



**READY**  
**RELIABLE**  
**CARE** **ANYTIME,  
ANYWHERE**

**2022 READY RELIABLE CARE HIGH RELIABILITY  
ORGANIZATION AWARDS**

**ABSTRACT BOOKLET – WINNERS**

# ABSTRACT BOOKLET – WINNING SUBMISSIONS



## Introduction

A summary of all winning abstracts towards the 2021 Ready Reliable Care High Reliability Organization Awards. The Ready Reliable Care (RRC) High Reliability Organization (HRO) Awards Program recognizes initiatives that improve the Military Health System (MHS). We seek approaches and enhancements in both clinical and non-clinical areas that result in more reliable processes, better outcomes, and higher quality care. The goal of the Awards Program is to promote a culture of learning, sharing, and continuous improvement.

Awards will be presented in the following **Domains of Change**:



### LEADERSHIP COMMITMENT

Prioritize Ready Reliable Care at all levels of leadership



### CULTURE OF SAFETY

Commit to safety and harm prevention



### CONTINUOUS PROCESS IMPROVEMENT

Advance innovative solutions and spread leading practices



### PATIENT CENTEREDNESS

Focus on patients' safety and quality of care experience

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## Leadership Commitment Award Submissions

### **CPI Manager - Build a Competitive Edge**

Organization: Joint Base Elmendorf-Richardson (JBER)

Primary Clinical Community: N/A

Secondary Clinical Community: N/A

Clinical Support Service: N/A

Non-Clinical Support Service: Other – CPI Manager

Domain of Change: Leadership Commitment

#### Abstract:

Since 1 December 2021—my selection date as the Squadron CPI Manager—I have seen low levels of innovation, where Airmen are missing the opportunity to weigh in on a number of significant efforts that lead to improved care and advances in a ready, reliable Military Health System. Factors that led to this initiative include little to no interest shown and minimal education and training opportunities given to flights to take aim at old processes in order to improve the continuum of care and support within a high reliability organization.

In this report, leadership commitment was analyzed in order to address administrative processes, training, and organizational climate by centralizing and coordinating oversight of flight CPI metrics and outcomes by utilizing deference to expertise and commitment to resilience. These principles hold considerable promise for the increase in foundational knowledge (CPI managers push for education and training as it pertains to CPI), airmen's involvement in solutions (CPI managers push for project completion as it pertains to CPI), and tracking strategic alignment (CPI managers push for squadron level tracking as it pertains to CPI)—essential elements that are all needed to prioritize. This initiative resulted in 532 completed hours of CPI education, 16 completed CPI/JDI projects, and a real time CPI/JDI tracking spreadsheet used to brief Sq/CC/SEL.

## Culture of Safety Award Submissions

### **Enhanced Recovery After Surgery (ERAS) Protocol Implementation for Breast Surgery Patients to Reduce Post-Operative Opiate Use**

Organization: Naval Medical Center Portsmouth

Primary Clinical Community: Surgical Services

Secondary Clinical Community: Oncology

Clinical Support Service: Medical Management

Non-Clinical Support Service: N/A

Domain of Change: Culture of Safety

#### Abstract:

**BACKGROUND:** The opioid crisis in the United States continues to impact every level of patient care and opiate dependence poses a direct threat to the health and medical readiness of our patients within the MHS. We identified variable post-operative prescribing practices of opiates as an area of improvement in the MHS Clinical Communities of Oncology and Surgery. The initiative of this culture of safety project was to embody the RCC Principals to optimize our peri-operative pain management for breast surgery patients. This project aimed to reduce the risk of opiate dependence and abuse in our Comprehensive Breast Clinic patients by implementing standardized Enhanced Recovery After Surgery (ERAS) protocols for all patients undergoing breast surgery and assess the effectiveness of these protocols in reducing post-operative opiate use.

**METHODS:** This was a prospective, single institution study at our MTF of all patients undergoing breast surgery from November 2020 to November 2021. All patients were enrolled in our protocols and given

questionnaires at their 2-week postoperative clinic visit that assessed their perioperative pain using the Defense and Veterans Pain Rating Scale (DVPRS) and opiate pain medication use. Appropriate parametric and nonparametric tests were used for analysis.

**RESULTS:** A total of 133 patients completed the survey over the 12-month period. Of these patients, 98.5% received pre-operative education regarding pain and pain control and 79.7% received pre-operative pain medication in preoperative holding. 91.7% of patients reported use of scheduled non-opiate medications and 70.7% of patients reported having unused oxycodone tablets.

**CONCLUSION:** This study demonstrated that our ERAS Protocol was implemented with excellent utilization of pre-operative patient education and high compliance of pre-operative and post-operative multimodal pain medication. Additionally, it illustrated opportunities to decrease the number of oxycodone tabs prescribed per patient in almost all the procedures analyzed and to improve safe disposal of opiate medications.

### **First-Five-Minutes Drill Program**

**Organization:** 377<sup>th</sup> Medical Group - Kirtland AFB

**Primary Clinical Community:** Critical Care/Trauma

**Secondary Clinical Community:** Critical Care/Trauma

**Clinical Support Service:** Precision Medicine

**Non-Clinical Support Service:** Involvement in Safety Protocols

**Domain of Change:** Culture of Safety

### **Abstract:**

The American Heart Association (AHA) teaches healthcare personnel to provide high-quality cardiopulmonary resuscitation (CPR) and defibrillation as quickly as possible, because the sooner these interventions are performed, the better the chances for survival after cardiac arrest. Responders should call for help within 20 seconds, start compressions within 60 seconds, and administer the first defibrillation within 180 seconds. To maintain skill retention, personnel should practice CPR frequently.

During a mock-code at an outpatient clinic, a nurse educator observed staff providing CPR too slowly. To improve response times and meet the AHA's standards of care, the Education & Training flight implemented monthly in-situ simulations, called "First-Five-Minute" drills. These drills prioritized three response times: the time needed to call for help, start compressions, and give the first defibrillation.

The nurse educator developed an observational evaluation tool to measure learning during quarterly mock-codes. After fourteen months, all three response times not only improved, but exceeded the AHA's standards of care. The time needed to call for help improved by an average 88%, time to start compressions improved by an average 81%, and the time to administer the first defibrillation improved by an average 88%. The author believes these drills can be replicated in other clinics across the military health system (MHS) with similar outcomes. By encouraging diverse teams to focus on the common goal of "zero harm," this initiative promoted a Culture of Safety through Constancy of Purpose.

## **Continuous Process Improvement Award Submissions**

### **A Quality Improvement Project Rapid Response EEG Headset Reduces Time to Determination of Non-Convulsive Status Epilepticus at a Level 1 Trauma Center in the DoD**

**Organization:** Brooke Army Medical Center

**Primary Clinical Community:** Critical Care/Trauma

**Secondary Clinical Community:** Neuromusculoskeletal

**Clinical Support Service:** Inpatient Care

**Non-Clinical Support Service: N/A**  
**Domain of Change: Continuous Process Improvement**

**Abstract:**

**RATIONALE:** Non-convulsive status epilepticus (NCSE) and non-convulsive seizures (NCS) have been found in 10-15% of patients in critical care settings. These often go unrecognized due reduced consciousness, being in a coma, and not having physical signs of seizures. Left untreated, these lead to increased morbidity and mortality. The electroencephalogram (EEG) is the gold-standard for diagnosis. In an efficient system with EEG technicians in-house 24/7, there is an average delay of two to four hours before the EEG is available for physician review which leads to delays in diagnosis and treatment.

**OBJECTIVE:** Evaluate the impact on (1) time to electrographic data collection and (2) time to interpretation and patient care decision making using Rapid Response EEG (rr-EEG) headsets from the manufacturer Ceribell Inc. compared to traditional EEG at a Level 1 Trauma Center Military Treatment Facility.

**RRC:** This project demonstrates Continuous Process Improvement as we improved the process of obtaining EEGs and measured the improved performance through a reduction of time. As this technology does not require EEG technicians or machine, this has potential for replication MHS wide and utilization in austere environments or in the CCATT.

**DESCRIPTION:** All consultations that sought or required EEG service had either the rr-EEG device or the conventional EEG utilized. Data collected included time consult was received, time recording was started, and time of interpretation.

**SUMMARY:** The average time to initiate the rr-EEG was 48.94 minutes vs 128.05 minutes for conventional EEG p-value <0.001. The average time to interpret the rr-EEG was 58.59 minutes vs 246.29 minutes p <0.001. We compared time to interpret the rr-EEG to time to initiate the conventional EEG due to delays associated with work-flow and formal reading of the EEGs p-value <0.001.

**CONCLUSION:** rr-EEG has the ability to increase accessibility to EEG while reducing the time to obtain EEGs.

**Depression Screening Initiative in Military NICU Parents**  
**Organization:** U.S. Naval Hospital Okinawa Japan  
**Primary Clinical Community:** Behavioral Health  
**Secondary Clinical Community:** Women and Infants  
**Clinical Support Service:** Inpatient Care  
**Non-Clinical Support Service:** Patient/Staff Collaboration  
**Domain of Change:** Continuous Process Improvement

**Abstract:**

**BACKGROUND:** Parents of infants admitted to the neonatal intensive care unit (NICU) have a higher risk of depression. Opportunities to screen parents of NICU infants are limited. Military families in overseas environments may be at higher risk for depression due to detachment from social supports and mental health resources. Identification of parents at risk for depression is an important step in promoting health and wellness for military service members and their families.

**OBJECTIVES:** To implement depression screening for mothers and fathers of infants who require a prolonged NICU admission. The project aligned with the Ready Reliable Principles of Preoccupation with Failure and of Constancy of Purpose.

**METHODS:** A Plan-Do-Study-Act (PDSA) model was utilized to establish a process to screen parents of NICU infants. A working group was formed which included a neonatologist, NICU nurse, medical technician, and psychologist. The Edinburgh Postpartum Depression Screen (EPDS) and Public Health Questionnaire-9 (PHQ-9) were identified as validated tools to screen for postpartum depression (PPD) and major depressive disorder (MDD), respectively. The screening tools were given to parents of all infants admitted to the NICU for  $\geq 7$  days after seven days and again prior to discharge. Parents who screened positive were offered a referral to behavioral health.

**RESULTS:** 43 parents completed depression screening after 7 days and/or prior to discharge. 19% of parents screened positive for PPD or MDD after 7 days or prior to discharge. 26% of mothers and 10% of partners screened positive. No parents endorsed thoughts of self-harm/suicidal ideation.

**CONCLUSION:** One in five NICU parents screened positive for depression a week after birth or prior to discharge. This represents a significant military population with depression that may otherwise go unrecognized without screening. Further study is required to determine risk factors, protective factors, and the best interventions for parents who screen positive.

### **Determining Progesterone Threshold for Fresh IVF Cycles in a Military Facility**

**Organization:** Brooke Army Medical Center

**Primary Clinical Community:** Women and Infant

**Secondary Clinical Community:** N/A

**Clinical Support Service:** Patient Centered Care

**Non-Clinical Support Service:** Patient/Staff Collaboration

**Domain of Change:** Continuous Process Improvement

#### **Abstract:**

**INTRODUCTION:** In vitro fertilization (IVF) cycles are monitored for premature progesterone rise, which contribute to implantation failure. Progesterone thresholds prompting recommendation for freeze-all cycles vary between institutions, depending on laboratory assay and patient population. To our knowledge, this has not been evaluated at a military treatment facility.

**METHODS:** A retrospective chart review was performed; all IVF cycles with fresh embryo transfers between 2016 and 2019 at Brooke Army Medical Center (BAMC) were eligible. Serum progesterone levels were obtained via electrochemiluminescence assay on Roche Cobas 800 36 hours or less prior to ovulation trigger. The number of clinical pregnancies (CP, n=190) and live births (LB, n=159) were stratified by progesterone levels.

**RESULTS:** Three hundred forty-five women who underwent 393 fresh embryo transfers were included in the analyses. Progesterone was significantly lower in patients with a CP ( $0.693\text{ng/mL} \pm 0.300$ ) versus those without a CP ( $0.758\text{ng/mL} \pm 0.438$ ,  $p=0.04$ ). Patients with a progesterone  $<1.3\text{ng/mL}$  are significantly more likely to achieve a CP (49.7% v 28%,  $p=0.035$ ). On linear regression, when controlling for age and parity, a progesterone level  $\geq 1.3\text{ng/mL}$  is significantly negatively associated with CP ( $p=0.045$ ). When controlling for age and parity, a progesterone level  $<1.3\text{ng/mL}$  trends toward a significant association with LB ( $p=0.1$ )

**CONCLUSION:** A progesterone  $<1.3\text{ng/mL}$  was established as a significant threshold for CP, and should be considered in future fresh IVF cycles at BAMC. However, there was lack of statistical significance for LB given this progesterone level, possibly impacted by the low number of patients with higher progesterone (n=25), which resulted in only 6 live births.

### **Education and Training SharePoint Project**

**Organization:** 39<sup>th</sup> Medical Group - Incirlik

Primary Clinical Community: N/A  
Secondary Clinical Community: N/A  
Clinical Support Service: Patient Centered Care  
Non-Clinical Support Service: N/A  
Domain of Change: Continuous Process Improvement

**Abstract:**

The Air Force Medical Service (AFMS) Training Matrix is intended to be Education and Training's comprehensive guide for AFMS Training Requirements in a consolidated format. However, there are multiple additional requirements for medical personnel that go beyond the AFMS Training Matrix. Some of these are driven by Air Force Instruction (AFI) and The Joint Commission (TJC). There are different regulations for each training and they are located on a variety of training platforms. This makes the process difficult to find personal training requirements and creates a single point of failure for Medical Group's Education and Training Departments.

For medical personnel, it has been mandated the trainings are accomplished based on member's Air Force Specialty Code (AFSC). Not completing these trainings may result in members not being able to perform their medical duties.

Upon inspection of Education & Training's processes, it was identified there was no tracking system in place to accurately capture the staff's training status. With no tracking system in place to inform members of what they were due for, training completion percentages suffered.

In conclusion, Nagehan Nayir created a one-stop shop via SharePoint for all the assigned trainings, sign-up tools, and training requirements.

**High Fidelity Simulation of Acute Neurology Enhances Rising Resident Confidence: Results from a Multicohort Study**

Organization: Brooke Army Medical Center  
Primary Clinical Community: Critical Care/Trauma  
Secondary Clinical Community: Military-Specific Care  
Clinical Support Service: Inpatient Care  
Non-Clinical Support Service: N/A  
Domain of Change: Continuous Process Improvement

**Abstract:**

The matriculation from internal medicine to neurology residency can be challenging. The most cogent approach to address this transition has yet to be identified. Studies show that simulation is highly effective at reinforcing knowledge and skills while improving learner confidence. We present the design and outcomes of a multi-institution, annual acute neurology simulation program. We hypothesized that incoming neurology residents would report (1) improved confidence with managing acute neurologic emergencies, (2) cite a high degree of educational value and (3) demonstrate improvement in their technical knowledge. Our military, Level 1 trauma institution's simulation lab was utilized to develop and execute simulations for rising neurology residents based on ACGME Neurology milestones. Simulations included acute embolic stroke, status epilepticus in an austere environment, and brain death evaluation with family counseling. Residents completed matched pre- and post-assessments to assess confidence, technical knowledge and perceived educational value. Over three years, 15 rising neurology residents from two training programs completed three high-fidelity acute neurology cases. The self-reported acute neurology skills confidence improved after each simulation. These skills included assessing for and identifying contraindications to tPA, identifying acute ischemic stroke, identifying clot retrieval candidates, identifying clinical and electrographic SE, diagnosing and treating SE, identifying contraindications to and



confounders of brain death diagnosis, performing the exam and delivering bad news to families (all  $p < 0.05$ ). Technical knowledge also statistically improved with the stroke ( $p = 0.046$ ) and brain death simulation ( $p = 0.039$ ), but not the SE simulation ( $p = 0.296$ ). Participants reported an average perceived personal value of 4.25, 4.7 and 4.8 (out of 5) for the SE, brain death and AIS simulations, respectively. High fidelity simulation of neurologic emergencies enhances confidence and knowledge of rising neurology residents with high degrees of personal educational value. Academic hospitals can consider incorporating simulations into their residency training.

### **Implementation of a Rapid HIV Screening Program in the Emergency Department**

Organization: Brooke Army Medical Center

Primary Clinical Community: Primary Care

Secondary Clinical Community: Military-Specific Care

Clinical Support Service: Patient Centered Care

Non-Clinical Support Service: Medical Facility Enhancement

Domain of Change: Continuous Process Improvement

#### **Abstract:**

**REASONS FOR INITIATIVE:** Guidelines recommend human immunodeficiency virus (HIV) screening for all patients evaluated for sexually transmitted diseases (STDs). However, current practice in the Emergency Department (ED) is to defer HIV testing to Primary Care Managers (PCMs).

**PROJECT INITIATIVE:** The purpose of this continuous process improvement project was to identify HIV screening gaps in the ED and design an approach to close them. We implemented rapid HIV testing in the ED for patients at risk of HIV acquisition. Ready reliable principles involved in this project were commitment to resilience, constancy of purpose, and reluctance to simplify.

**PROJECT DESIGN AND MEASUREMENT:** Project design used the PDSA cycle and was a multidisciplinary collaboration. Patients with *Neisseria gonorrhoea/Chlamydia trachomatis* (GC/CT) testing ordered in the ED pre- and post-intervention were selected for chart review to assess HIV screening practices. Barriers to ordering HIV testing in the ED were identified - testing was not routinely being ordered due to delay in obtaining the result. Rapid HIV testing was introduced in the ED as the primary intervention. ED providers were educated to order HIV testing in patients who presented with an STD chief complaint.

**SUMMARY:** A similar number patients in the pre-intervention (N=303) period compared to the post-intervention (N=268) period presented with an STD-related chief complaint (13.5% vs. 17.2%), tested positive for either GC or CT, or both (13.5% vs. 10.8%), and received empiric treatment for GC/CT (38.3% vs. 34.3%). HIV screening in the ED significantly increased both overall (4.3% vs. 19.8%;  $P < 0.001$ ) and in patients treated empirically for GC/CT (9.7% vs. 30.4%;  $P < 0.001$ ). Among at risk patients without HIV testing performed in the ED, PCM follow-up was low and HIV screening was not commonly performed by PCMs during those visits (6.2% vs. 8.4%;  $P = 0.350$ ).

**CONCLUSION:** Implementation of a rapid screening protocol in our ED resulted in a nearly 5-fold increase in HIV screening.

### **Improving Point-of-Use Decontamination**

Organization: Navy Medicine Readiness & Training Command Camp Pendleton

Primary Clinical Community: Surgical Services

Secondary Clinical Community: Surgical Services

Clinical Support Service: N/A

Non-Clinical Support Service: Administrative and Management Work at all Levels

Domain of Change: Continuous Process Improvement

## Abstract:

Poor decontamination practices are a leading factor for surgical site infections attributing to \$10,000 - \$43,000/patient per infection. After internal checks identified areas for improvement on point-of-use decontamination practices throughout the Medical Treatment Facility's Main Operating Room and 12 clinics, a leadership team from Sterile Processing Department SPD sought to establish uniform policies and streamline educational channels. Remaining aware of the seven Ready Reliable Care principles, particularly Sensitivity to Operations and Reluctance to Simplify, the SPD team worked with the Public Affairs Office to create a 6:26 minute descriptive video and linked to YouTube via QR code to allow easy access to proper steps and consistent transfer of knowledge despite high personnel turnover. Inspections conducted a month following the video release showed a dramatic increase in compliance across the Main Operating Room and 12 clinics from 91% to 99% on 11 measures in "point-of-use/removal of gross soil" and "transportation" categories, and sustained 99%-100% compliance for a full year following the initial implementation in June 2021. The new educational resource has contributed to the goal of hospital compliance in the removal of gross soil and keeping instruments wet, as well as Defense Health Agency's goal of a high reliability organization by reducing variation and establishing sustainable processes across clinical communities in care and service delivery.

## **Standardized Enteral Feeding Protocol: Impact on Growth, Central Line, and TPN days in Very Low Birthweight Infants**

Organization: U.S. Naval Hospital Okinawa Japan

Primary Clinical Community: Women and Infant

Secondary Clinical Community: Critical Care/Trauma

Clinical Support Service: Inpatient Care

Non-Clinical Support Service: Administrative and Management Work at all Levels

Domain of Change: Continuous Process Improvement

## Abstract:

**BACKGROUND:** Very low birth weight (VLBW) preterm infants, defined by a birthweight of 1500g, are at high risk for nutritional deficits and poor postnatal growth. They have immature oral feeding skills and gut development. Standardization of enteral feeding practices has been shown to improve clinical outcomes including improved growth, reduced total parenteral nutrition (TPN) use and central line days, and reduction in the rate of necrotizing enterocolitis (NEC). In a small overseas Department of Defense (DoD) neonatal intensive care unit (NICU), enteral feeding practices varied among providers who were often new fellowship graduates from different training backgrounds.

**OBJECTIVES:** To design and implement a standardized enteral feeding protocol with the goal of improving growth while reducing central line days, TPN utilization, and NEC rates in VLBW infants. The project aligned with the ready reliable principles of Deference to Expertise and Reluctance to Simplify.

**METHODS:** A Plan-Do-Study-Act PDSA model was utilized to create an evidence-based enteral feeding protocol. Before implementation, details of the protocol were discussed with all NICU stakeholders. Growth parameters weight gain at 7, 14, and 30 days; change in head circumference and length at 30 days, days requiring TPN, central line days, and necrotizing enterocolitis incidence were compared between one-year epochs before and after feeding protocol implementation.

**RESULTS:** 20 VLBW infants were included in the study period. Following feeding protocol implementation, weight gain at 14 days and 30 days improved by 108% p0.02 and 25.2% p0.04, respectively. A non-statistically significant trend towards improved change in length, head circumference, TPN days, central line days, and incidence of NEC was also observed.

**CONCLUSIONS:** Implementation of an enteral feeding protocol improved growth, while showing a trend

towards reduced TPN use, central line days, and NEC incidence in VLBW infants. Our results highlight the importance of implementing evidence-based protocols to improve outcomes in small, remote, non-academic military healthcare settings.

### **Streamlining Training Records**

Organization: Navy Medicine Readiness & Training Command Iwakuni

Primary Clinical Community: Women and Infant

Secondary Clinical Community: N/A

Clinical Support Service: Inpatient Care

Non-Clinical Support Service: Administrative and Management Work at all Levels

Domain of Change: Continuous Process Improvement

#### **Abstract:**

**REASONS:** Unit training records for registered nurses and corpsmen were extensive, making tracking compliance and completion difficult. At the start of the project, there were 1122 and 881 fillable items for Registered Nurse and Corpsman training records, respectively. Gaps in complete documentation across training records could lead to a failure in a Joint Commission inspectable program.

**OBJECTIVES AND RRC PRINCIPLES:** The goal of this project was reducing fillable training record items dates, initials, signatures, etc. and auditing time by at least 50% each. Streamlining training records in this manner falls within the Ready Reliable Care RRC Continuous Process Improvement domain and principles of Preoccupation with Failure and Sensitivity to Operations.

**DESCRIPTION:** This project was completed as a Lean Six Sigma LSS Green Belt Project, utilizing the Rapid Improvement Event (RIE) Define-Measure-Improve-Analyze-Control (DMAIC) methodology.

**SUMMARY:** Utilizing Elsevier Clinical Skills (ECS), unit training record fillable items were reduced by 79% overall with 81% reduction for RN training records and 79% for HM training records. Additionally, auditing time was decreased by 75%, from an initial 20 minutes per record to only 5 minutes per record.

**CONCLUSION:** This project utilized an existing online program to decrease overall training record completion and workload by 75%, increasing the time nurses and corpsmen spent engaged in more value-added work, such as patient care and unit activities. This project presents replicable solutions to other facilities across the military health system that are experiencing the same problem identified in this project: staff unnecessarily consuming large amounts of time completing training records and tracking training compliance when a more efficient process can be adopted.

## **Patient Centeredness Award Submissions**

### **Improving Physical Therapy Purchased Care Recapture of Low Back Pain Encounters**

Organization: Naval Health Clinic Hawaii

Primary Clinical Community: Neuromusculoskeletal

Secondary Clinical Community: Military-Specific Care

Clinical Support Service: Patient-Centered Care

Non-Clinical Support Service: N/A

Domain of Change: Patient Centeredness

#### **Abstract:**

**PROBLEM:** The command had numerous Active Duty personnel with low back pain being referred to network providers from July to November 2021. During this period, the command lost 2,895 physical therapy (PT) encounters for low back pain to the network resulting in over \$99,000 being spent in the

network for the five month period.

**METHODS:** A Lean Six Sigma DMAIC process was used to address the problem.

**RESULTS:** The total number of network visits was reduced from a baseline of 2,895 encounters to 1,360 encounters (a 47% reduction) and an approximate annual cost avoidance of \$99,071 to \$44,401 (a 45% reduction).

**CONCLUSION:** Implementation of a low back class targeting common mechanical lower back pain patients for Active Duty personnel was shown to decrease leakage to the network.

### **Increasing Virtual Women's Health Appointments**

**Organization:** NMRTU Everett

**Primary Clinical Community:** Primary Care

**Secondary Clinical Community:** N/A

**Clinical Support Service:** N/A

**Non-Clinical Support Service:** N/A

**Domain of Change:** Patient Centeredness

#### **Abstract:**

Some active duty service women might delay or forgo seeking healthcare for routine and/or acute needs due to numerous circumstances. This delay can potentially lead to long term health issues, deterioration of health and lack of deployment readiness, which can be a detriment to our patient population and our military mission.

Historically, the majority of available appointments within the Women's Health Clinic were allocated for in-person visits with the provider. A change in the appointment template, adding an additional 15 virtual appointments, increased the number of virtual appointments available each week to 30. The objective was to increase the access of care to patients who did not require an in-person visit, in turn increasing mission readiness as active duty would be away from their workplace a decreased amount of time. Additionally, this would also increase in-person appointment availability, decreasing wait time.

This improvement project was aligned with the Ready Reliable Care principle "sensitivity to operations" as this project was not only focused on how the people, processes and systems impact the healthcare outcome of the patient but also the outcome of the military mission. Additionally, acknowledging the difficulties with in-person appointments and implementing an appointment type that allowed the patient more flexibility showed our dedication to the Ready Reliable Care principle of "respect for people" as we built mutual trust and respect between our patients and the healthcare team.

Our objective was achieved by implementing this change on December 13, 2021. We measured if we met our objective by continuously reviewing our virtual appointment booking availability. We were able to meet our goal of implementation by offering 30 virtual appointments for most weeks. Due to several reasons, we did find that all of the virtual appointments were not always available and/or utilized.

### **Leveraging a Virtual Check In Queue to Decrease Patient Wait Times and Increase Patient Satisfaction in the Pharmacy**

**Organization:** 45<sup>th</sup> Medical Group – Patrick AFB

**Primary Clinical Community:** N/A

**Secondary Clinical Community:** N/A

**Clinical Support Service:** Pharmacy

**Non-Clinical Support Service:** N/A

**Domain of Change:** Patient Centeredness

## Abstract:

**BACKGROUND:** Wait times are cited as a main contributor adversely influencing working conditions in pharmacies, which can affect staff retention rates and burnout (Tsao et al., 2020). High acuity as well as high prescription volumes leave no room for errors and can often lead to increased wait times. The Pharmacy at the MTF has historically struggled with long wait times as demonstrated through various feedback modalities including Interactive Customer Evaluation (ICE), Congressional Inquiries, Happy or not Kiosk, green cards, and direct complaints. Prolonged wait times for patients do not only affect patient satisfaction but also clinical outcomes, patient retention as well as the likelihood of medical malpractice claims (Prakash, 2010). After evaluation of the data, wait times were identified as the predominant issue and new solutions to reduce wait time were brainstormed. Developing a process that focuses on patient experience and quality of care, the MTF centered the initiative on the Ready Reliable Care Principles of preoccupation with failure, sensitivity to operations and respect for people.

**OBJECTIVE:** Leveraging already existing technological systems, the pharmacy implemented Q-Anywhere, a virtual check in queue for prescription activation. The objective of the initiative was to decrease patient wait times and increase patient satisfaction.

**METHODS:** The success was measured through quantitative and qualitative metrics: decrease in total patient wait times for Q-Anywhere compared to in-person check in and patient satisfaction.

**RESULTS:** Q-Anywhere utilizers experienced a 37.6% decrease in wait times compared to in-person utilizers. Patient satisfaction increased by 3% while total patient response rates increased by more than 28% leading not only to happier but also more engaged patients.

**CONCLUSION:** The sustainability and reproducibility of Q-Anywhere has demonstrated to be a progressive tool that should be implemented enterprise wide. Cost for training, advertising and implementation is minimal and can be accomplished with already allotted resources.

## **Optimization of Patient Centeredness, Education, and Access to Neurologic Care in Alaska: An Underserved Market**

**Organization:** Joint Base Elmendorf-Richardson (JBER)

**Primary Clinical Community:** Behavioral Health

**Secondary Clinical Community:** N/A

**Clinical Support Service:** Precision Medicine

**Non-Clinical Support Service:** N/A

**Domain of Change:** Patient Centeredness

## Abstract:

Alaska represents an austere civilian neurology market with wait times often exceeding 90 days, massive distances between military treatment facilities, and under-served Veterans Affairs (VA) beneficiaries and remote training locations. Delays in management are common, often resulting in profound morbidity due to limited access to care. A total of 9 military installations require access in accordance with high-tempo operations with fewer than 12 community neurologists in the entire state.

The 673d Medical Group Neurology clinic, led by Dr. Jeanna West-Miles, identified an opportunity to innovate patient-centered access and care delivery through a pilot program tailored to address unique solutions to Defense Health Agency (DHA) Alaskan-Market challenges. The project focused on patient centeredness and constancy of purpose via deference to expertise; a foundational principle of evidence-based neurology and aligns with the Neuro-musculoskeletal Military Health System Clinical Community.

Appointment scheduling was returned to Neurology clinic staff to optimize availability and provide rolling

VA access when active duty tempo diminishes. Neurodiagnostic studies, nerve conduction studies, electroencephalogram and electromyogram were triaged into appointment slots of different durations to maximize access to care. Non-pharmacologic interventions for headache, back pain and neck pain were pioneered to include osteopathic manipulation, botulinum toxin injection, implementation of Cefaly devices, and use of Trigger Point Injections and Sphenopalatine Blocks. Scheduling was reworked to accommodate access to these therapies, which vastly improved management of pilots, security forces, and explosive ordinance disposal personnel, all of whom require drug-sparing therapies to maintain readiness.

As a result of the program, at least 10 pilots have been retained in current duty positions and greater than 90% of security forces retained in required AFSCs. Current interactive customer evaluation survey satisfaction rate is 100%. Narcotic usage for chronic neuropathic pain and headache has been reduced by more than 50% over the past 36 months. Wait times for initial appointments and electrodiagnostics have been reduced by 25%. Wait times for special procedures are a third of the anticipated time compared to community care. Access to care for specialized procedures is consistently within DHA-mandated timeframes despite clinic manning shortages.

### **Penicillin Allergy Testing and Clearance: Patient-Centered Readiness Initiative through Non-Allergist Engagement**

Organization: Navy Medicine Readiness & Training Command Portsmouth

Primary Clinical Community: Primary Care

Secondary Clinical Community: Military-Specific Care

Clinical Support Service: Patient Centered Care

Non-Clinical Support Service: Patient/Staff Collaboration

Domain of Change: Patient Centeredness

#### **Abstract:**

Penicillin allergies are common with a far-reaching impact on the military healthcare system. These allergies lead to increased healthcare costs, increased morbidity and mortality, and decreased force readiness. 90% of reported penicillin allergies do not represent a true allergy and most patients can be safely tested and cleared of their allergy.

The objective of this project is to establish a standard operating procedure (SOP) and responsibility assignment matrix (RACI) that can be disseminated enterprise-wide in order to identify penicillin allergies that can be cleared via direct oral challenge by a non-allergist, removed from the electronic medical record resulting in decreased healthcare costs and increased force readiness. This was accomplished by the development of the Penicillin Allergy Testing and Clearance (PAT-C) protocol with a scalable SOP and RACI that have been uploaded to the DHA SPIDR repository for enterprise-wide access and continued refinement. We have demonstrated the effectiveness of this process by screening 313 patients with penicillin allergies over a period of 18 months at a single facility with a total of 148 patients successfully cleared from their penicillin allergy. Importantly, this process was led by primary care physicians with only subspecialist allergy oversight.

This simple process that can be replicated by the non-allergist in military treatment facilities and in the deployed environment saved a single facility approximately \$224,000 annually with the immeasurable benefit of increased force medical readiness while focusing on patient-centered care. We present here an elegantly simple, standardized process that can be readily replicated and expanded through the use of a RACI matrix that is housed on the SPIDR repository and is frequently updated to reflect continued transparent process improvement updates.

## **Point of Service Vaccine Administration during Routine Obstetric and Gynecologic Clinic Care**

Organization: Joint Base Elmendorf-Richardson (JBER)

Primary Clinical Community: Women and Infant

Secondary Clinical Community: N/A

Clinical Support Service: N/A

Non-Clinical Support Service: N/A

Domain of Change: Patient Centeredness

### **Abstract:**

Our Women's Health Clinic (WHC) noticed patients were delaying the receipt of influenza and tetanus/diphtheria/acellular pertussis (Tdap), which are recommended for every pregnant patient in every pregnancy. Additionally, gynecologic patients often would benefit from the human papilloma virus (HPV) vaccine to prevent cervical/vaginal cancer. Patients would express intent to receive these immunizations but did not always follow through if there was a line at the Immunizations Clinic. To maximize receipt of recommended vaccines, the WHC demonstrated continuous process improvement by initiating a point of care vaccination program to administer three vaccines (influenza, Tdap, and HPV) to patients while they are at their routine appointments with the objective of increasing vaccine compliance. This initiative aligns with the Ready Reliable Care principle of sensitivity to operations by recognizing the current processes in the Medical Group and their impact on patient vaccine compliance. The initiative also embodies the principle of reluctance to simplify by delving into the roadblocks to vaccine receipt and streamlining the patient experience.

In the first 12 months of the program, 1069 vaccines were administered and receipt of vaccines when recommended increased 50% on the same day. In chart review over a month before and after the initiative, 50% more patients received their vaccines the same day the vaccine was recommended. This continuous process improvement initiative for point of care vaccinations was the first in PACAF. The results show a marked increase in recommended vaccinations and could be easily implemented at primary care and other specialty clinics across the Defense Health Agency.

## **Rapid Initiation of Antiretroviral Therapy by Virtual health in Service Members Newly Diagnosed with HIV Infection**

Organization: Brooke Army Medical Center

Primary Clinical Community: Primary Care

Secondary Clinical Community: Military-Specific Care

Clinical Support Service: Connected Health

Non-Clinical Support Service: N/A

Domain of Change: Patient Centeredness

### **Abstract:**

**BACKGROUND:** Delays in HIV anti-retroviral therapy (ART) have been associated with worsened patient and public health outcomes. Shortening the duration between diagnosis and ART initiation would mitigate these risks.

**OBJECTIVE:** We aimed to decrease duration between HIV diagnosis and ART initiation.

**HRO PRINCIPLES:** Reluctance to Simplify, Sensitivity to Operations

**DESCRIPTION:** Under the traditional protocol (TP), regional active duty (AD) Army members and worldwide AD Air Force members were evaluated in-person centrally for comprehensive HIV

management at the time of diagnosis, leading to delays in therapy initiation while travel was arranged. The virtual protocol (VP) was adopted to initiate ART earlier. Under the VP, the HIV clinic provided primary care providers a list of labs required prior to ART initiation. After collection, HIV physicians conducted ad hoc telephonic counseling, initiated ART, and arranged a future comprehensive appointment. The VP initiative began in February 2020. We collected data on all AD members with incident HIV diagnosis from February 2018 to February 2020 (the pre-initiative period) and from February 2020 to February 2022. Patient demographics and clinical data were obtained through chart review. Variables were analyzed using 2-tailed t tests or Fisher's exact using GraphPad™ 2022.

**RESULTS:** Eighty-two patients were diagnosed during the TP, 72 during the VP. Clinical and demographic data between groups were similar. The time from HIV notification to ART initiation was shorter with the VP compared to the TP (15 days vs 25 days;  $p < 0.05$ ). Similarly, time from notification date to comprehensive specialty evaluation was faster during the VP (19 days vs 25 days;  $p = 0.03$ ).

**CONCLUSION:** The VP was associated with a faster ART initiation and specialty evaluation, statistically decreasing the window of HIV transmission risk. Future studies investigating virtual health protocols for other time sensitive medical interventions are warranted given the geographic distribution of the Armed Forces.

### **Tele-Pain and Patient Centeredness**

**Organization:** Walter Reed National Military Medical Center

**Primary Clinical Community:** Surgical Services

**Secondary Clinical Community:** Primary Care

**Clinical Support Service:** Pain Management

**Non-Clinical Support Service:** Patient/Staff Collaboration

**Domain of Change:** Patient Centeredness

### **Abstract:**

Chronic pain affects over 100 million American adults and the prevalence is significantly higher among U.S. military personnel. Compared to 26% of the general population, approximately 46% of the active duty military return from deployment with chronic pain. For patients at remote military treatment facilities (MTFs) within the Department of Defense (DoD), geographic barriers are an obstacle when needing adequate care for chronic pain management<sup>1,2</sup>. Often, the specialty health services are not offered on base or outside the facility. Pain specialists mostly reside at the major military medical centers. This problem results in increased travel costs and time away from their mission to receive care.<sup>3</sup>

The National Capital Region Pain Initiative (NCRPI) enhances the access and quality of care for pain patients while promoting readiness, restoration of function and relief of pain at the same time as reducing the misuse of opioids. To address the high prevalence of chronic pain among U.S. military personnel, but with limited access to chronic pain specialists, the NCRPI and its team of providers successfully pioneered a Tele-Pain Program.

Patient-centeredness is the Ready Reliable Care (RRC) Domain of Change that the Tele-Pain Program encompasses and the two RRC Principles that they embody are Sensitivity to Operations and Deference to Expertise.

The most recent inclusion of telemedicine to Guantanamo Bay Naval Base allowed military beneficiaries to remain on base and receive specialized pain care, which would have cost approximately \$24,000 and \$35,000 for 16 patients total (See Tele-Pain and Patient Centeredness Attachment 1). NCRPI successfully serves five locations with their tele-health services and carved the way for the widespread need for telemedicine during the COVID-19 pandemic. In order to establish virtual health visits as a component of the Military Health System (MHS) health care paradigm, NCRPI keeps patient-centeredness as their primary goal.