poor 1 2 3 4 5 Excellent

3. You have clearly described tasks and timelines for your role as supporting staff or as a provider with regard to PHAs.

Poor 1 2 3 4 5 Excellent

4. The implementation plan for completing PHAs identifies specific roles and responsibilities.

Poor 1 2 3 4 5 Excellent

5. You have all the resources that you need to complete the task efficiently.

Poor 1 2 3 4 5 Excellent

If you disagree or strongly disagree, please specify what resources are lacking, ranked by importance.

6. Can you describe the potential structural and organizational aspects which may have contributed to the current delay in the PHA process?

Poor 1 2 3 4 5 Excellent

7. SOPs, Operating Instructions or policies are established for conducting PHAs with SMs in your clinic.

Poor 1 2 3 4 5 Excellent

8. I have been trained in how to complete the portion of the PHA I am responsible for.

Poor 1 2 3 4 5 Excellent

9. You feel you have the necessary support in terms of staffing and resources.

Poor 1 2 3 4 5 Excellent

If not, please specify what the issues are ranked by importance.
If yes, how are they conducted?

10. There is a process that holds staff members accountable for completing assigned task results.

Poor 1 2 3 4 5 Excellent

11. Your clinic implements quality/performance measures to ensure compliance with SOPs, Operating Instructions, or policies.

Poor 1 2 3 4 5 Excellent

THANK YOU FOR YOUR PARTICIPATION!

(Montella et Al., 2017; Pittman et al., 2021)

Clinic Staff

Providers	8
Nurses	3
Technicians	13
Administrators/Leaders	4

- Voluntary and anonymous participation
- 82% (23/28)

Results & Analysis

Lean Six Sigma Staff Questionnaire

- Likert-Scale questions range from 2.09 to 4.13 on a scale of 5
- Question 2 received the lowest mean of 2.09 with standardized deviation of 0.79
- Question 6 received no value, staff answered using the short-answer option

ALL (n = 23)				
Variable	Mean	Std Dev	Minimum	Maximum
Q1	4.13	1.06	1	5
Q2	2.09	0.79	1	4
Q3	3.48	1.31	1	5
Q4	3.61	1.12	1	5
Q5	2.78	1.28	1	5
Q7	3.43	1.08	1	5
Q8	3.70	1.52	1	5
Q9	2.35	0.88	1	4
Q10	3.43	1.20	1	5
Q11	3.48	1.16	1	5

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Results & Analysis

Lean Six Sigma Staff Questionnaire

Facilitator:

Great team dynamics and adequate staff communication

Barriers:

Staffing/resource

Task saturation/multitasking

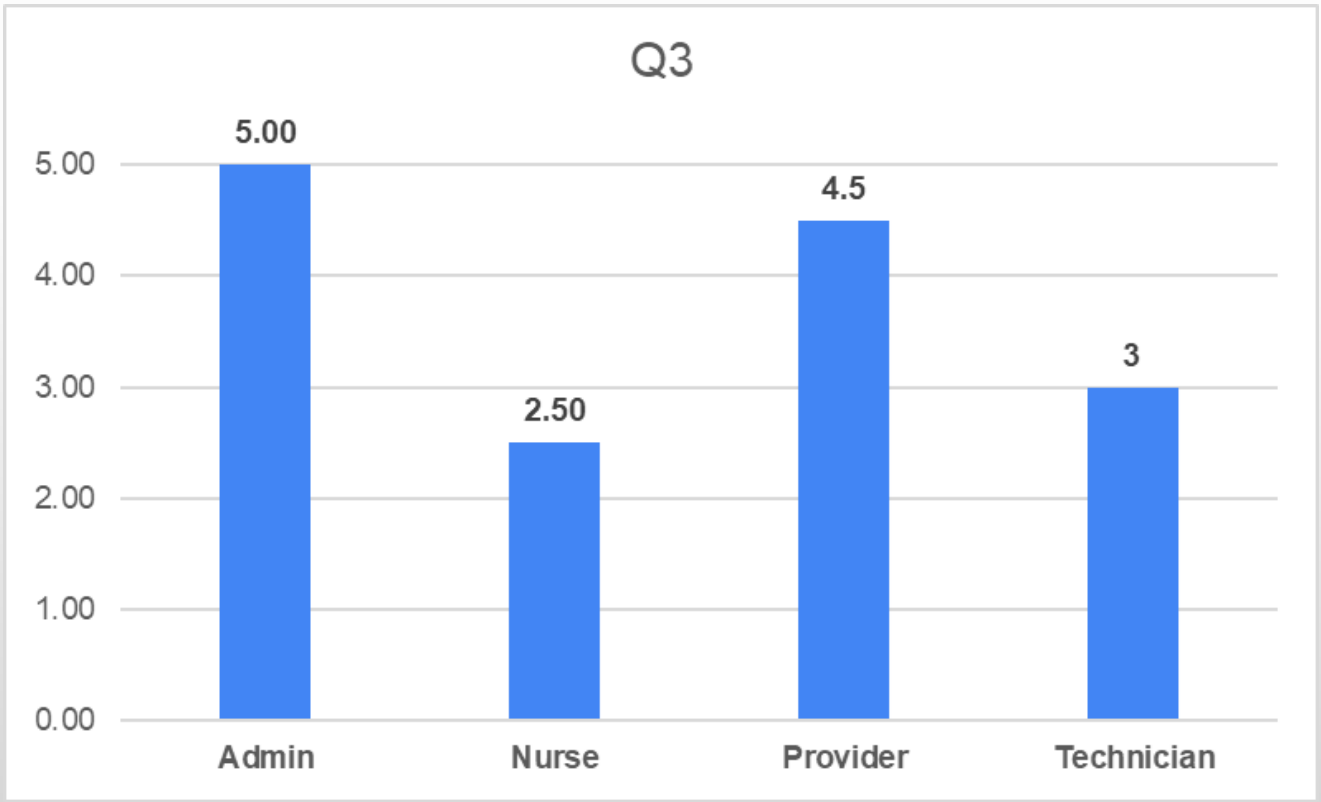
Data Analysis Table

PCMH Principles	Current State	Gap	Desired State
Team-based care (Q1)	4.13	+.13	4/5
Access to care	n/a	n/a	n/a
Coordinated care (Q2, Q3*, Q4) *Kruskal-Wallis Test	3.06	-0.94	4/5
Comprehensiveness (Q5)	2.78	-1.22	4/5
A systems-based approach to quality & safety (Q6, Q7, Q8)	3.56	-0.44	4/5
Sustained partnerships (Q9, Q10)	2.89	-1.11	4/5
Reorganization of care delivery (Q11)	3.48	-0.52	4/5

Results & Analysis

Pair-wise comparison of Q3 demonstrated a statistically significant difference (p=0.039) between administrative personnel and Technicians

Q3: You have clearly described tasks and timelines for your role as supporting staff or as a provider with regard to PHAs



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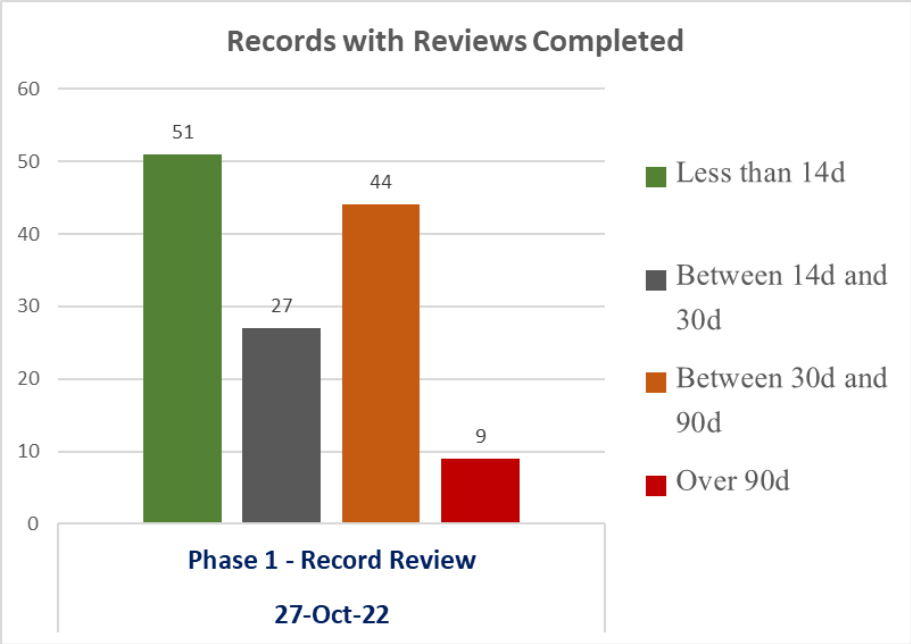
Results & Analysis

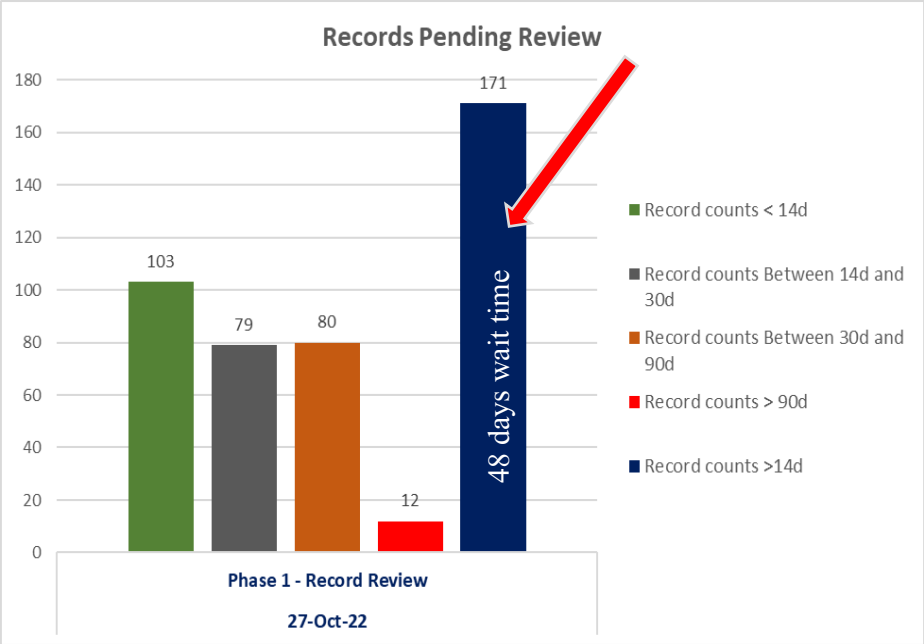
27 October 2022

405 total records

131 reviewed at an average of 33.01 days

274 pending record review
103 were excluded
171 at an average of 43 days wait time





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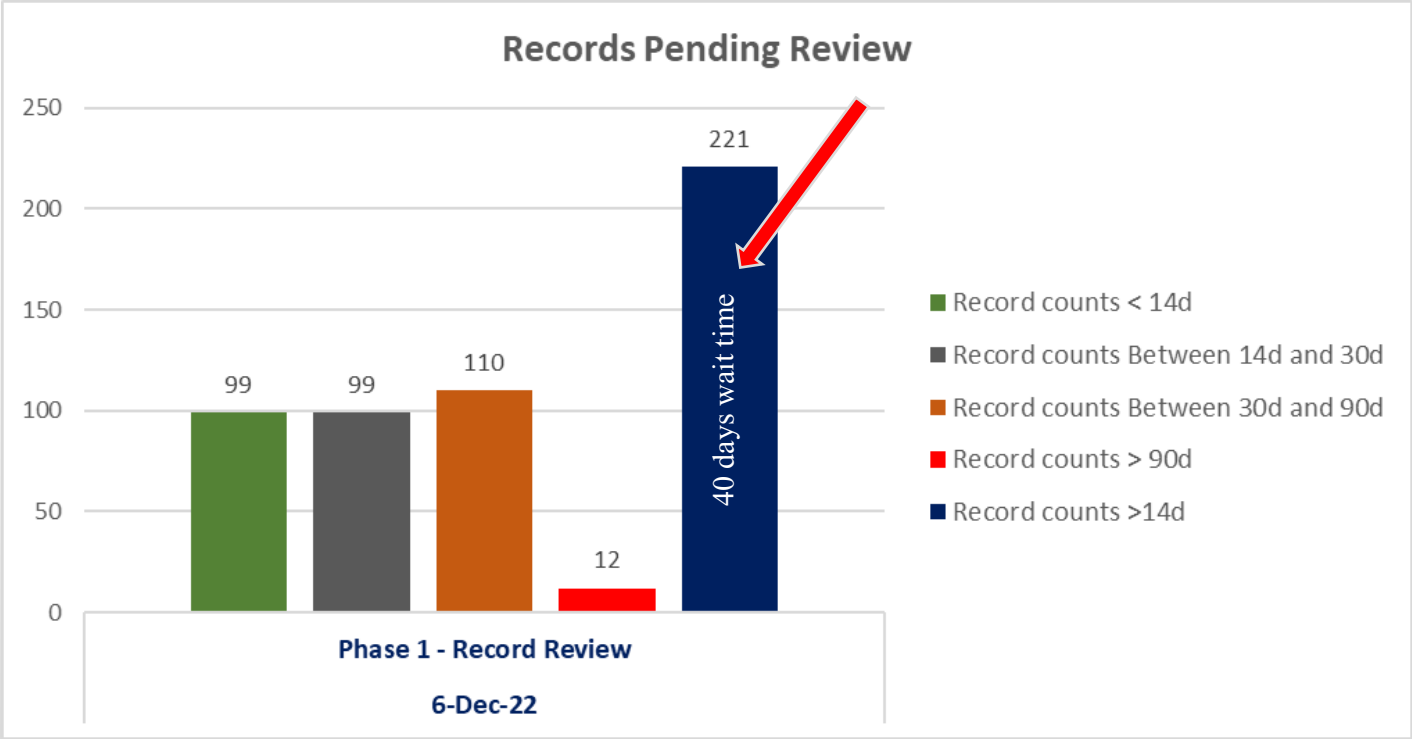
Results & Analysis

6 December 2022

320 total records

320 pending record review
99 were excluded
221 at an average of 40 days wait time

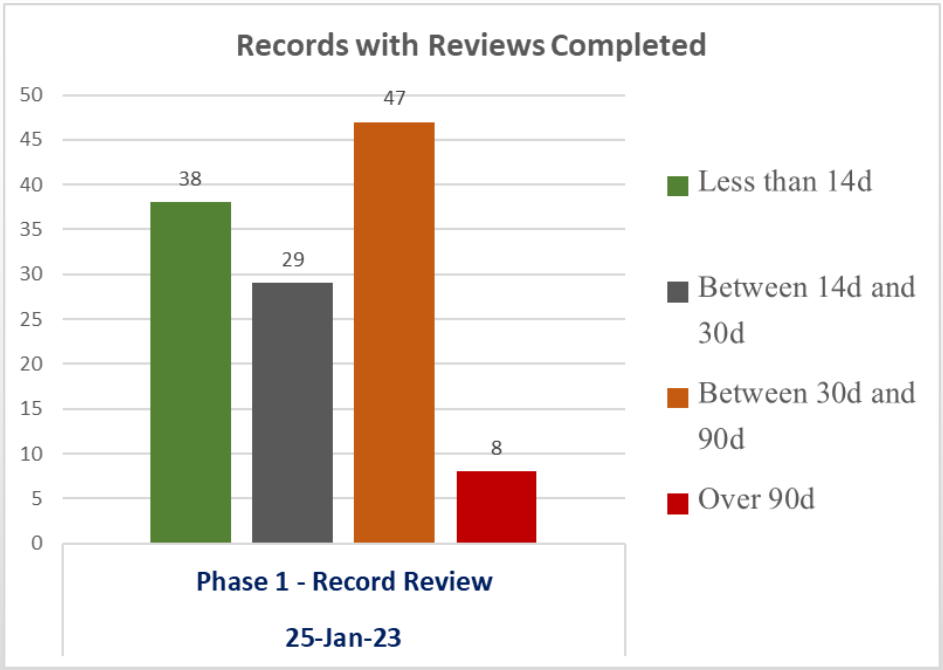


Results & Analysis

25 January 2023

488 total records

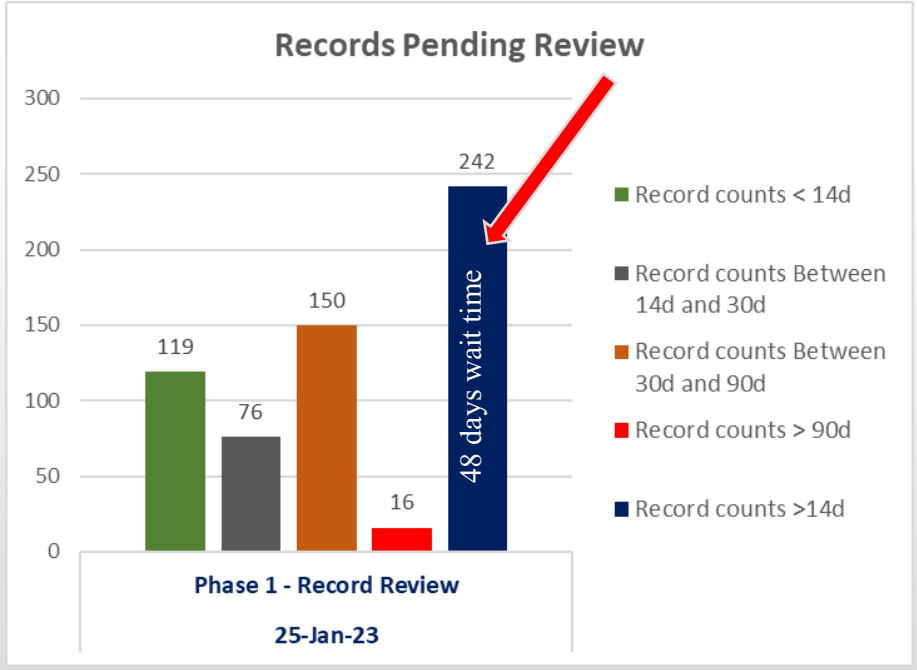
127 reviewed at an average of 36.2 days



361 pending review

119 were excluded

242 at an average of 48 days wait time



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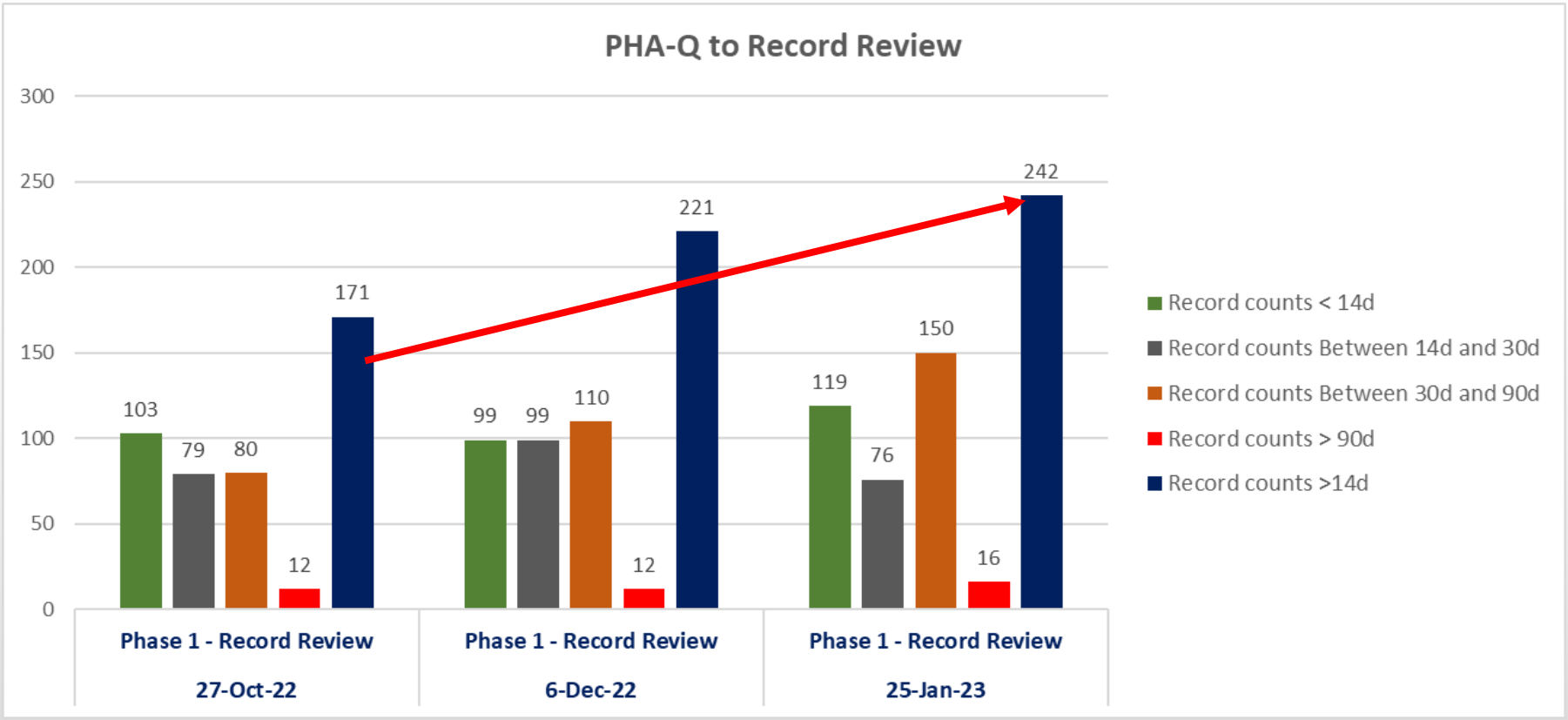
Results & Analysis

Trends



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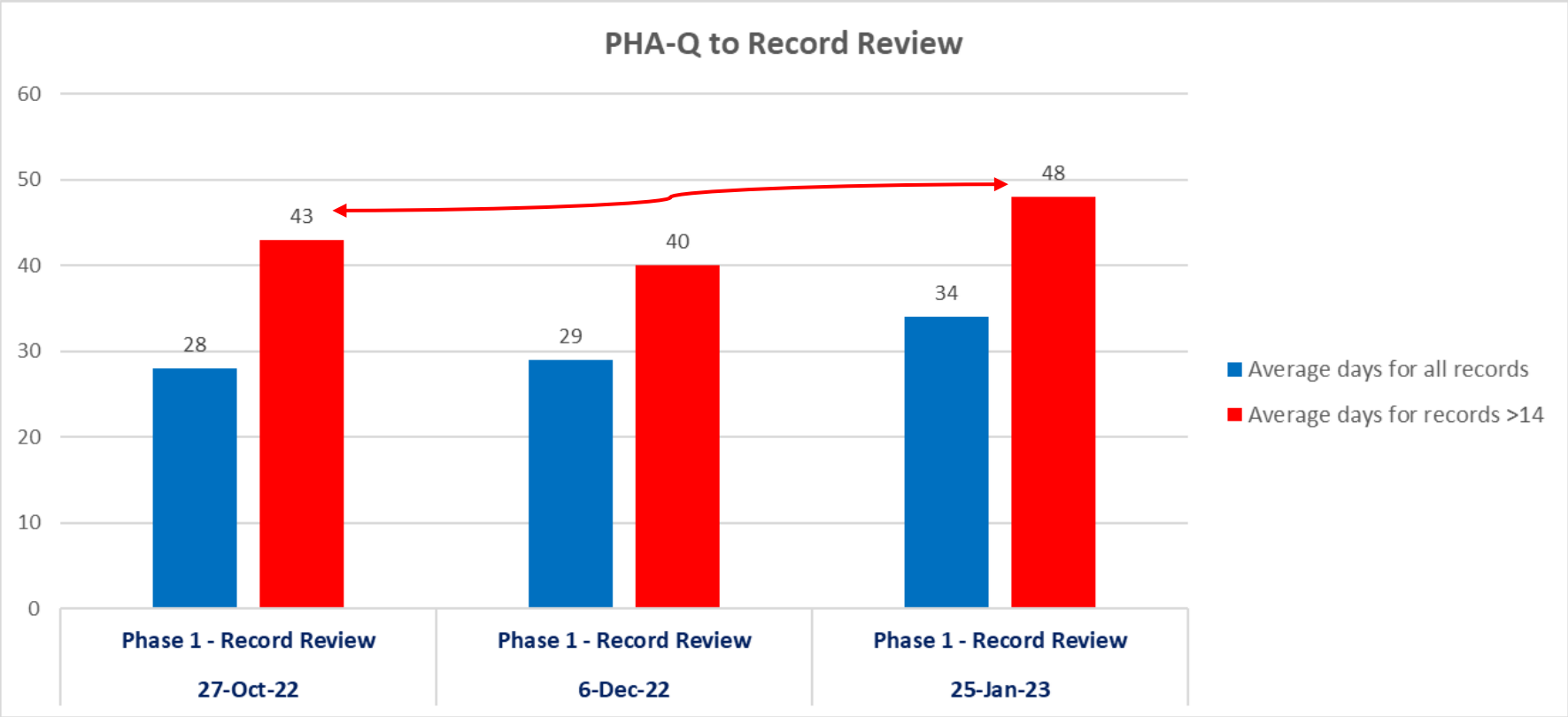
Results & Analysis

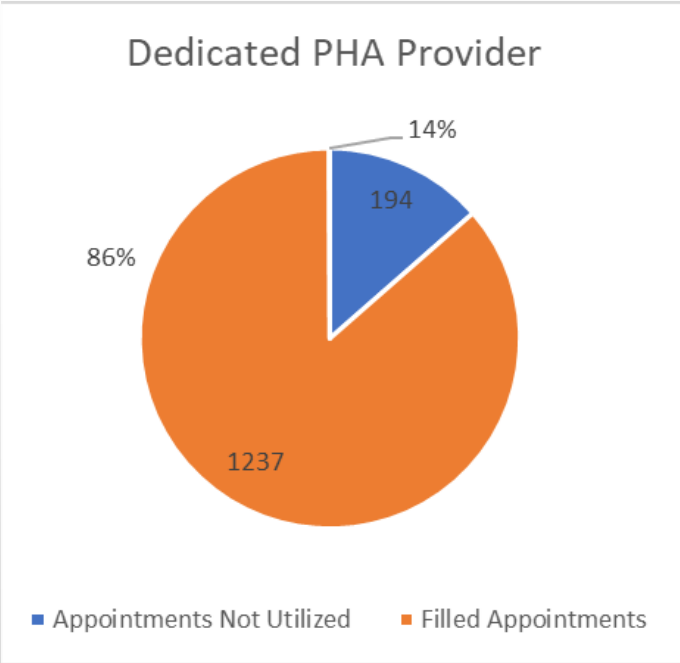
Trends

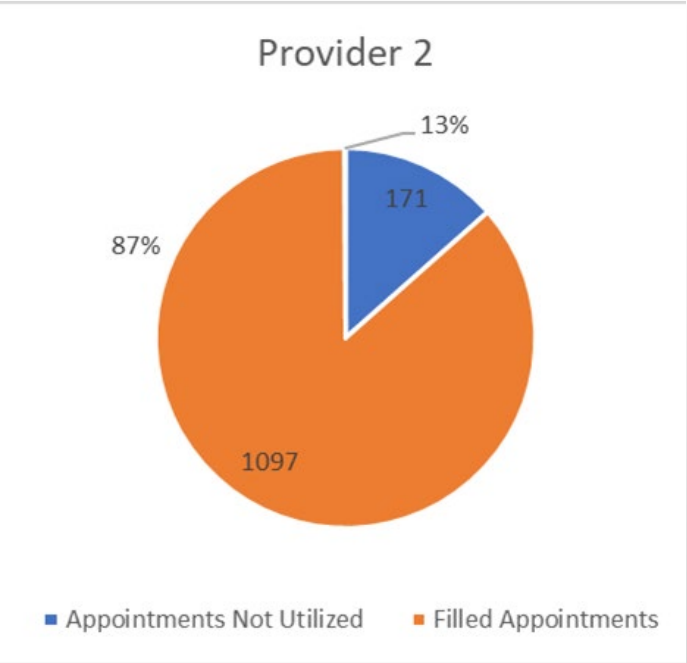


Implications

Access to Care

A retrospective look at the dedicated PHA provider and counterpart in sister clinic established a utilization rate of 86% and 87% between provider 1 and provider 2, respectively eliminating access to care as a potential problem





Implications

Data Pull
Analysis of the data on completion timelines from:

1) initiation of the PHA process by the SM to
2) the records review by the technician and
3) finally, the completion of the PHA by the assigned provider

https://kissflow.com/workflow/bpm/bottleneck-process/

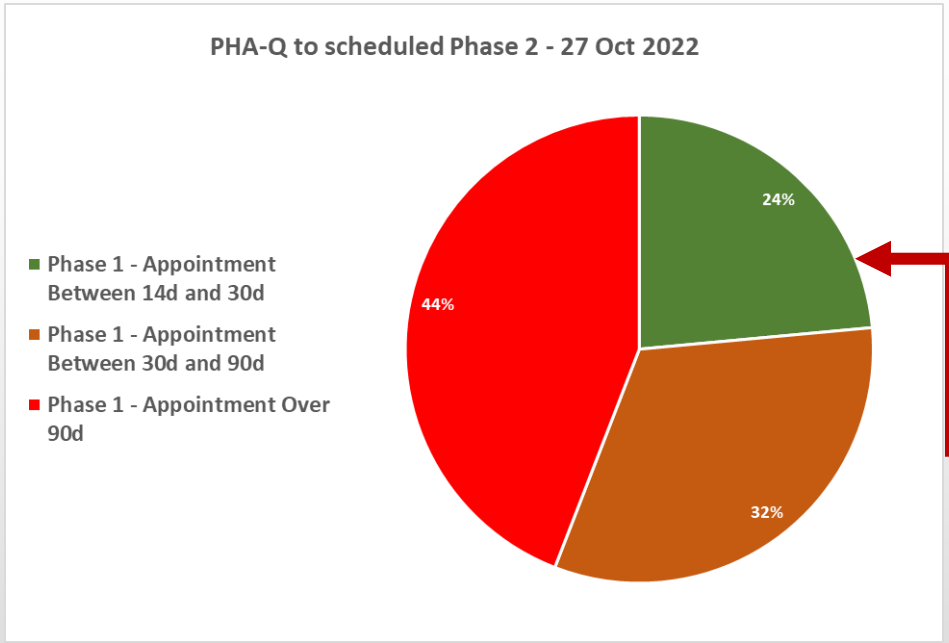
Highlighted Bottlenecks in the Workflow

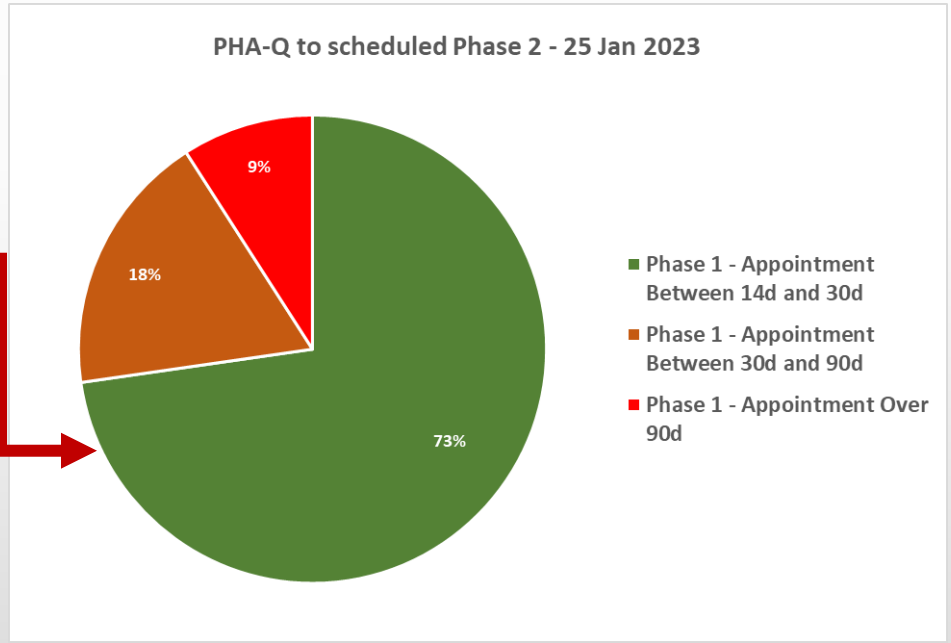
Implications

New process implementation (internal)

- Weekly mass email to SM's over 400 days

Improvement in the scheduling averages from the records review to the appointment





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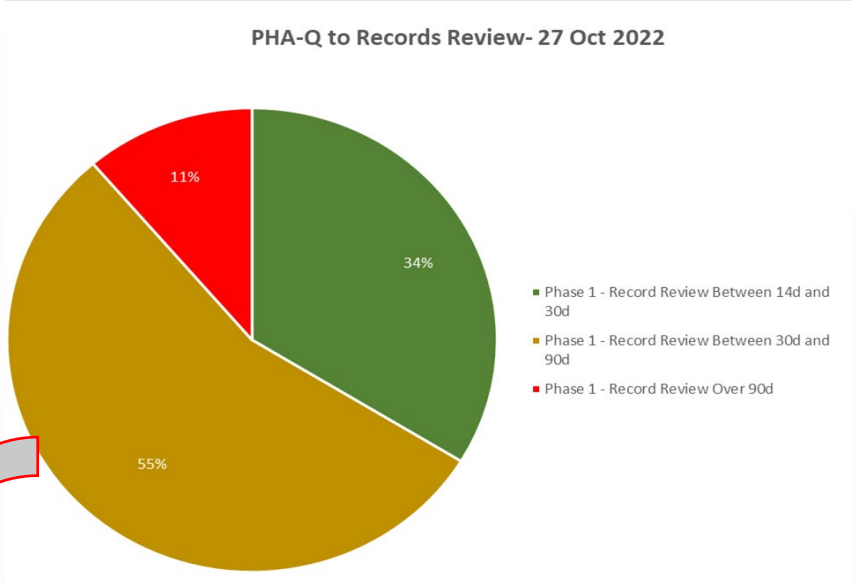
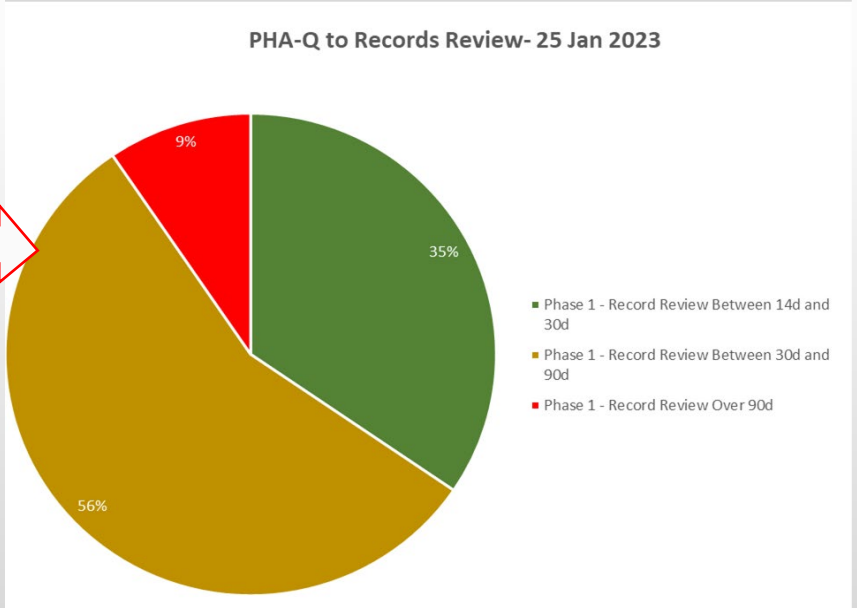
Implications

New process implementation (internal)

- Weekly mass email to SM's over 400 days

But the average for the records review completion has remained the same with more records now pending review





Recommendations

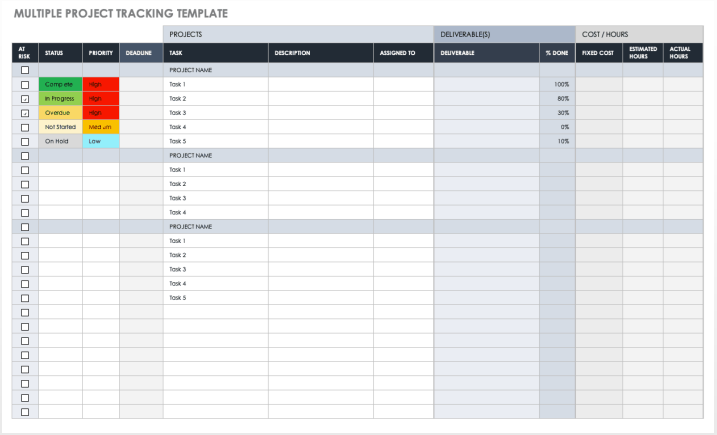
Implementing the recommended strategies during high peak PHA time can save an estimated 1.2 million dollars in readiness for a unit of approximately 5900 SMs

1. Create an SOP
   a) Define roles and responsibilities
   b) Assign staff/Allotted time
   c) Ensure training/competency

(Sung et al., 2022)

1. Implement a Notification/Tracker
   b) Live Excel spreadsheet or
   c) ASIMS embedded tracker or
   d) Messages

(Saleem et al., 2005)



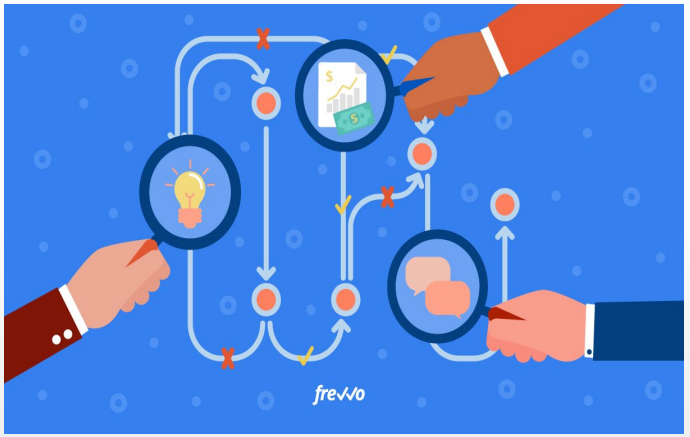
https://www.smartsheet.com/content/project-tracker-google-sheets

Impact

1. Optimizing PHA workflow to improve the way in which military RNs and APRNs assist ADSMs in maintaining their medical readiness.

2. LSS principles can be implemented towards improving direct and indirect patient care tasks and healthcare delivery systems.

3. NP-prepared military APRNs are equipped with the capabilities to implement evidence-based practice and take the leading role in process improvement.



https://www.frevvo.com/blog/workflow-analysis/

Barriers

Potential barriers/solutions

1. Support from the leadership team/dedicated administrative time for data collection
    - Emphasized relevance of the project; completed data collection on a schedule
2. Perceived increase in workload for the support staff
    - The team performed most of the tasks and
    - Kept interaction/interruptions to a minimum
3. Transparency in our intent
    - Identifying and understanding the process/gaps will lead to increase productivity and efficacy in the long run

https://er.educause.edu

Limitations

- Inability to compare access to care availability for all providers in the team with that of the dedicated PHA provider due to system restrictions
- The 6 December data pull did not contain any completed record review as of the retrieval date
- The newly implemented electronic health record MHS Genesis does not currently communicate with ASIMS the Air Force medical readiness platform

Future Directions

- Implement the above recommendations
- Inspire MTF's across the enterprise to conduct their own gap analysis of their PHA workflow
- Encourage dissemination of proven PHA workflow strategies through a centralized platform accessible to all MTFs

https://mckinleymarketingpartners.com

Conclusion

Joint efforts between the Defense Health Agency and medical services of the Army, Navy, and Air Force are aimed at providing a medically ready force and a ready medical force to combat and command in peacetime and wartime (Defense Health Agency, n.d.).

The scale at which this must be accomplished necessitates optimization of system workflows across multiple MTFs with varying resources and personnel.

It falls on military nursing leadership to utilize the LSS methodology and lead the charge in assessing the current state of the PHA process and implementing evidence-based recommendations to ensure the medical readiness of each SM within their footprint.

References

https://docs.google.com/document/d/1aCLbEfWznQetg4PM828UzRDFAC0ixaBc/edit?usp=sharing&ouid=111665290661358301087&rtpof=true&sd=true

Thank You!

Special thanks to:
Maj M. P. Allen, Dr. L. Taylor, LTC (P) Cindy Roberts, Dr. J. Park, Dr. J. Trautmann, Maj M. P. Stacpoole, Dr. Heather Rivasplata, JBSA-Randolph BOMC staff

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GAP ANALYSIS: EVALUATING THE MILITARY PHA PROCESS AT A READINESS CLINIC AT JBSA

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Daniel K. Inouye Graduate School of Nursing, Uniformed Services University of the Health Sciences, Bethesda, MD

Significance of the Problem

- PHAs represent overall health & medical readiness status of Service Members (SM)
- May 2022 Backlog of 181 PHAs and 933 PHAs at risk of becoming overdue at Randolph Base readiness clinic
- Individual Medical Readiness (IMR) compromised
- Overdue PHAs undermines unit readiness
- $1.2 million/day in daily operational costs for a brigade size element

(DoDI 6025.19, ASIMS-PHAQ2, AFI 48-170, DoDI 6200.05)

Purpose

To conduct a comprehensive gap analysis and propose evidence-based tactical improvements to maximize the effectiveness of and completion rates of the SM PHAs at JBSA-Randolph

Organizing Framework

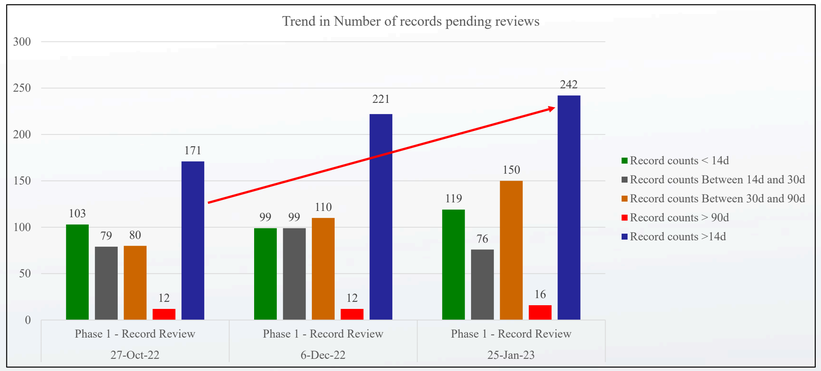
Lean six sigma (LSS) is widely adopted for optimizing organizational performance and identify systems inadequacies, utilizing the define, measure, analyze, improve, and control (DMAIC) roadmap streamline processes

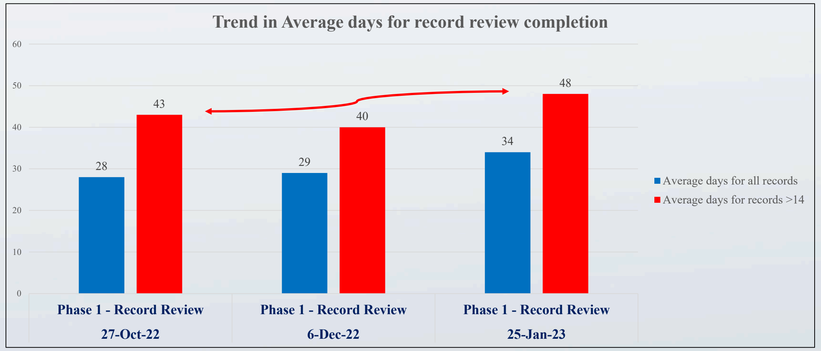
(Patel & Patel, 2021)

JBSA – Randolph PHA LSS application

LSS:Define	Identify the problem	- Literature Search - Stakeholder Meetings - Baseline Data collection
LSS:Measure	Assess the process	- Gemba walks - Staff Questionnaire - PHA data pull - Provider retrospective schedule
LSS:Analyze	Examine the results	- Data evaluation - Meeting with statistician - Evidenced-based recommendations

Project Results & Analysis

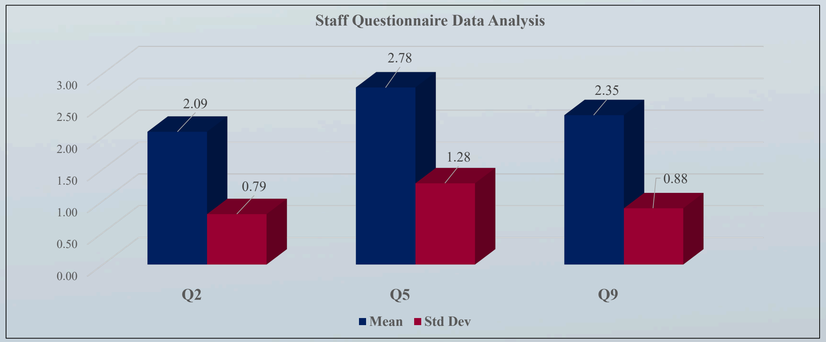




Lean Six Sigma Staff Questionnaire

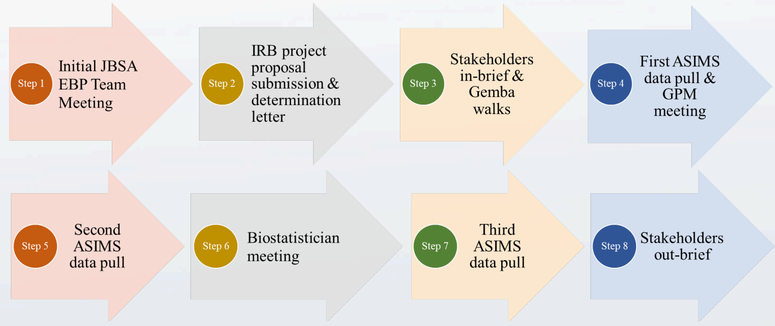
Facilitator:
- Great team dynamics, adequate staff communication

Barriers:
- Staffing/resource
- Task saturation/multitasking



Project Design

- Pre-analysis data collection: statistics on the backlog
- Gemba Walks (In clinic staff observation)
- Staff questionnaire
- System reports of pending PHAs



Recommendations for Improvement

Create an SOP
- Define roles and responsibilities
- Assign staff/Allotted time
- Ensure training/competency

Notification/Tracker
- Live Excel spreadsheet or
- ASIMS embedded tracker or
- Messages

(Sung et al., 2022; Saleem et al., 2005)

Organizational Impact

- A medically ready force and a ready medical force to combat and command in peacetime and wartime (Defense Health Agency, n.d.)
- The scale at which this must be accomplished necessitates optimization of system workflows across the enterprise
- Military nursing leadership are charged with assessing the current state of the PHA process and implementing evidence-based recommendations to ensure the medical readiness of each SM within their footprint.

"The authors would like to acknowledge our DNP Project Mentors: Dr L. Taylor (Senior Mentor), LTC C. Roberts, Dr J. Trautmann, Maj M. Allen, Dr. H. Rivasplata for their support, guidance, and assistance. Their time, effort, and dedication to this project is appreciated more than words can express."

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2. Print your name, rank/grade, sign and date the form in the author's signature block or use an electronic signature.

3. Attach a copy of the 59 MDW IRB or IACUC approval letter for the research related study. If this is a technical publication/presentation, state the type (e.g. case report, QA/QI study, program evaluation study, informational report/briefing, etc.) in the "Protocol Title" box.

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5. Save and forward, via email, the processing form and all supporting documentation to your unit commander, program director or immediate supervisor for review/approval.

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10. If your manuscript is accepted for scientific publication, please contact the 59 MDW/STC Publications and Presentations Section at 292-7141. This information is reported to the 59 MDW/CC. All medical research or technical information publications/presentations must be reported to the Defense Technical Information Center (DITC). See 59 MDWI 41-108, *Presentation and Publication of Medical and Technical Papers,* for additional information.

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    d. If your travel is being paid for (in whole or in part) by a non-Federal entity (someone other than the government), a legal ethics review is needed. These requests for legal review should come through the 59 MDW Gifts and Grants Office to DHA/OGC.
    e. If you are receiving an honorarium or payment for speaking, a legal ethics review is required.
    f. You are presenting, publishing or disclosing technical information in any of the following countries: Albania, Angola, Benin, Bulgaria, Cambodia, Congo, Czech Republic, Ethiopia, Hungary, Mongolia, Mozambique, Poland, Romania, Somalia, South Yemen, China, Cuba, Laos, North Korea, Vietnam.

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Faucher, Regine MAJ	04		☒ YES ☐ NO	Gap Analysis

6. IRB or IACUC PROTOCOL NUMBER	7. PROTOCOL TITLE: (Attach approval or Determination Letter)
FWH20220125N	In ADSMs completing PHA's at JBSA-Randolph, a gap analysis evaluating the effectiveness

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