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**Implementing DHA Pain Management Procedural Instruction into Primary Care
Clinics Using a Clinical Decision Support Tool for Pain Management**

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NURS5330 Doctor of Nursing Practice Project

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Abstract

Background: Inadequate pain management within the military health system (MHS) threatens operational readiness and increases healthcare costs. Defense Health Agency-Procedural Instructions (DHA-PI) 6025.04, *Pain Management and Opioid Safety in the Military Health System* mandate using the evidence-based MHS Stepped Care Model for Pain Management (SCM-PM) across the Department of Defense (DoD). Keesler Medical Center (KMC) stakeholders reported inadequate compliance with the SCM-PM within primary care.

Purpose: This project aimed to improve pain management by implementing the evidence-based guidelines outlined in the DHA-PI. These guidelines were operationalized in a clinical decision support tool (CDST) embedded in the electronic health record (EHR).

Project Design: This descriptive quality improvement project utilized pre-intervention chart reviews, presentation/materials, and post-intervention chart reviews to determine if there was increased use of the SCM-PM among primary care personnel via an embedded CDST in the EHR. This project received an IRB determination of “exempt” from the 59th Research Wing IRB at Lackland Air Force Base (AFB).

Methods: The Family Health Clinic (FHC), 81st Medical Group (MDG), Keesler AFB, MS, has 9,000 empaneled beneficiaries and generates 12 pain management referrals each month. After receiving an exemption from IRB oversight, a retrospective chart review of patients 18+ referred for chronic pain management between July 2021 to January 2022 was completed, examining compliance with template use by providers.

Results: Seventy-seven charts met inclusion criteria and were audited for compliance with the SCM-PM. Seventy-one charts were for visits completed before educating providers about the CDST, while six charts were from post-education visits. There was no statistically

significant increase in SCM-PM compliance after implementing the CDST (25.81% increase; $p = 0.22$). Three variables: length of time with pain, number of medications used to treat pain, and use of home treatment prior to the encounter, were found to have a statistically significant relationship to SCM-PM compliance. Non-narcotic treatment was associated with SCM-PM compliance ($X^2 = 7.037$; $p = 0.0707$). There was a decline in average monthly referrals from 10 to 3 following CDST training, the significance of which could not be determined.

Analysis of Results: Due to a limited post-intervention sample size, the team was unable to correlate CDST use with improved stepped-based care. While there was no increase in the use of the CDST, SCM-PM compliance improved. An extended post-intervention examination must be conducted to evaluate if a significant improvement in SCM-PM is sustained.

Organizational Impact: This project evaluated the feasibility of using a CDST embedded into the EHR to overcome common barriers to implementing evidence-based clinical policies. While utilization of the CDST did not improve, the length of time with pain, the number of medications used to treat pain, and home treatment prior to the encounter were found to have a statistically significant relationship to SCM-PM compliance.

Implementing DHA Pain Management Procedural Instruction into Primary Care Clinics

Using a Clinical Decision Support Tool for Pain Management

Chronic pain affects roughly sixty million people worldwide (Edmond et al., 2018). According to George (2018), the 2016 Centers for Disease Control and Prevention advisory estimated that 20.4% of the United States population suffers from chronic pain. This issue has also affected the military healthcare system. In 2009, as a response to rising pain and opioid use rates within the MHS, the United States (US) Congress called for a comprehensive military policy on pain management (United States Congress, 2009). In response, the DoD prepared a Pain Management Task Force Report, which provided the framework for better pain management across the MHS (Office of Army Surgeon General, 2010). The DoD further stated that appropriate pain management must align with the MHS Quadruple Aim, focusing on better care, better health, lower costs, and readiness (Defense Health Agency, 2018a). Moving forward with the same framework and those critical aims in mind, in 2018, the Defense Health Agency (DHA) further refined that report by establishing DHA-PI 6025.04, entitled, Pain Management and Opioid Safety in the MHS (Katzman et al., 2018). The DHA-PI outline validated useful clinical tools and evidence-based, stepped-care guidelines that ensure that pain is managed appropriately (Defense Health Agency, 2018b). Field notes obtained from medical staff at KMC identified potential barriers to implementing this policy and the recommended stepped-care approach (Fernandez et al., 2020). Those barriers were identified while interviewing local providers and are included in the field notes (Appendix A), with time and a lack of awareness being the most significant barriers. Therefore, this project used current evidence to implement a clinical decision support tool aligned with the Stepped Care Model to improve adherence barriers to DHA-PI 6025.04.

Problem Synthesis

Chronic pain management costs the US an estimated \$635 billion annually, with pain being the most common disability and chief complaint in 20% of primary care visits (Bair et al., 2015; Quanbeck et al., 2018). Chronic pain is also an issue that affects the MHS and veterans. The DoD and VA healthcare systems have a significant number of chronic pain patients, with half of Operation Enduring Freedom, Operation Iraqi Freedom and Operation New Dawn veterans experiencing pain (Bair et al., 2015; Gifu et al., 2013; Girona et al., 2006). Despite growing evidence that long-term opioid therapy (LOT) is insufficient for treating pain and is a leading risk factor for opioid abuse, the US saw a 59% increase in LOT from 2006 to 2015 (Edlund et al., 2014; Krebs et al., 2018; Parchman et al., 2019). With drug overdoses increasing by 18% in 2020, opioids are more deadly than motor vehicle crashes or gun-related incidents, and veterans are twice as likely to be affected (Executive Office of the President, 2017; George, 2020; Wilkie, 2018). The treatment of pain with opioids has been associated with significant duty limitations for military personnel compared with evidence-based treatment modalities (Larson et al. 2018). Furthermore, pain has had a substantial functional and economic impact on military personnel (Bair et al., 2015).

Primary care providers (PCPs) have a significant responsibility in caring for chronic pain patients as they prescribe approximately half of all opioid prescriptions in the US (Levy et al., 2015). In addition, military providers report unique challenges associated with caring for a rising number of pain patients, such as readiness (Finley et al., 2017). Unfortunately, PCPs have been reluctant to manage pain patients citing insufficient training in prescribing opioids (Jamison et al., 2014). The lack of training hinders provider confidence and effective pain management, further supporting the need for evidence-based guidelines for pain management in the primary

care setting (Jamison et al., 2014). However, research suggests, that even with guidelines in place, PCPs are only partly compliant with national guidelines, and 40% of practitioners do not follow a recommended protocol (Jamison et al., 2016; Khalid et al., 2015). Based on the obtained field notes, this appears to be the same issue in the MHS. As such, improving stepped-care implementation and increasing provider confidence in pain management has become a priority within the MHS.

The military responded by developing policies that provided clinicians with a systematic, standardized, and evidence-based approach to prescribing opioids (Vallerand et al., 2015). Regardless of the policies and strong prescribing directives issued by various reputable entities, there has been little effect in changing providers' behavior, and prescribing practices remain heterogeneous across the military (Barber et al., 2016). These findings are consistent with practices at KMC, as not all providers have fully implemented the stepped-care based approach prescribed by DHA-PI 6025.04 (Appendix A; Defense Health Agency, 2018b).

Relevance to Military Nursing

Appropriately managing pain among primary care patients in the military is imperative for retaining experienced personnel and ensuring medical readiness (Pujol et al., 2015). Although the active-duty population has significantly lower opioid addiction rates, recent studies have shown that veterans have a substantially higher potential for opioid misuse than civilian populations (Dembek & Chekol, 2020; MSHC, 2020). Service members' day-to-day operations are vital to defending the nation. Failure to follow a stepped care approach in this population can lead to opioid overuse, misuse, longer recovery times, and higher costs. Recognizing this approach's importance, the MHS strives to take a proactive approach in pain management to minimize recovery time and unnecessary opioid use (MSHC, 2020).

The embedded CDST suggested for this project was thought to provide a "real-time" comprehensive approach to pain management and opioid safety strategies that improve the quality of life and pain care for DoD beneficiaries. This process improvement project aimed to assess the KMC family practice clinic's baseline compliance with the DHA policy, improve compliance if determined it was needed, and align the MDG with the MHS Quadruple Aim. The tool was thought to optimize operations across the Military Treatment Facility (MTF) by providing an easy-to-use, standardized approach to SCM-PM. It was posited that using the CDST in the EHR would build provider confidence, increase their capacity to provide appropriate care to pain patients and prevent unnecessary outsourcing to civilian pain management clinics/facilities.

Clinical/ System Question

In the Keesler Primary Care Clinic, will increase awareness and staff education about the current pain management clinical decision tool in the EHR improve provider documentation by using the CDST and thereby the stepped care model outlined in DHA-PI 6025.04?

Search Strategy/Results

With the KMC senior staff requesting to implement the DHA-PI recommended stepped-care model, the literature review focused on research that evaluated the effectiveness of implementing this approach and a CDST into the electronic health record. The above PICO question guided the literature search. The team utilized PubMed, CINAHL, and Embase databases to collect and review the current literature. Search keywords for the database included ("Decision Support Systems, Clinical" OR "Decision Support Techniques" OR "Electronic Health Records" OR clinical-decision-tool* OR decision-support OR decision-aid* OR downstream-healthcare OR downstream-health-care OR electronic-health-record* OR

electronic-medical-record* OR electronic-tool* OR pain-management-guideline* OR plan-do-study-Act OR stepped-care) AND ("Pain Management" OR "Pain/Therapy" OR pain-care[tw] OR pain-manag* OR opioid-prescrib* OR opioid-therapy-guideline* OR opioid-therapy-management OR opioid-management). The team limited the results to the past eleven years and the English language. As of Jan 2022 (Appendix B), the team imported 2712 articles from PubMed, CINAHL, and Embase. Articles that focused on the Stepped Care Model, military, opioid prescribing, standardization of opioid prescribing, long-term opioid use, chronic pain, primary care, and documentation template were included. Exclusion criteria consisted of articles focused on postoperative pain management, acute pain, and pain due to recent trauma pain. After removing duplicates and comparing the titles, abstracts and full text to the inclusion and exclusion criteria, seven articles met the requirements for inclusion in the literature review.

Article appraisals were performed utilizing the Johns Hopkins Nursing Quality of Evidence-Based Practice tool. Each was assigned a level of evidence and quality rating (Dang & Dearholt, 2017). Two articles were evidence level IA (multi-center, cluster RCTs), one was level IB (mixed-method RCT), and one was level IIA (quasi-experimental). Lastly, there was one level IIIA (qualitative) and three-level IIIB articles (prospective cohort). After the literature review, the team concluded that implementing a CDST-related intervention based on the stepped-care model of pain management could be an effective solution for improving provider adherence and documentation compliance to DHA-PI 6025.04 (Appendix C). A large body of literature supports implementing pain management guidelines with provider training on opioid prescribing (e.g., ECHO), prescription drug monitoring programs (PDMPs), CDST, algorithms, and the use of documentation templates (Anderson et al., 2015; Finley et al., 2017; Katzman, 2018; Nusrat et al., 2019). When implementing these interventions, the literature outlines the need to use an

evidence-based care model to obtain the best result in line with the most current guidelines (Anderson et al., 2016).

Stepped-care is an evidence-based model of pain management developed by the Veterans Administration to effectively treat patients while focusing on improved quality of life, improved function, and decreasing opioid misuse (Vallerand et al., 2015). This model is based on a biopsychosocial model and utilizes a three-tiered approach consisting of primary care centered interventions with embedded specialists, specialty referrals, and interdisciplinary care (Defense Health Agency, 2018b; Edmond et al., 2018; Vallerand et al., 2015). Utilizing a stepped-care model in treating pain has been statistically shown to significantly reduce pain (Blair et al., 2015; Edmond et al., 2018). This approach provides effective pain management in primary care settings and decreases referrals to subspecialties, opioid use, and outside pain-management services (Anderson et al., 2016).

Utilizing a CDST within the EHR allows for standardized documentation, aligning with the Stepped-Care Model (Kessler et al., 2017). For each encounter with pain patients, primary care providers are responsible for assessing and documenting the patient's pain, functionality, comfort level with the plan of care, and other treatment modalities attempted (Anderson et al., 2015). By utilizing a CDST, this data can be trended over time to view patient progress towards meeting their goals and monitor if their pain is managed appropriately (Anderson et al., 2015). KMC stakeholders have reported that they measure compliance with DHA-PI 6035.04 by assessing documentation metrics such as these (J. Varney, personal communication, April 16, 2020). Furthermore, a standardized CDST within the EHR can guide providers in managing pain according to the clinical practice guideline (CPG), bolstering their confidence and efficiency (Anderson et al., 2015; Prince-Haywood et al., 2020). CDSTs have been associated with

improved rates of guideline-concordant care. They are compatible with the current EHR system, supported by training, and easy for the entire multidisciplinary care team to access (Finley et al., 2017; Liebschutz et al., 2017; Prince-Haywood et al., 2020).

Focusing on the best practices and recommendations in the literature, the solution proposed to meet the stakeholders' request was to implement training to increase awareness and utilization of the DHAPI-compliant CDST. This CDST function is already embedded into AHLTA. The intention is to assist providers in following a stepped-care approach and standardizing their documentation (Finley et al., 2017). An opioid CDST was successfully piloted within the military's new EHR, MHS GENESIS, across 7 MTFs and 1000 providers (Military Health Systems Communication Office, 2020). The tool was used 81 times per day and changed prescriber behavior 6% of the time, supporting the belief that a similar approach would improve provider compliance in providing appropriate stepped-care for pain management (Military Health Systems Communication Office, 2020)

Focus Area

This project aimed to effectively implement the DHA-PI 6025.04 within the Primary Care Clinic at Keesler Medical Center. The hypothesis was that the tool would enable clinics to provide evidence-based pain management guided by clinical practice guidelines. The CDST was thought to guide providers in effectively treating pain. Additionally, the CDST promotes non-pharmacologic treatment of pain, prevents acute pain from becoming chronic, and improves appropriate opioid prescribing—this approach standardized pain management among all participating providers using a Stepped Care Model. The goal of the CDST was to improve compliance, increase provider confidence in pain management, afford safe opioid prescribing, and decrease unnecessary outsourcing.

Organizing Framework

The Iowa Model Revised (2017) served as the guiding framework for this Doctor of Nursing Practice (DNP) project (Appendix D). It has been cited within several hundred published EBP projects, with over 1500 requests submitted since 2015; thus, it has been proven to be a pragmatic and highly applicable tool (Buckwalter et al., 2017). Its ability to guide the project through multiple phases while emphasizing critical stakeholder involvement to drive system change was instrumental in its selection. Opioid prescribing is an integral part of SCM-PM. Still, as previously stated, the military has attempted to address pain management concerns and reduce inappropriate opioid prescribing by publishing the DHA-PI 6025.04. The success of this initiative requires adherence to the policy by medical staff. The team identified triggering issue(s) from pre-intervention field notes, i.e., perceived barriers to policy adherence and potential mitigation strategies. The DNP team identified a possible solution to overcome these barriers and improve adherence based on this information. The Iowa Model helped provide the opportunity to form a collaborative, interprofessional team (executive leadership, senior mentor, Phase II director, and primary care clinicians) to oversee the project from start to finish and ensure shared decision-making. Approval from all key stakeholders was obtained. A comprehensive literature review was conducted, and the team assembled a body of evidence that has been appraised for solution synthesis. This process was routinely monitored for updates in literature. Based on the evidence evaluation and synthesis, the team concluded that a CDST would provide the best course of action to improve provider adherence to the SCM-PM and the EHR documentation. Resources, constraints, tools/training designs, pre/post evaluations/processes, and sustainability plans are included in the Business Case Analysis (BCA) (Appendix E). Most importantly, the DNP team identified alternatives to the proposed solution,

as recommended by the Iowa Model. This is imperative because the ultimate goal was to find a solution that *best* caters to Keesler AFB's unique requirements.

Project Design

Setting and Population

The 81st MDG at Keesler AFB, medical center hosts 60 clinical services, including various primary care clinics. The project's focus was explicitly on the Family Health Clinic (FHC). The FHC currently has eleven providers, six nurses, fourteen technicians, four admin personnel, and three Behavioral Health Optimization Program (BHOP) providers. At present, there are 9,000 beneficiaries empaneled to the clinic. The pain management clinic receives 12 referrals per month from the FHC. Charts ranging from July 2021 to January 2022 were selected for retrospective chart review after receiving IRB exemption (Appendix F).

Sample

The target population for this project included patients with identified chronic pain aged 18+ who presented to the family health clinic at KMC and received a pain management referral.

Institutional Review Board

This descriptive project was a quality improvement project that utilized chart reviews, presentation/materials and a post-educational chart review to determine if there was increased use of the stepped care model for pain with MDG personnel via an embedded CDST in the EHR. This project received an IRB exemption from the 59th Research Wing IRB at Lackland, AFB. The project proposal was submitted to the IRB at the 81st MDG (Appendix G). The project was deemed IRB exempt, and approval was granted from the Keesler IRB without any recommendations. Project approval was granted; there were no recommendations for changes.

HIPAA Concerns/Ethical Considerations

Compliance with template use by providers was assessed via chart review. The team conducted a chart review of 100% of the FHC patients with chronic and acute pain conditions treated within the three months pre-intervention and the three months post-intervention. All data pulled from the EHR was stripped of any personally identifiable data. Primary data points collected included: Gender, race, age, the branch of service, military status, date of initial pain complaint, diagnosis, date data was pulled, DHA-PI compliance status, past treatments attempted, current treatments underway, and the number of appointments in the past year. All data was saved outside the medical record without any PII attached.

No ethical considerations impacted patients' care or arose in medical documentation and data interpretation. To avoid unethical documentation of care regarding the template or stepped based care, each chart review included reviewing all referrals, diagnostic testing, and prescriptions associated with the patients' pain. All encounters with a new pain management referral from the primary care provider were reviewed. Further bias was avoided by developing a standardized record review process assessed for completion of the TSWF pain management checklist and specifically lists previous treatment modalities tried and failed.

Inclusion criteria

Inclusion criteria for selected charts included: 1) Patients assigned to the Family Practice Clinic; 2) Patients with chronic pain, which is defined as pain > 3 months; 3) Patients having an initial pain management referral generated from a Family Practice provider.

Exclusion criteria

Charts that were excluded contained the following: 1) Patients assigned to other primary clinics such as Warrior Clinic, Internal Med, etc. 2) Patients with acute pain, which is defined as

pain < 3 months 3) Patients having an initial pain management referral generated from any other healthcare provider other than a Family Practice provider (Registered Nurses, Orthopedic provider, etc.)

General Approach

At the project's initiation, the team, through consensus, agreed to review six months of retrospective charts before training implementation. The agreement also included diagnoses within the chronic pain spectrum in an identified clinic and whether the visit was an initial visit versus continuity of care. Because of the vast number of diagnoses within the chronic pain spectrum, the team decided that any patient referred to pain management would be an appropriate means for chart review selection. Due to time constraints and training limitations, the training was limited to the family practice clinic and associated pain referrals. The team coordinated record reviews with the referral management office to obtain the appropriate pain management rosters. The DNP team met weekly to evaluate progress, set deadlines/timelines, and improve processes (Appendix H). It required the team to set goals and obtain feedback regularly. The team continually met with and received buy-in from providers, stakeholders, and other participants. Compliance with stepped-care and use of the CDST were assessed via chart reviews three months before implementation and the three months following implementation. The retrospective chart review was completed and used to determine the baseline for provider adherence before implementing a formal training plan. After initial data collection, the team created and initiated staff training via a power-point presentation and educational fliers provided to clinicians throughout the family practice clinic (Appendices I & J), emphasizing the providers and nurses. The fliers had critical points from the training, future training information, and a QR code, which quickly linked to the current DHA CPG. The team conducted weekly chart audits

from pain management referrals to track pre-intervention outcomes. Feedback forms (Appendix K) were collected at the end of each training session and used to improve training and to help address any questions the staff had on using the stepped care model through the CDST. Once most staff were trained, post-implementation data was gathered, and findings were reported to the stakeholders after data analysis. The 81st MDG Biomedical Research Office analyzed data by a staff Biostatistician.

Barriers

There was a noted time barrier to training attendance/implementing the use of the CDST. The team made every effort to ensure training was concise and required minimal time to overcome this barrier. Each training was an hour or less, and each training was given during a dedicated MDG training day.

Data Analysis

Before arriving at Keesler, the team identified the appropriate variables and outcome measures (Appendix L). The independent variable or process measure was the use of the CDST. The project team analyzed whether or not providers were utilizing the tool within the EHR throughout the project. The second independent variable was provider adherence to the DHA-PI 6025.04, the use of the CDST (i.e., if the provider still followed the stepped care model). The dependent variables or outcome measures were DHA-PI compliance rates. The team determined that the quality indicators for DHA-PI compliance would include the documented use of other-the-counter (OTC) meds/self-care, non-pharmacological treatments, non-narcotic pharmacological treatments, safety education, and Narcan prescriptions associated with opioid therapy. All variables were dichotomous with a nominal level of measurement. Descriptive statistics evaluated the CDST implementation and compliance rates pre and post-intervention.

The two data sets were compared using the paired t-test to determine the compliance rate. Additionally, some demographic level statistics were garnered to include chronic pain diagnosis, age, gender, and background of the referring provider (DO, NP, MD, PA) (See Figures 1 and 2). However, as previously stated, all personal data was de-identified. Each participant was assigned a project number as an identifier. No social security numbers, or date of birth, were collected. All data pulled from the EHR was stripped of any personally identifiable data. Primary data points collected included: Gender, race, age, the branch of service, military status, date of initial pain complaint, diagnosis, date data was pulled, DHA-PI compliance status, past treatments attempted, current treatments underway, and the number of appointments in the past year. All data was saved outside the medical record without any PII attached and stored in a password-protected computer.

Results

Sample Characteristics

Seventy-seven charts met inclusion criteria and were audited for compliance with the stepped base care model. The team reviewed seventy-one pre-intervention charts and six post-intervention charts. All selected patient encounters included new pain management referrals from the primary care (Family Health Clinic) seven months prior to training and two months following training. Prior to training, there were an average of 10 referrals per month; after training, there were an average of 3 referrals per month.

The average age of patients referred to pain management (both pre and post) was 52.41 years old (range 20-72). Most patients were military retirees (54.5%), while the remainder were military dependents (45.5%). Forty-seven percent of the patients were White non-Hispanic, 17% were Black, 1.3% were Asian, and the remainder were listed as “other” or “unknown” on their

chart. Males and females were equally represented. Physician assistants referred 51.9% of the patient encounters reviewed. Nurse practitioners referred 28.6% of the patients, while physicians were responsible for the remaining 19.5% of encounters audited. Additional characteristics of the sample can be seen in Table 1 below. The demographic values were relatively equivalent between pre and post samples.

Figure 1

Distribution Age, Sex, & Race

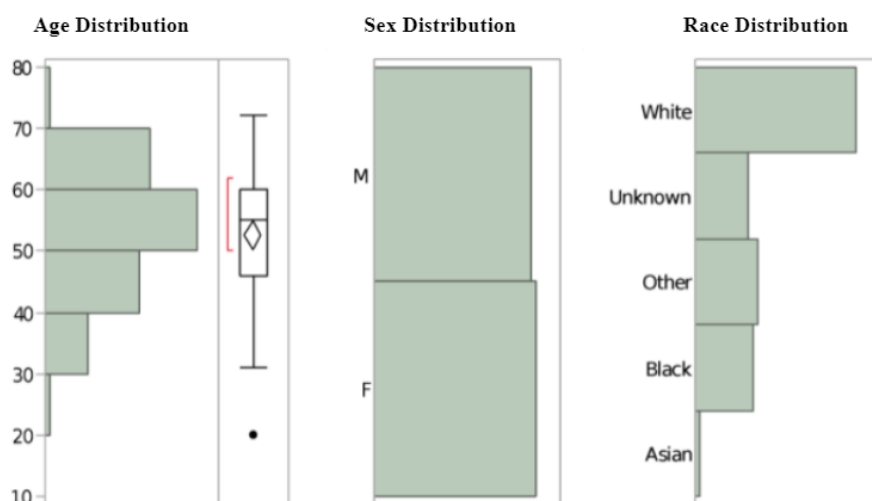
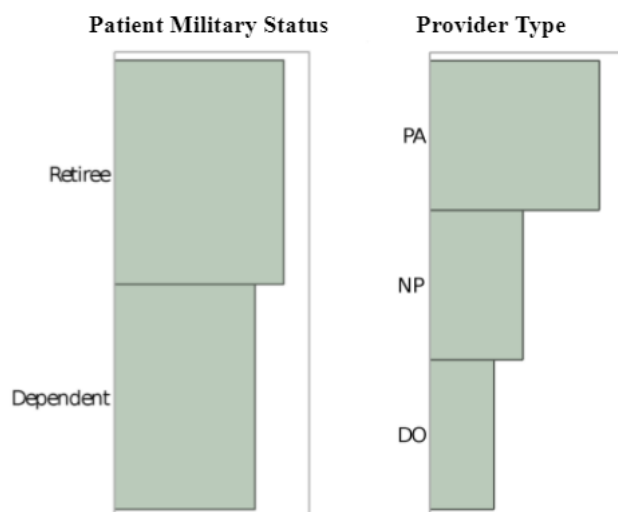


Figure 2

Percentage Bar Graph: Patient Military Status & Provider Type

**Table 1**

Demographics

Demographics	Pre- Intervention		Post intervention	
	N	%	N	%
Gender				
Female	35	49.3	4	66.67
Male	36	50.7	2	33.33
Race				
Asian	1	1.43	0	0
Black	11	17.11	2	33.33
White	35	47.37	1	16.67
Other	11	18.42	3	50
Unknown	12	15.79	0	0
Military Status				
Dependent	33	46.48	2	33.33
Retiree	38	53.52	4	66.67
Provider Type				
Physician	13	19.48	2	33.33
Physician Assistant	36	51.95	4	66.67
Nurse Practitioner	22	28.57	0	0

Comparison Between Samples Taken Pre-Training and Post-Training

There was a non-statistically significant increase in CDST use post-intervention and a non-statistically significant increase in provider documentation of using the stepped-care approach sans CDST use post-intervention. These changes were secondary to the improved verbiage in referrals and assessment/plan sections in the EHR. However, the post-intervention sample size was limited, which prevented completing a formal pre/post data statistical analysis. Before training providers on the CDST, there were zero encounters reviewed in which the CDST was used prior to placing a pain management referral. After the training was completed, one encounter (16.67%) reviewed utilized the CDST. There was a moderate increase in compliance with the stepped care model post-intervention (66.66% up from 40.85%; $p = 0.22$). However, this was not statistically significant. This is likely due to a limited post-education briefing sample size.

Other Variables Compared to Outcome Variable

Due to the limited post-intervention sample size, all pre and post-training data was combined and completed an analysis which revealed three variables with $p < 0.05$: Length of time experiencing pain, use of home treatment prior to the clinical encounter, and the number of medications used prior to the clinical encounter. Additionally, due to the near complete lack of providers using the CDST, the outcome variable became whether or not the stepped care model was followed sans CDST.

The length of time the patient has experienced pain was correlated with the stepped based care utilization rate. Reported pain lasting between approximately 3 to 12 months was associated with significantly higher rates of stepped-based care utilization, while acute pain lasting less than three months was associated with lower stepped-based care rates. ($X^2 = 0.0151$; $p=0.0151$).

When the pain existed for more than 12 months, the difference in stepped care use was negligible. Providers caring for patients who have tried at least one OTC or non-pharm treatment modality prior to being seen by the provider were significantly more likely to follow the stepped care model ($X^2 = 18.235$; $p = 0.0004$). The utilization of stepped care increased as the number of medications the patient reported trying for pain relief increased ($X^2 = 14.624$; $p = 0.0022$). A trend was noted that providers who utilized non-narcotic treatment modalities as the first line intervention were more likely to follow stepped-based care, although this trend was approaching significance ($X^2 = 7.037$; $p = 0.0707$).

Figure 3

Graph Depicting Time Frame of Pain and Frequency of Utilizing Stepped Care

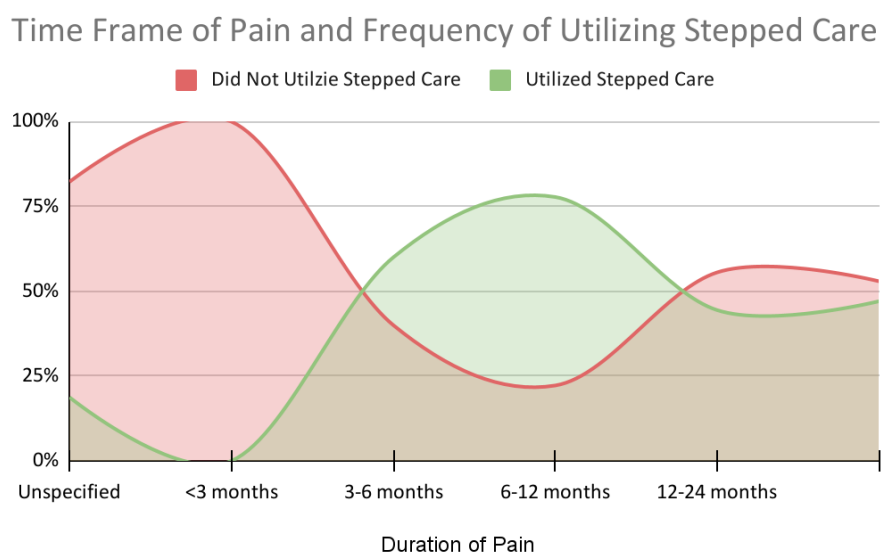
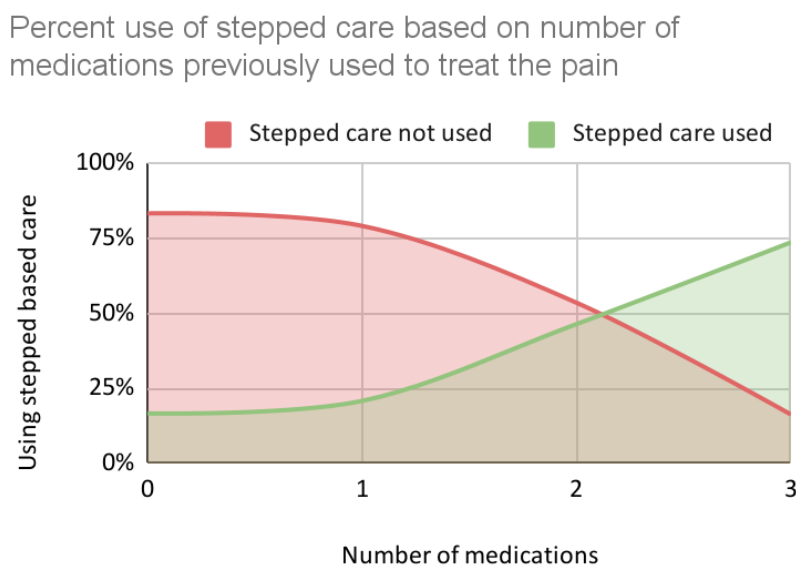


Figure 4

Graph Depicting Percent Use of Stepped Care Based on Number of Medications Previously Used to Treat the Pain



Discussion

To the best of our knowledge, the pain management CDST in AHLTA has not previously been evaluated to determine its effect on compliance with the DHA-PI 6025.04. This project sought to assess if increasing the use of the CDST would improve compliance with stepped-based care and the DHA-PI. A recent qualitative study by Mathew et al. (2021) indicated that military primary care providers “verbalized the need for a single standardized multifaceted tool” to help address chronic pain and would be open to using such a tool. Based on these findings, a standardized tool within the EHR should have significantly improved stepped-based care and chronic pain management. While proper use of the CDST will result in a clinical encounter that follows the stepped based care model, the evaluation was severely limited due to the lack of providers utilizing the CDST, even after training, and the limited post-training sample

size. The most cited barrier to using the CDST by providers was time limitations to using the CDST within a clinical encounter. This is consistent with Mathew et al. (2021) findings that stated that 83% of primary care providers report inadequate time during patient encounters to address chronic pain issues. Hoonakker et al. (2012) found that a CDST implemented in a family practice clinic took an average of 13 minutes to complete and concluded that the organization should adopt tools that fit the provider's needs and workflow.

Despite being unable to evaluate the CDST fully, a non-significant increase in the use of stepped-based care following staff education about the CDST and stepped-based care was noted. At the same time, the team was unable to correlate this with an increase in the use of the CDST, simply making providers aware of the stepped-based care model and the required components of a chart to meet the modeled providers to include the information in their documentation. This finding is consistent with similar studies that noted increased knowledge and compliance with pain management best practices in the two months immediately following an educational intervention (Alford et al., 2016). Anderson et al., 2016 demonstrated that provider education on protocol-driven care showed significant improvements in adherence to guidelines over three years. A more longitudinal evaluation would be needed to confirm a continued trend of improving compliance with stepped-based care.

It is estimated that 31% to 44% of Active-Duty Service Members suffer from chronic pain versus the 20% seen within the civilian populations (Sherry et al., 2021). Fifty-four percent of the 77 patient encounters reviewed were retirees. Low back pain accounted for 54.5% of dependent encounters and 76.2% of retiree encounters. Sherry et al. (2021) support this finding, stating that musculoskeletal injuries, particularly the lower back, were the most common etiology for chronic pain among service members. Low back pain was the most prevalent cause of new

referrals to pain management, with referrals being placed after fewer primary care visits.

Additionally, the majority (59.6%) of low back pain encounters did not follow stepped-based care.

The team noted that providers who referred patients to pain management after fewer primary care encounters were deemed not to have followed a stepped care approach. This finding is likely due to few interventions being attempted or documented prior to a significant escalation. This study was not powered to identify the significance between pain location and utilization of the stepped care model. However, 38.2% of low back pain patients were referred to pain management at their first encounter compared to 18% of extremity pain complaints. This could suggest that particular pain diagnoses or locations are inherently more challenging to treat or outside the comfort level of primary care providers. It may also indicate that clinicians more commonly associate specific diagnoses with CNIC and challenging to control pain, causing them to refer these patients more expeditiously to pain management. Future studies should look at particular diagnoses to determine if this trend is true or simply a sampling error due to only looking at referred patients.

For encounters compliant with stepped-based care, a trend that patients had tried OTC treatment modalities or previously been prescribed multiple medications for the problem was observed (see figure 3 & 4). This finding was expected because many providers prescribe various first-line options for pain prior to escalating care. If pain worsens despite multiple documented treatments, the primary care provider is more likely to refer to a pain specialist, having exhausted numerous treatment options. Encounters in which the provider documented the various medications attempted before placing a pain management referral is a critical aspect of demonstrating stepped based care and thus were found to be compliant with the stepped care

model. It is important to note that the team could only review what was documented in the encounter note, which may not always include all the information the provider is considering when offering a treatment option or placing a referral. This finding highlights the importance of accurate medication reconciliation at each visit and complete documentation to capture all the treatments the patient had previously utilized.

Limitations

Limitations include overall small sample size, limited time to complete this PI project and thereby limited post briefing sample size, selection criteria (sample determined by pain management referral), not being powered to conduct comparative data analyses (between pre-post briefing on the CDST), and barriers that prevented providers from using the CDST. The sample size was limited due to several factors, including time, patient population, and selecting patients from one clinic. Many pain management referrals were placed for continuity of care of chronic pain conditions already being treated by a pain management specialist. Due to time and resource constraints, the review was limited to only the encounter note that contained or immediately preceded a pain management referral and did not go through an entire patient's record. Also, because the CDST copies forward documentation required for stepped-based care, providers caring for a known pain patient who did not use the CDST may have followed stepped-based care but did not promptly reflect that in the reviewed encounter.

The decision to only include clinical encounters that contained a new pain management referral may not have captured providers who had recently begun using the CDST for pain patients or had not been referred to pain management. Because the average time to pain management referral was 6-12 months, an extended post-intervention time frame of at least 12 months to capture the impact of CDST use was needed fully. Additionally, improved compliance

with stepped-based care is likely to improve patient pain management, result in lower pain levels, and decrease the number of pain management referrals, thus lowering the number of encounters meeting inclusion criteria (Anderson et al., 2016). Future studies should consider a different trigger for chart review, such as locations of pain or diagnoses commonly associated with chronic pain. For example, according to the literature, most chronic pain encounters are for low back pain (Sherry et al., 2021). Due to limitations of the EHR, finding charts that met these criteria would have been extremely time and resource-intensive, precluding the team from finding a sufficient sample size in the time frame allotted. Using alternative inclusion criteria would have provided a greater sample size. Reviewing all primary care encounters for a specific type of pain complaint would have allowed better evaluation of the use of the CDST and if stepped-based care reduced the number of referrals to pain management.

Organizational Impact

Keesler's Medical Facility leadership had concerns regarding provider adherence to the DHA-PI 6025.04. Although there was very little support for this claim, the DNP team still attempted to provide a viable and sustainable solution that improved the application and standardized documentation of the stepped care model. There was ample evidence supporting clinical decision support tools to increase clinical practice guideline compliance. However, the existing pain management CSDT within AHLTA did not receive the necessary provider buy-in. With the recent deployment of the facility's only pain management specialist, the future onboarding of MHS GENESIS, and the uncertainty of a future DHA inspection looking specifically at Keesler's overall adherence to DHA-PI 6025.04, it is imperative that Keesler either improve the existing CDST or explore alternative solutions.

A 2015 study showed that by engaging end-users (providers) in the early development of a CDST, developers could identify any facilitating factors and barriers to creating a more efficient tool (Nair, 2015). Participants (providers) were asked to rate the pilot CDST through a usability scale that measured criteria such as CDST layout, clinical aspects, and software functions. The developers gathered the data, analyzed the strengths/weaknesses of the pilot CDST, and developed a product that would have better user uptake (Nair, 2015).

Other electronic tools have shown success in improving provider adherence to clinical practice guidelines with commensurate documentation. Nusrat et al. (2019) found that Smart Phases improved the use of state prescription monitoring databases and documentation of baseline risk, chemical coping, and toxicity. Clinical dashboards are another quality improvement tool that can be used to not only display adherence to care measures, but could also provide performance comparisons and “drill down” data from the population to the patient levels (Anderson et al., 2015). An opioid treatment-based clinical dashboard implemented at a Federally Qualified Health Center showed statistically significant improvements in quality indicators such as signed opioid treatment agreements, completed urine drug screens, documented functional status assessments, and behavioral health visits (Anderson et al 2015).

As mentioned in the data analysis, the DNP project had shown that simply educating the providers on the DHA-PI 6025.04 improved provider adherence to the SCM-PM. A clinical review article published by the Mayo Clinic stated that successful educational interventions which increased the uptake of clinical practice guidelines include emphasizing the quality of the evidence (systematic reviews), the strength of the evidence, and the balance of benefits and harm (Murad, 2017).

Recommendations for Improvement

Based on the data analysis and discussion, we proposed several recommendations for improvement to the Keesler leadership. The first recommendation proposed by the team was for the local leadership to assess whether a problem exists with provider adherence to the SCM-PM. According to the IOWA Model framework (2017), a team can only offer a solution for an identified problem. After the problem synthesis, the leadership should form a working group of stakeholders to identify any evidence-based solution(s) and perceived barriers to solution implementation. The second recommendation that the DNP team proposed was the need to include all stakeholders in discussing barriers/facilitators to SCM-PM and proposed solutions. Clinician stakeholders are vital since they are the ones who render the care, and therefore a provider representative would provide essential information within the working group. The third recommendation included maintaining a pain champion to advocate for changes in clinical practice (Anderson et al., 2015). A pain champion will also be instrumental in the sustainability of any SCM-PM solution. The team's final recommendation to the local leadership included involving a provider in the CDST development if the working group decides to continue with this as a solution. Provider inclusion will ensure that usability and other key factors are considered.

Future Directions for Research and Practice

One area of interest for future research and/or practice should identify the appropriate outcome measures when assessing the quality of a facility or clinic's pain management performance. Excluding the primary outcome measure (use of CDST), the team arbitrarily selected the secondary measures, i.e., multimodal vs single pain treatments, length of chronic pain diagnosis, PASTOR screening, etc. Although most of the outcome measures were found

within the DHA-PI 6025.04, there are no current DHA-specific measurement criteria for pain management or existing clinical studies (during the project's timeframe) that could guide decision-making. A future project could develop a working group to search for new or emerging literature identifying key quality indicators for successful pain management.

Surprisingly, during the post-implementation review, the team also discovered charts that adhered to SCM-PM without using CDST. Therefore, future studies should explore other evidence-based alternatives to improving provider adherence to clinical practice guidelines, i.e., other electronic tools (Smart Phrases) or educational-based solutions. Finally, other projects of interest include examining how pain management CDST impacts patients' perception of pain/quality of life and replicating this project within the active-duty clinic to examine CDST uptake with providers in that population.

Dissemination Plan

The quality improvement project results were reported to crucial stakeholders three months following implementation. Champions were trained, and a written continuity record was developed following the MTF's continuity process to ensure future champions are trained in a standardized, systematic method. At the discretion of hospital leadership, this continuity binder can be used to train champions for additional units that need to implement the CDST. These results were distributed among clinic providers and staff at the staff meeting, on the bulletin board, and in an email to ensure everyone who uses the new CDST can understand how it impacts adherence to the DHA-PI. Finally, the project was presented during USU research week activities, including senior service and USU leaders, faculty, students, and guests.

References

- Alford, D. P., Zisblatt, L., Ng, P., Hayes, S. M., Peloquin, S., Hardesty, I., & White, J. L. (2015). SCOPE of pain: An evaluation of an opioid risk evaluation and mitigation strategy continuing education program. *Pain Medicine*, 17, 52-63.
<https://doi.org/10.1111/pme.12878>
- Anderson, D., Zlateva, I., Coman, E., Khatri, K., Tian, T., & Kerns, R. (2016). Improving pain care through implementation of the Stepped Care Model at a multisite community health center. *Journal of Pain Research*, 16(9), 1021–1029. <http://doi.org/10.2147/jpr.s117885>
- Anderson, D., Zlateva, I., Khatri, K., & Ciaburri, N. (2015). Using health information technology to improve adherence to opioid prescribing guidelines in primary care. *The Clinical Journal of Pain*, 31(6), 573–579. <http://doi.org/10.1097/ajp.0000000000000177>
- Bair, M. J., Ang, D., Wu, J., Outcalt, S. D., Sargent, C., Kempf, C., Froman, A., Schmid, A.A., Damush, T.M., Yu, Z., Davis, L.W., & Kroenke, K. (2015). Evaluation of stepped care for chronic pain (ESCAPE) in veterans of the Iraq and Afghanistan conflicts. *JAMA Internal Medicine*, 175(5), 682. <http://doi.org/10.1001/jamainternmed.2015.97>
- Barber, C., Gagnon, D., Fonda, J., Cho, K., Hermos, J., & Miller, M. (2016). Assessing the impact of prescribing directives on opioid prescribing practices among Veterans Health Administration providers. *Pharmacoepidemiology and Drug Safety*, 26(1), 40–46. <http://doi.org/10.1002/pds.4066>
- Buckwalter, K. C., Cullen, L., Hanrahan, K., Kleiber, C., McCarthy, A. M., Rakel, B., Steelman, V., Tripp-Reimer, T., & Tucker, S. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175-182.

- <https://doi.org/10.111/wvn.12223>. Dang, D & Dearholt, S. L. (2018). *John Hopkins nursing evidence-based practice third edition: Models and guidelines*. Sigma Theta Tau International.
- Defense Health Agency. (2018a). *Defense health agency 2018 stakeholder report*. Retrieved from <https://www.health.mil/Reference-Center/Reports>
- Defense Health Agency. (2018b). *Procedural instruction: Pain management and opioid safety in the military health system (6025.04)*. Retrieved from <https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Resources-and-Management/DHA-Publications>
- Dembek, Z.F., & Chekol, T. (2020). The opioid epidemic: Challenge to military medicine and national security. *Military Medicine*, 185(5-6), e662-e667.
<http://doi.org/10.1093/milmed/usz487>
- Edlund, M. J., Martin, B. C., Russo, J. E., Devries, A., Braden, J. B., & Sullivan, M. D. (2014). The role of opioid prescription in incident opioid abuse and dependence among individuals with chronic non-cancer pain. *The Clinical Journal of Pain*, 30(7), 557-564.
<http://doi.org/10.1097/ajp.0000000000000021>
- Edmond, S. N., Moore, B.A., Dorflinger, L. M., Goulet, J. J., Becker, W. C., Heapy, A. A., Sellinger, J. J., Lee, A.W., Levin, F.L., Ruser, C.B., & Kerns, R. D. (2018). Project STEP: implementing the veterans health administration's stepped care model of pain management. *Pain Medicine*, 19, S30- S37. <http://doi.org/10.1093/pm/pny094>
- Executive Office of the President. (2017) Combating the national drug demand and opioid crisis (Memorandum 82 FR 50305). Federal Register 82(209).
<https://www.federalregister.gov/d/2017-23787>

- Fernandez, E., Kimmell, L., & Obia, G. (2020). *Analysis of barriers to implementation of the Defense Health Agency procedural instruction (DHA-PI) on pain management and opioid safety in the military health systems* (Unpublished DNP project). Uniformed Services University of Health Sciences, Bethesda.
- Finley, E. P., Schneegans, S., Tami, C., Pugh, M. J., McGeary, D., Penney, L., & Potter, J. S. (2017). Implementing prescription drug monitoring and other clinical decision support for opioid risk mitigation in a military health care setting: A qualitative feasibility study. *Journal of the American Medical Informatics Association*, 25(5), 515-522.
<http://doi.org/10.1093/jamia/ocx075>
- George, J. (2020, December 17). *CDC issues advisory as drug overdose death spikes*. Medpage Today. <https://www.medpagetoday.com/publichealthpolicy/opioids/90304>
- Gironda, R. J., Clark, M. E., Massengale, J. P., & Walker, R. L. (2006). Pain among veterans of operations Enduring Freedom and Iraqi Freedom. *Pain Medicine*, 7(4), 339-343.
<http://doi.org/10.1111/j.1526-4637.2006.00146.x>
- Hoonakker, P., Khunlertkit, A., Tattersall, M., Keevil, J., & Smith, P. D. (2012). Computer decision support tools in primary care. *Work*, 41, 4474-4478.
<https://doi.org/10.3233/wor-2012-0747-4474>
- Jamison, R.N., Scanlan, E., Matthews, M. L., Jurcik, D. C., & Ross, E. L. (2016). Attitudes of primary care practitioners in managing chronic pain patients prescribed opioids for pain: A prospective longitudinal controlled trial. *Pain Medicine*, 17(1), 99-113.
<http://doi.org/10.1111/pme.12871>
- Jamison, R. N., Sheehan, K. A., Scanlan, E., Matthews, M., & Ross, E. L. (2014). Beliefs and attitudes about opioid prescribing and chronic pain management: Survey of primary care

providers. *Journal of Opioid Management*, 10(6), 375.

<http://doi.org/10.5055/jom.2014.0234>

Katzman, J. G., Qualls, C. R., Satterfield, W. A., Kistin, M., Hofmann, K., Greenberg, N., Swift, R., Comerci, G.D., Fowler, R., & Arora, S. (2018). Army and Navy ECHO pain telementoring improves clinician opioid prescribing for military patients: an observational cohort study. *Journal of General Internal Medicine*, 34(3), 387–395.

<http://doi.org/10.1136/bmjopen-2017-019087>

Keesler Air Force Base (2015, July 6). *81st MDG fact sheet*. Retrieved October 23, 2020, from

<https://www.keesler.af.mil/About-Us/Fact-Sheets/Display/Article/607108/81st-mdg-fact-sheet/>

Kessler, M. E., Carter, R. E., Cook, D. A., Kor, D. J., Mckie, P. M., Pencille, L. J., Scheitel, M.R., & Chaudhry, R. (2017). Impact of electronic clinical decision support on adherence to guideline-recommended treatment for hyperlipidaemia, atrial fibrillation and heart failure: protocol for a cluster randomised trial. *BMJ Open*, 7(12).

<http://doi.org/10.1136/bmjopen-2017-019087>

Khalid, L., Liebschutz, J. M., Xuan, Z., Dossabhoy, S., Kim, Y., Crooks, D., Shanahan, C., Lange, A., Heymann, O., & Lasser, K. E. (2015). Adherence to prescription opioid monitoring guidelines among residents and attending physicians in the primary care setting. *Pain Medicine*, 16(3), 480–487. <https://doi.org/10.1111/pme.12602>

Larson, M. J., Adams, R. S., Ritter, G. A., Linton, A., Williams, T. V., Saadoun, M., & Bauer, M. R. (2018). Associations of early treatments for low-back pain with military readiness outcomes. *The Journal of Alternative and Complementary Medicine*, 24(7), 666-676.

<http://doi.org/10.1089/acm.2017.0290>

- Levy, B., Paulozzi, L., Mack, K. A., & Jones, C. M. (2015). Trends in opioid analgesic-prescribing rates by specialty, U.S., 2007–2012. *American Journal of Preventive Medicine*, 49(3), 409-413. <http://doi.org/10.1016/j.amepre.2015.02.020>
- Liebschutz, J.M., Xuan, Z., Shanahan, C.W., LaRochelle, M., Keosaian, J., Beers, D., Guara, G., O'Connor, K., Alford, D. P., Parker, V., Weiss, R.D., Samet, J.H., Crosson, J., Cushman, P. A., & Lasser, K.E. (2017). Improving adherence to long-term opioid therapy guidelines to reduce opioid misuse in primary care: a cluster-randomized clinical trial. *JAMA Internal Medicine* 177 (9), 1265-1272. <http://doi.org/10.1001/jamainternmed.2017.2468>
- Mathew, A., McQuinn, H., Flynn, D. M., Ransom, J. C., & Doorenbos, A. Z. (2021). Tools, time, training, and team—Military primary care providers' perspectives on improving chronic pain assessment and management. *Military Medicine*.
<https://doi.org/10.1093/milmed/usab367>
- Military Health Systems Communications Office (MHSC). (2020). Opioid tool on MHS Genesis improves patient safety.
<https://health.mil/News/Articles/2020/09/01/Opioid-tool-on-MHS-GENESIS-improves-patient-safety>
- Murad, M. H. (2017). Clinical Practice Guidelines: A primer for development and dissemination. *Mayo Clinic Proceedings*, 92(3), 423-433.
<http://dx.doi.org/10.1016/j.mayocp.2017.01.001>
- Nair, K., Raheleh, M., Schabort, I., Taenzer, P., Radhakrishnan, A., Guenter, D. (2015). A clinical decision support system for chronic pain management in primary care: Usability

- testing and its relevance. *Journal of Innovation in Health Informatics*, 22(3), 329-332.
<http://dx.doi.org/10.14236/jhi.v22i3.149>
- Nusrat, M., Parkes, A., Kieser, R., Hu, B., Farhat, D., Rieber, A., & Ma, H. (2019). Standardizing opioid prescribing practices for cancer-related pain via a novel interactive documentation template at a public hospital. *Journal of Oncology Practice*, 15(11).
<http://doi.org/10.1200/jop.18.00789>
- Parchman, M. L., Penfold, R. B., Ike, B., Tauben, D., Von Korff, M., Stephens, M., Stephen, K.A., & Baldwin, L. (2019). Team-based clinic redesign of opioid medication management in primary care: Effect on opioid prescribing. *The Annals of Family Medicine*, 17(4), 319-325. <http://doi.org/10.1370/afm.2390>
- Price-Haywood, E. G., Burton, J., Burstain, T., Harden-Barrios, J., Lefante, J., Shi, L., Jamion, R.N., Bazzano, A., & Bazzano, L. (2020). Clinical effectiveness of decision support for prescribing opioids for chronic noncancer pain: A prospective cohort study. *Value in Health*, 23(2), 157-163. <http://doi.org/10.1016/j.jval.2019.09.2748>
- Pujol, L., Sussman, L., Clapp, J., Nilson, R., Gill, H., Boge, J., Keizer, B., Salas, M., & Goff, B. (2015). Functional restoration for chronic pain patients in the military: Early results of the San Antonio Military Medical Center functional restoration program. *The United States Army Medical Department Journal*, 1-7. <https://pubmed.ncbi.nlm.nih.gov/26606402/>
- Quanbeck, A., Brown, R. T., Zgierska, A. E., Jacobson, N., Robinson, J. M., Johnson, R. A., Deyo, B.M., Madden, L., Tuan, W-J., & Alagoz, E. (2018). A randomized matched-pairs study of feasibility, acceptability, and effectiveness of systems consultation: A novel implementation strategy for adopting clinical guidelines for opioid prescribing in primary care. *Implementation Science*, 13(21). <http://doi.org/10.1186/s13012-018-0713-1>

- Rhon, D. I., Greenlee, T. A., & Fritz, J. M. (2019). The influence of a guideline-concordant stepped care approach on downstream health care utilization in patients with spine and shoulder pain. *Pain Med*, 20(3), 476-485. <https://doi.org/10.1093/pm/pny212>
- Rhon, D. I., Snodgrass, S. J., Cleland, J. A., Greenlee, T. A., Sissel, C. D., & Cook, C. E. (2018). Comparison of downstream health care utilization, costs, and long-term opioid use: Physical therapist management versus opioid therapy management after arthroscopic hip surgery. *Physical Therapy*, 98(5), 348-356. <https://doi.org/10.1093/ptj/pzy019>
- Sherry, T. B., Roth, C. P., Bhandarkar, M., & Hepner, K. A. (2021). *Chronic pain among service members: Using administrative data to strengthen research and quality improvement*. RAND Corporation.
https://www.rand.org/content/dam/rand/pubs/research_reports/RRA1100/RRA1160-1/RAND_RRA1160-1.pdf
- Office of the Army Surgeon General. (2010). *Pain Management Task Force: Final Report*. Falls Church, VA:.
- United States Congress. (2009). *National Defense Authorization Act for Fiscal Year 2010: Subtitle B-Health Care Administration* (10 USC 1071). Washington, DC: U.S. Government Printing Office.
- Vallerand, A. H., Cosler, P., Henningfield, J. E., & Galassini, P. (2015). Pain management strategies and lessons from the military: A narrative review. *Pain Research and Management*, 20(5), 261–268. <http://doi.org/10.1155/2015/196025>
- Wilkie, R. (2018, October 26). Fighting pain and addiction for veterans. Retrieved from <https://www.whitehouse.gov/articles/fighting-pain-addiction-veterans/>

Appendix A

Field Notes

Field Notes

1. Do you know about DHA's policy of using a stepped care based approach for pain management?

Providers		Techs		Nurses	
<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>
///	///	///	///	///	///
Total:		Total:		Total:	

2. Do you know about AHLTAs Pain management Clinical Decision Support Tool or the TSWF Pain management checklist?

Providers		Techs		Nurses	
<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>
///	///	///	///	///	///
Total:		Total:		Total:	

3. Do you use the Pain management clinical decision support tool for patients being treated for pain? Or does your tech or nurse complete it?

Providers		Techs		Nurses	
<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>	<u>YES</u>	<u>NO</u>
///	///	///	///	///	///
Total:		Total:		Total:	

4. If YES, what percentage of the time do you estimate using it?

Providers:

Tech
H. Robertson

Techs: 100% if pain 3/10, not on flu pain / if pain 4/10

Nurses:

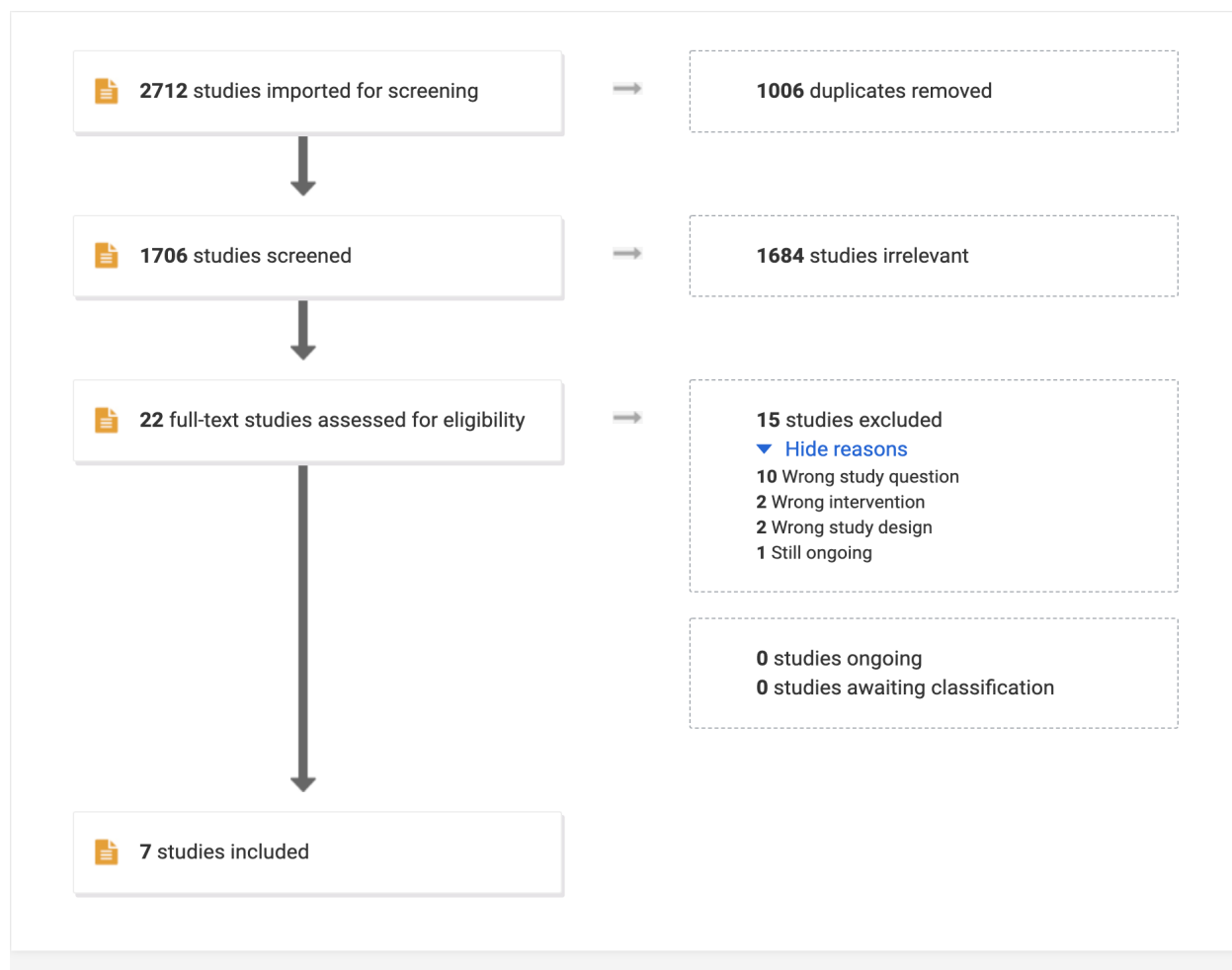
5. If you do use this frequently what type of patients do you use this for?

Providers		Techs		Nurses	
<u>Chronic only</u>	<u>All</u>	<u>Chronic Only</u>	<u>All</u>	<u>Chronic only</u>	<u>All</u>
		2/10			
Total:		Total:		Total:	

ADDITIONAL NOTES:

Appendix B

PRISMA Diagram



[illegible]

Pinyi et al. (2018)	Study Population: 12 family primary caregivers' baseline behaviors on opioid prescribing and monitoring, 2 years provided knowledge and attitudes regarding the potential utility of a PCMP within the NHS, and their perceptions on characteristics of the military health care context likely to impact PCMP implementation, and 3) understand providers' perceived needs and preferences for a PCMP or other CDS tools to support opioid risk mitigation in their setting.	Study Structure: qualitative interview – based on grounded theory	n=28	Research setting: within a large military NHS hospital, focusing primarily on emergency medicine, primary care, and infectious disease services, but also including participants recruited to direct to other locations and staff within the organization as appropriate.	N/A – Qualitative interview	Qualitative analysis with Deductive critical analysis tool. Qualitative analysis was conducted using grounded theory and grounded theory techniques.	Procedures reported complex and describing decision-making around prescribing and monitoring of opioids for pain, describing the process in determining whether or not to initiate a prescription to opioid therapy. They included assessing 1) the patient's diagnosis and condition; 2) the patient's need for pain medicine based on condition and/or history; 3) the patient's prior medical history; 4) whether the available evidence (health records) (BHS) and/or discussion with the patient; and 4) whether the patient's effort or behavior might not reflect reporting concerns for misuse, abuse, or diversion. There was general agreement that "it would be valuable to create some seamless record of prescriptions from military and civilian health care services and to create CDS to aid providers in opioid risk mitigation."	Dependability/credibility and interview process were well described, two interventions were present for each interview. Discussion questions were developed from prior research, but the interview schedule was research aims reviewed interview notes repeatedly. Credibility: Study reported direct quotes that supported the research results. Transferability: NHS took place at a large MTI and subjects all had regular experience with monitoring or monitoring the prescription of opioids. Confirmability: Results are substantiated by reported participants' comments, tables with specific examples for the findings were provided.	Dependability/credibility and interview process were well described, two interventions were present for each interview. Discussion questions were developed from prior research, but the interview schedule was research aims reviewed interview notes repeatedly. Credibility: Study reported direct quotes that supported the research results. Transferability: NHS took place at a large MTI and subjects all had regular experience with monitoring or monitoring the prescription of opioids. Confirmability: Results are substantiated by reported participants' comments, tables with specific examples for the findings were provided.	Transferability: NHS took place at a large MTI and subjects all had regular experience with monitoring or monitoring the prescription of opioids. Confirmability: Results are substantiated by reported participants' comments, tables with specific examples for the findings were provided.
Veleckiy et al. (2017)	Study Population: to determine whether a multicomponent intervention, transforming opioid prescribing in Primary Care (TOPCAR), improves adherence while decreasing opioid misuse risk	Study Structure: randomized clinical trial	n=289	Research setting: within a large military NHS hospital, focusing primarily on emergency medicine, primary care, and infectious disease services, but also including participants recruited to direct to other locations and staff within the organization as appropriate.	N/A – Qualitative interview	Qualitative analysis with Deductive critical analysis tool. Qualitative analysis was conducted using grounded theory and grounded theory techniques.	Procedures reported complex and describing decision-making around prescribing and monitoring of opioids for pain, describing the process in determining whether or not to initiate a prescription to opioid therapy. They included assessing 1) the patient's diagnosis and condition; 2) the patient's need for pain medicine based on condition and/or history; 3) the patient's prior medical history; 4) whether the available evidence (health records) (BHS) and/or discussion with the patient; and 4) whether the patient's effort or behavior might not reflect reporting concerns for misuse, abuse, or diversion. There was general agreement that "it would be valuable to create some seamless record of prescriptions from military and civilian health care services and to create CDS to aid providers in opioid risk mitigation."	Dependability/credibility and interview process were well described, two interventions were present for each interview. Discussion questions were developed from prior research, but the interview schedule was research aims reviewed interview notes repeatedly. Credibility: Study reported direct quotes that supported the research results. Transferability: NHS took place at a large MTI and subjects all had regular experience with monitoring or monitoring the prescription of opioids. Confirmability: Results are substantiated by reported participants' comments, tables with specific examples for the findings were provided.	Dependability/credibility and interview process were well described, two interventions were present for each interview. Discussion questions were developed from prior research, but the interview schedule was research aims reviewed interview notes repeatedly. Credibility: Study reported direct quotes that supported the research results. Transferability: NHS took place at a large MTI and subjects all had regular experience with monitoring or monitoring the prescription of opioids. Confirmability: Results are substantiated by reported participants' comments, tables with specific examples for the findings were provided.	Transferability: NHS took place at a large MTI and subjects all had regular experience with monitoring or monitoring the prescription of opioids. Confirmability: Results are substantiated by reported participants' comments, tables with specific examples for the findings were provided.

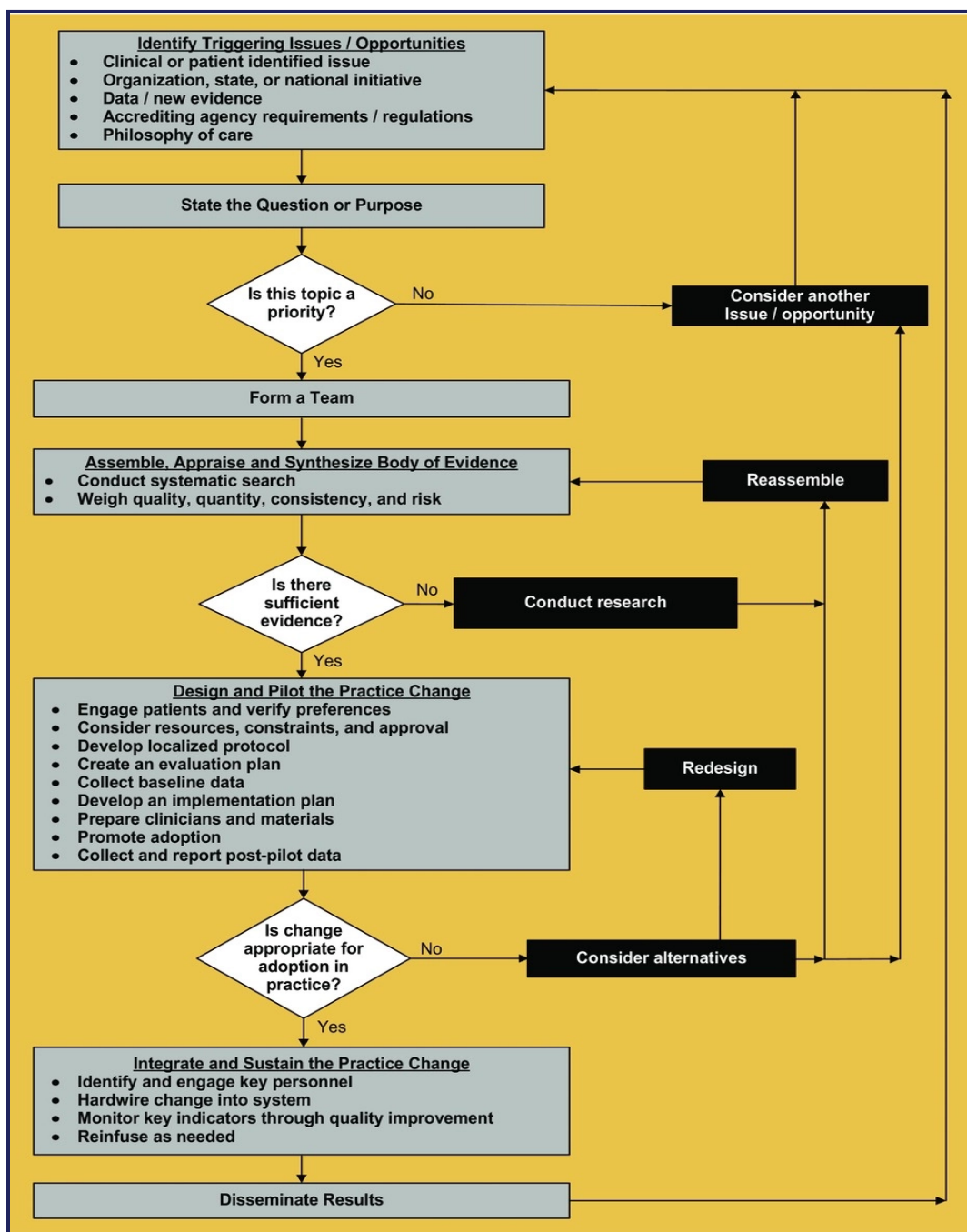
Alvares, et al. (2023) Health Affairs to standardize opioid prescribing practices Alvares, et al. (2023) Health Affairs to standardize opioid prescribing practices Alvares, et al. (2023) Health Affairs to standardize opioid prescribing practices	The aim of the study was to standardize the process of prescribing opioid analgesics in the US LBI oncology clinic, through the use of two interactive documentation templates (DocuPain) with the goal of achieving 70% compliance with standardized guidelines for 6 months.	Pre and post implementation (pre and post) improvement project utilizing the plan-do-act methodology	Not not classified. Was not mentioned	Interactive Documentation Tools (DocuPain) Normal	Use of interactive documentation templates, registration with the DocuPain tool in the study Program (PMP), plan, Do, act, improvement, of use of interactive documentation templates to optimize opioid refills/renew, normal	Completed pre and post implementation data using clustered and non-clustered data to determine the number and percentage of provider recommendation/compliance.	All baseline, 20 of providers followed a systematic approach to prescribing opioids and 80% adhered to the standard in process standardization. We noted high inter-provider variability in the opioid risk stratification and risk process. At 2 months and 6 months, compliance with SmartPain was 70% and 54%, respectively. The frequency of data assessment was also noted to increase and documentation of baseline risk, chemical coping, and toxicity	The length of study was appropriate to assess for sustainability	1) Not mediated with this type of study [2] The study authors did not provide any information on sample or sampling plan 3) The study authors did not discuss the study's internal/external validity 4) The study authors did not discuss strengths or weaknesses in the study
Price-Hawwood et al. (2020)	Study Purpose: To examine the clinical effectiveness of the electronic medical record (EMR) clinical decision support (CDS) tool in reducing opioid prescribing rates among patients with chronic pain.	Intervention: EMR CDS tool (PainRight) designed to assist clinicians in making opioid prescribing decisions by providing real-time feedback and recommendations based on patient history, current opioid use, and pain management goals.	Comparison: Standard of care (SOC) without the CDS tool.	Outcome: Primary outcome: Opioid prescribing rates (morphine milligram equivalents [MME] per patient per month) at 12 weeks post-implementation. Secondary outcomes: Patient satisfaction, clinician satisfaction, and adverse events.	Design: Randomized controlled trial (RCT) comparing the CDS tool to SOC.	Setting: A large, tertiary care hospital in the United States.	Participants: Patients with chronic pain (defined as pain lasting more than 3 months) and who were prescribed opioids.	Intervention: The CDS tool was implemented in the EMR, providing real-time feedback and recommendations to clinicians.	Outcome: Opioid prescribing rates decreased significantly in the CDS group compared to the SOC group at 12 weeks post-implementation.
Price-Hawwood et al. (2020)	Study Purpose: To examine the clinical effectiveness of the electronic medical record (EMR) clinical decision support (CDS) tool in reducing opioid prescribing rates among patients with chronic pain.	Intervention: EMR CDS tool (PainRight) designed to assist clinicians in making opioid prescribing decisions by providing real-time feedback and recommendations based on patient history, current opioid use, and pain management goals.	Comparison: Standard of care (SOC) without the CDS tool.	Outcome: Primary outcome: Opioid prescribing rates (morphine milligram equivalents [MME] per patient per month) at 12 weeks post-implementation. Secondary outcomes: Patient satisfaction, clinician satisfaction, and adverse events.	Design: Randomized controlled trial (RCT) comparing the CDS tool to SOC.	Setting: A large, tertiary care hospital in the United States.	Participants: Patients with chronic pain (defined as pain lasting more than 3 months) and who were prescribed opioids.	Intervention: The CDS tool was implemented in the EMR, providing real-time feedback and recommendations to clinicians.	Outcome: Opioid prescribing rates decreased significantly in the CDS group compared to the SOC group at 12 weeks post-implementation.

Stul et al., (2020)	Test the feasibility of a 12-week Collaborative Care intervention to improve opioid safety, pain disability and use of nonpharmacological pain management strategies in veterans with chronic pain and at heightened risk for prescription opioid misuse.	Hypothesis: The veterans randomized to Collaborative Care MI would be more likely to return and sustain at least one non-opioid pain management strategy (or SMART goal).	Pilot Study: RCT Initial: 100 Final: 90	Inclusion criteria: adult veterans (≥ age 18) receiving care through the SIVANCS with chronic pain (> 6 months duration), prescribed opioids for at least 1 month, who demonstrated evidence of one or more of the following profiles for “high-risk” opioid use: 6,26,2,7 score of ≥ 5 on the Current Opioid Misuse Measure (COMB), high-dose opioid therapy (≥ 80 mg morphine equivalent/day), current co-prescription of benzodiazepines, history of at least one early opioid refill in the last 12 months, current depression, posttraumatic stress disorder (PTSD), or anxiety disorder; or evidence of current or former drug and/or alcohol use disorder (e.g., positive urine drug screen(s)) or from chart review. Exclusion criteria: unable to comprehend English, those with a terminal illness prescribed opioids in the context of palliative or hospice care, those with a serious untreated mental illness (e.g., psychosis, bipolar disorder, or substance use disorder) or active suicide/homicidal ideation or otherwise unstable as determined by study staff. Several modifications were needed in the recruitment strategy for the study to be acceptable to veterans: most veteran recruits were either ineligible, declined to participate or could not be reached after a nulling and several attempts to call. Participants had a mean age of 63 years; 9% were female veterans; 47% ethnic minorities; 57% had a VA service-connected disability; 50% reported either posttraumatic stress disorder, depression or both, and 65% reported having a substance use disorder diagnosis. The mean baseline morphine equivalent daily dose (MEDD) of enrolled study participants was 178 mg per day (SD = 412).	At Random group assignment (Collaborative Care vs. Attention Control): Planned covariates included sociodemographics, daily opioid dose, concurrent psychotropic medications, mental health disorders (i.e., PTSD, depression, anxiety, panic), sleep disorder, current/former substance use disorder, baseline scores of pain severity and interference with functioning, social support, and history of treatment for mental health/substance use disorder. Level of measure: Nominal (dichotomous)	Intervention & sustenance of a least one non-opioid pain management strategy (or SMART goal): Level of measure: Nominal (dichotomous)	Primary descriptive analysis. Intent-to-Treat (ITT) analyses, multivariate logistic regression (binary outcomes) and linear regression (continuous outcomes) to determine the effect of Collaborative Care MI (vs. Attention Control) in conjunction with structured PCP visits followed by web-based ATHENA-OT clinical decision support (both arms). Estimate and test mixed-effects models of change over time using maximum likelihood estimation. The threshold for significant p-values was set at $p \leq 0.05$.	Overall, 92 participants (90% of those enrolled) completed the trial and all study assessments. The most common reason for non-completion was study withdrawal (94%) or lost to follow-up (94%). There were few adverse events, the most common of which were increased emotional distress and physical pain. There were two serious adverse events: short-term hospitalizations in two separate participants determined not to be related to study participation. Of the original 100 participants, 37% had one or more aberrant urine drug screen results in follow-up, which were also considered adverse study events. Only two participants had a positive breath alcohol test during the study. Based on PCP feedback, reported rare use of the web-based ATHENA-OT clinical decision support system for initial or follow-up participant visits for several reasons: technical problems, including ATHENA-OT not opening properly, challenges navigating, and time constraints. Also, clinicians perceived that CPIS was outdated & PCPS better appreciated being able to use the study decision aids that described the rationale and components of multimodal pain management.	Internal validity: the checklist that was used reliable. Randomization of sample. Analyses were planned that would compare groups on post-intervention (12 weeks) and follow-up (30 weeks) effects. Objective measures are combined with clinical measures. External validity: inclusion criteria was broad to increase generalizability.	Internal validity: adjusting for potential confounding by measured covariates not evenly distributed by randomization. External validity: N/A, none identified.	IIA
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Appendix D

Organizing Framework

The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care



Appendix E

Business Case Analysis

BUSINESS CASE with VALUE BASED CARE ASSESSMENT	
Proposed Title for Project/Initiative/Opportunity to Improve <i>Proposed Title</i>	
Implementing DHA-PI 6025.04 into Primary Care Clinics using the Military Health System (MHS) Stepped-Care Model for Pain Management (SCM-PM): A Clinical Decision Tool (CDT) for Pain Management.	
Opportunity Statement (<i>Description of proposed project/initiative/opportunity to improve</i>) <i>Opportunity statement</i>	
Opioid misuse and overdose is devastating families and communities across the country, and the effects of the crisis cost the U.S. an estimated \$504 billion a year (HHS,2018). This problem is equally applicable in the military with a recent study finding that veterans, especially combat wounded, have more significant potential for opioid misuse than civilian populations (Dembek & Chekol, 2020). Primary care providers are on the frontlines and have a responsibility to utilize the best evidence to prevent opioid addiction and help deter this crisis. There is strong scientific evidence that supports the use of the SCM-PM. This model is incorporated into the DHA-PI 6025.04, an instruction all Defense Health Agency (DHA) Military Treatment Facilities (MTF) should be adhering to. This proposed project will provide an opportunity for Keesler's MTF to adopt that DHA-PI by utilizing an AHLTA CDT in-line with the DHA-PI and SCM-PM. This CDT will provide a comprehensive approach to pain management and opioid safety strategies that improve the quality of life and pain care for our DoD beneficiaries. The use of such tools has already been shown to improve coordination and collaboration across the Military Health System and have resulted in the standardization of best practices for clinical care, and research and training in alternative approaches to treating pain (MSHC, 2020).	
Business Opportunity/Objectives (<i>Prioritize listing – macro and micro objectives</i>) <i>Business Opportunity</i>	
Military treatment facilities following a stepped care model approach to pain management have achieved up to a 43% reduction in outpatient visits and a 48.5% reduction in outpatient costs related to musculoskeletal pain (Rhon et al., 2018, 2019). For patients treated for shoulder, spine, or hip pain this equates to roughly \$5,000 saved per patient. To put this into perspective if all 1,876 patients included in the 2009 study of BAMC shoulder and spine pain patients were treated with a stepped care approach the hospital could have saved approximately \$9.5 million in a calendar year and freed up 4,700 outpatient appointments. Macro objective: The 81st MDG oversees care of approximately 80,000 beneficiaries. If only 1% of all the beneficiaries experience musculoskeletal pain and a stepped care model is implemented, the MTF could realize up to \$4 million in savings per year. Micro Objective: Keesler AFB (actual MTF) sees 27,000 beneficiaries. If 1% are seen for pain the MTF could realize \$1.35M of savings per year and reduce outpatient appointments by 6,700 visits.	
Potential Impact of the Initiative/Project (<i>Identify outcome metrics & benchmarks/and how objectives align with Quadruple Aim, Value Based Care, and HRO goals</i>) <i>Potential Impact</i>	
1. Reduction in outpatient visits, i.e., 48.5% reduction of costs in facilities who have implemented SCM-PM (Rhon et al., 2018). 2. Reduction in outpatient costs, i.e., 43% reduction of outpatient visits in facilities who have implemented SCM-PM (Rhon et al., 2018) 3. A similar tool has already been rolled out to a small segment within MHS, with over 1000 providers using the tool and 767 interventions documented since its deployment in March 2020 (Military Health Systems Communication Office, 2020). 4. Each of the outcome metric align perfectly with the MHS Quadruple Aim in the following ways:	

- a. *Reduction in outpatient visits* will increase capability to provide care for more patients, by ensuring that each visit for acute/chronic pain is maximized through a standardized, efficient, and evidence-based care; This aligns with Quadruple Aim: Lower Costs
- b. *Reduction in outpatient costs* is a force multiplier, in a fiscally constrained environment, where limited resources are spread among equally necessary and potentially competing demands; This aligns with Quadruple Aim: Lower Costs
- c. *Change in provider prescribing behaviors* leads to better outcomes by safely prescribing narcotics, adequate pain management for the patient (SMs and beneficiaries), provider/patient partnerships through pain contracts, and access to specialty care and non-pharmacological care; This aligns with all 4 Quadruple Aims: Better Health, Better Care, Improved Readiness, and Lower Costs

Alternatives (courses of action) chosen for Analysis *Alternatives*

1. Translate CDT template in AHLTA following the Stepped-Care Model per the DHA-PI 6025.04 to standardize pain management in Family Practice Clinic; Develop and conduct multiple training sessions on the CDT until all applicable providers have been trained (sign-in roster to ensure attendance); Conduct EHR records review to assess current compliance with DHA-PI 6025.04 (pre-implementation) and one to assess use of CDT (post-implementation).
2. Translate and implement quarterly “Standardized Pain Management and Documentation in Family Practice” training in line with the guidance from DHA-PI 6025.04 for ~ 9 months; obtain provider feedback at each training session to improve teaching strategies/ material comprehension; Conduct EHR review to assess current compliance with DHA-PI 6025.04 and obtain staff survey on current knowledge of DHA-PI 6025.04 (pre-implementation); conduct a second EHR review/ survey to assess compliance with DHA-PI and provider knowledge following training (post-implementation).
3. “*Status Quo*”: Do nothing now and have a “reactive” plan to implement DHA-PI once auditing guidance comes out from the DHA. Continue to refer primary care pain patients to Pain Management Clinic and to other outside facilities.

Analysis of Alternatives *Alternatives*

Alternative 1:

Translate CDT template in AHLTA following the Stepped-Care Model per the DHA-PI 6025.04 to standardize pain management in Family Practice Clinic; Develop and conduct multiple training sessions on the CDT until all applicable providers have been trained (sign-in roster to ensure attendance); Conduct EHR records review to assess current compliance with DHA-PI 6025.04 (pre-implementation) and one to assess use of CDT (post-implementation).

Pros

1. Translate best evidence into practice
2. Multi-level stakeholder involvement/buy-in
3. Addresses multiple barriers; Fernandez, Kimmel, and Obia (2020) conducted stakeholder interviews, using a CFIR tool, and identified the top barriers:
 - a. costs/resources,
 - b. planning, knowledge, and
 - c. goals/feedback, and
 - d. culture (championing).
 After barrier identification, Fernandez, Kimmel, and Obia (2020) found applicable strategies that best matched each barrier, utilizing ERIC matching tools. Based on this information, alternative 1 is very capable

Cons

1. Requires more manpower, i.e. acquiring more trainers/creating additional duties for existing staff and champions (Fernandez, Kimmel, & Obia, 2020)
2. Time-intensive implementation
3. Concerns regarding appropriate use of IT resources, considering CDT tool creation for AHLTA with upcoming Genesis deployment (scheduled 2024)

of addressing many of the barriers, through the implementation of the most effective strategies: (low costs, planning burden delegated to Phase 2 students, formalized training/CDT development, and champion selection/empowerment). - Aligns with MHS Quadruple Aim; for additional detail, please see potential impact section - Expands champions role, through direct involvement in CDT development/deployment, provider training, chart review, and program sustainment. - Improves efficiency; Similar tool was deployed, and it allowed providers to screen patients' medical histories before opioid prescribing (such as other opioid prescriptions, behavioral health history, co-prescription of sedatives like benzodiazepines, and laboratory drug tests), provided high-risk alerts, and real-time order modification (Military Health Systems Communication Office, 2020) - Improves standardization if utilized facility-wide - Improves patient outcomes based on the evidence-based stepped care model approach. - Does not require additional overhead expenditures/costs - Decreased number of outpatient pain appointment	
Alternative 2:	Translate and implement quarterly "Standardized Pain Management and Documentation in Family Practice" training in line with the guidance from DHA-PI 6025.04 for ~ 9 months; obtain medical staff feedback at each training session to improve teaching strategies/ material comprehension; Conduct EHR review to assess current compliance with DHA-PI 6025.04 and obtain staff survey on current knowledge of DHA-PI 6025.04 (pre-implementation); conduct a second EHR review/ survey to assess compliance with DHA-PI and provider knowledge following training (post-implementation).
Pros	Cons
- May/May not require multi-level stakeholder involvement/buy-in - Aligns with MHS Quadruple Aim - May see some improvement in patient outcomes - Does not require additional overhead expenditures - Requires less manpower, i.e., no IT involvement - Provides a more rapid deployment when compared Alternative 1.	Time-intensive implementation
Alternative 3:	" <i>Status Quo</i> ": Do nothing now and have a "reactive" plan to implement DHA-PI once auditing guidance comes out from the DHA. Continue to refer primary care pain patients to Pain Management Clinic and to other outside facilities.
Pros	Cons
- May see some improvement in patient outcomes - Does not require additional overhead expenditures - Requires less manpower, i.e. no IT involvement	- Reactionary with little/no planning (Fernandez, Kimmel, & Obia, 2020) - Requires little to no multi-level stakeholder involvement/buy-in - Least empowered champion role - Does very little to standardize care

- | | |
|--|---|
| | 5. Does very little to provide an efficient means to provide SCM-PM |
|--|---|

Assumptions *Assumptions*

1. Multiple pre/post metrics will be needed throughout the CDT implementation and training to assess knowledge, compliance, satisfaction, and effectiveness.
 - a. Providers may or may not be aware of the current DHA-PI 6025.4.
 - i. Need Pre/ Post knowledge assessment.
 - b. Require Pre/Post EHR reviews to assess current pain management practices and compliance with DHA-PI 6025.4.
 - c. Will need to develop surveys and possibly a performance tracking tool.
 - i. Will ask stakeholders and providers if these resources exist/ have already been generated.
 - d. Will require follow-up at multiple intervals to improve training and CDT roll-out (bi-monthly/ quarterly)
2. Will need to identify an AHLTA SME to assist in the development of the CDT or identify if there is a similar tool that was previously developed that can be altered to better follow current guidance. After identifying the appropriate tool, the team will have to develop training based on that CDT template.
 - a. The MTF is currently using AHLTA and will eventually switch to Genesis at which time a new CDT template will be needed to fit that EHR platform; this may require alterations in training or a completely different training plan.
3. Will need to identify if there are enough pain management patients to obtain sufficient samples/ data for this project.
4. The CDT implementation and/or training will provide a minimally invasive and cost-effective approach in improving and standardizing pain management.
 - a. Increase primary care providers (PCMs) confidence in pain management and decrease the number of referrals made to pain management.
 - b. Decrease the amount of opioids used or provide step-wise documentation as to why opioids were chosen as a treatment option.
5. Identifying appropriate IT assistance/guidance, translating the appropriate tool, and training all the providers will be time-consuming and it will be a challenge to meet all these requirements within a year. It will require focus from the team but also stakeholder and provider “buy-in” to be effective.
6. If shown to be effective and improves compliance, champions will need to be identified for sustainment.

Recommendation and Rationale *Make a choice*

Recommendation *Make a choice*

Alternative 1: will be selected based on its ability to provide the primary stakeholders (primary care providers) with a standardized clinical decision-making tool in line with the best evidence. Although Alternative 2 did provide some provider support tools, it was less robust (no CDT to guide clinical decision-making in real-time). Finally, the third alternative, the status quo, is the least robust and has already been determined as failing to meet the stakeholders’ goal of improving provider compliance with DHA-PI 6025.04/SCM-PM.

Rationale *Make a choice*

1. Provides a standardized approach to identified the barriers of implementing SCM-PM and DHA-PI compliance (Leece et al., 2017)
2. Introduction and training for DHA-PI 6025.04
3. Avenue for student feedback for continuous training improvement
4. Clinical Decision Tools that align with SCM for improved compliance
5. Required training; offered at multiple times to accommodate individual providers that may need additional support
6. Stakeholder visibility on progress through periodic record reviews focusing on SCM compliance

Value Based Care - Investment Required by the Organization and the Associated "VALUE" or \$ GAINED.

Legend: Figures in this section are based off of research done by Rhon et al., 2018, 2019 and Garcia et al., 2020. These studies looked at military treatment facilities' downstream healthcare cost savings associated with using stepped care for treating common musculoskeletal conditions. Using the average savings reported in these studies, the team estimated annual savings based on an assumption that 1% of Keesler AFB's patients would be treated for one of these conditions in the given year. These numbers will be better estimated based on the actual number of patients treated, based on diagnostic and procedural codes, once that data is available. Costs associated with training are based on dummy figures for hourly wage and estimated 10 providers and 10 nurses/medics trained, and 2019 Medicare/Medicaid reimbursement data for specific CPT codes. We assumed an average appointment had a CPT code of 99214 with 80% established patients and 20% new or more complex patients. These provided us an average visit cost of \$112.65. We used this dollar amount to account for the number of lost appointments due to pulling providers out of the clinic to accomplish training.

Quality	
Patient Satisfaction	Fewer visits and lower recurrences of pain requiring medications, specifically opioids.
Operational readiness	Less money spent on pain management, musculoskeletal conditions, and opioids prescriptions. For the prescriptions that are given they are less likely to become chronic users. Fewer military members on opioids means increased percentage of operationally ready troops.
Financial	Potential savings of up to \$1.35M at the MTF or \$4M across the network in one year (Rhon et al., 2018, 2019). Approximately \$1700 savings per patient with knee pain and \$5000 savings per patient for hip, spine, shoulder pain annually (Rhon et al., 2018,2019).
Service	
Recouped appointments	6,700 recouped appointments at Keesler MTF (26K network wide). This translates into more appointments for other patients, increasing access to care, opportunities for readiness training, and improving quality of life for providers. Estimating an avg of \$112.65 per appointment based on Medicare reimbursement rates results in \$754,755 in savings.

Cost	
# Providers * 2 hr. *\$60	\$ 1,200.00 = 10 providers * 2 hrs. *\$60 (dummy figures based on estimated hourly wage)
# Nurses * 2 hrs. * \$50	\$ 1,000.00 (dummy figures based on estimated hourly wage)
Appointments missed * \$112.65	\$6,759 = 10 Providers * 6 appointments * \$112.65 (assuming each provider has 20 min appointments and normally sees 3 patients/hr. and must remove 6 appointments to accommodate the estimated two hours of training. Multiplied by the number of providers undergoing training) (Centers for Medicare and Medicaid Services; 2019)
AHLTA Programmer	Utilize existing personnel TBD based on length of time required incorporate CDT and train staff Estimate on the high side \$5,000 (dummy data while looking for actual cost)
Value = $\frac{(\text{Quality} + \text{Service})}{\text{Cost}}$	Quality = \$1,350,000 Service = \$670,000 Cost = \$13,959 Value = \$ 2,020,000/\$13,959 = \$150.78

Legend:

<u>Pain condition</u>	<u>Estimated cost savings</u>	<u>Source</u>
Knee pain	\$1700	Rhon et al., 2018, 2019
Hip pain	\$5000	Rhon et al., 2018, 2019
Shoulder Pain	\$5000	Rhon et al., 2018, 2019
Spine Pain	\$5000	Rhon et al., 2018, 2019
CPT 99213 & 99214 (established patient)	\$103	Centers for Medicare and Medicaid Services; 2019
CPT 99214 (established patient)	\$103	Centers for Medicare and Medicaid Services; 2019
CPT 99215 (established patient)	\$148	Centers for Medicare and Medicaid Services; 2019
CPT 99213 & 99214 (new patient)	\$143	Centers for Medicare and Medicaid Services; 2019
CPT 99215 (new patient)	\$211	Centers for Medicare and Medicaid Services; 2019

Avg cost/patient visit (assuming the majority are established patients and fall in the 99213-99214 CPT code)	\$112.65 (estimating 85% of patients are established level 3 or 4 patients, 5% are established level 5, 5% are new level 3 or 4, and 5% are new level 5. Will get real data once on site)	Centers for Medicare and Medicaid Services; 2019 Percentage of each level of patient is dummy data until we can get real data for the MTF.
Risks		Plan
1 Cost		1. Utilize an existing platform, tested and approved by the DoD (ALHTA & Genesis [this has already been created and is being piloted for Genesis]) This minimizes implementation costs to almost nothing. Cost is recouped through significant savings of reduced healthcare utilization.
2. Lack of Resources		2. Utilize an existing system (AHLTA & Genesis) which will require minimum resources to update and implement.
3. Planning		3. Development of an implementation blueprint will lay out a plan for moving forward and include step by step guidelines for how to implement the new template, how to educate staff on its use, and how to review charts to ensure it is being utilized correctly.
4. Buy In (culture and readiness to implement)		4. Conduct a focus group to understand concerns and develop strategies to address barriers. Take staff suggestions for making the CDT as user friendly as possible
5. Time		5. Utilize appointment time to conduct focus groups and train staff. While a cost upfront, if successful will be recouped via fewer appointments needed for pain referral patients.
Implementation Plan <i>Implementation plan</i>		
Phase 1:	Pre-implementation Phase	
Milestone Description:	All deliverables accomplished (pre-implementation chart review, and finalized CDT Tool in AHLTA)	
Deliverables	Due Date	Accountable Person

1. Develop CDT template in AHLTA following the Stepped-Care Model per the DHA-PI 6025.04 to standardize pain management in Family Practice Clinic 2. Conduct EHR records review to assess current compliance with DHA-PI 6025.04		1. 1 month 2. 3-4 weeks	1. AHLTA POC 2. Phase 2 Students
Resources Needed			
- Phase 2 student time outside of clinic - Meeting with stakeholders to get feedback and training approval			
Expected Level of Benefit			
- Development of CDT, which in turn, will improve compliance with DHA-PI 6025.04 as evidence by documentation - Establish compliance baseline, in order to determine whether or not project implementation made an impact			
Phase 2:	Implementation Phase		
Milestone Description:	Develop and conduct multiple training sessions on the CDT until all applicable providers have been trained (sign-in roster to ensure attendance)		
Deliverables		Due Dates	Accountable Person
1. Develop Formalized Training 2. Deliver Formalized Training 3. Receipt of provider feedback and training revision if applicable 4. Periodic chart reviews to assess progress 5. Share progress data with participating providers/ stakeholder		1. 2-4 weeks 2. quarterly training (~9 months) 3. Survey at each training session 4. Weekly/biweekly intervals 5. Quarterly	1. Phase 2 Students with stakeholder feedback/ approval 2. Phase 2 Students 3. Attending Providers 4. Phase 2 Students 5. Providers/stakeholders/phase 2 students
Resources Needed			
- Phase 2 student time outside of clinic - Meeting with stakeholders to get feedback and training approval - Survey development and supplies to provide them (i.e. paper copies/electronic versions) - Access to EHRs/IRB approval for review			
Expected Level of Benefit			
- Standardize pain management in accordance with DHA guidance across primary care at MTF - Build confidence among primary care providers in managing pain - Improve patient safety by decrease opioid prescribing and more efficiently managing pain			
Phase 3:	Post-Implementation Phase		
Milestone Description:	Final Chart Review		

Deliverables	Due Dates	Accountable Person
1. Conduct post assessment EHR records review to assess current compliance with DHA-PI 6025.04 2. Compile results for final report and prepare to present to staff and stakeholders	1. Within last 3 months on site 2. Within last month on site	1. Phase 2 Students 2. Phase 2 Students
Resources Needed		
- Phase 2 student time outside of clinic - Access to EHRs/IRB approval for review		
Expected Level of Benefit		
- Overall improved compliance with DHA-PI 6025.04 - Overall improved documentation on pain management using the Stepped Care Model - Substantiating data to support the training and overall project was effective		
Phase 4:	Formal Stakeholder Report and Recommendation Phase - Nathan	
Milestone Description:	Preparation of Formal Report and Presentation to Executive Stakeholders	
Deliverables	Due Dates	Accountable Person
1. Post assessment data and interpretation 2. Total cost of implementation 3. Total savings 4. Patient satisfaction scores 5. Opioid prescription rates 6. Compliance stats for DHA-PI 6025.04	Within last month on site	Phase 2 Students
Resources Needed		
- Access to reimbursement data - Pharmacy opioid dispense rates - Finance data / clinic balance sheet - Clinic data on patient appointments		
Expected Level of Benefit		

- Improved stakeholder buys in, to help transition to sustainment phase - Understanding of impact and areas for further improvement		
Phase 5:	Sustainment Phase	
Milestone Description:	Champions in-place, periodic peer reviews, periodic findings reported to executive stakeholders to sustain compliance, and established orientation training for incoming providers	
Deliverables	Due Dates	Accountable Person
1. Identify facility-level and clinic-level champions 2. 10% charts peer reviewed 3. Report briefing to executive staff 4. Deliver formalized training for incoming providers	1. Last 2 weeks of Phase 2 2. Ongoing	Assign unit champions
Resources Needed		
- Appointment letters to identify champions and their roles/responsibilities - Peer review development and supplies to provide them (i.e. paper copies/electronic versions) - Appointed times to brief executive staff - Appointed times for provide training for incoming provid		
Expected Level of Benefit		
- Will provide mechanisms in place, to promote sustainability of a proven solution		

NOTE: Modified from Harvard Business Review Press. (2011). *Pocket mentor: Developing a business case*. Boston: Author (pp 82-85).

Appendix F

De-identified Chart Audit Tool

Study Number	Date	Date of visit	Used CRF?	Age	Sex	Race	Dependent or Refuse?	Consolidated Diagnosis	Pain Location	Single or Multimodal	Type	Time Frame	Number of times seen in clinic for issue past 6 mos	OTC/Inf treatment	1 = NSAID / 2 = opioid / 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 = 11 = 12 = 13 = 14 = 15 = 16 = 17 = 18 = 19 = 20 = 21 = 22 = 23 = 24 = 25 = 26 = 27 = 28 = 29 = 30 = 31 = 32 = 33 = 34 = 35 = 36 = 37 = 38 = 39 = 40 = 41 = 42 = 43 = 44 = 45 = 46 = 47 = 48 = 49 = 50 = 51 = 52 = 53 = 54 = 55 = 56 = 57 = 58 = 59 = 60 = 61 = 62 = 63 = 64 = 65 = 66 = 67 = 68 = 69 = 70 = 71 = 72 = 73 = 74 = 75 = 76 = 77 = 78 = 79 = 80 = 81 = 82 = 83 = 84 = 85 = 86 = 87 = 88 = 89 = 90 = 91 = 92 = 93 = 94 = 95 = 96 = 97 = 98 = 99 = 100 =		Non-Pharm Utilized?	Utilizing Stepped Pain Model (Y/N)?	Pain level (NRS rating)	Provider Type (MD/DO/NP/PA)	Pain Management Refused on or off base	Diagnostic test ordered (Imaging, CT, MRI, EMG, etc)	Options prescribed?	Opted Safety & Reason documented	Reason Prescribed		
															Non-steroid pharm used Intervention	Non-Pharm Utilized?											
170	Oct 2021	19-Oct-2021	No	48	M	Unknown	Dependent	Dysparenia	Low Back	Single	Unspecified	<24 months	6	Name	Name	1, 2, 3	No	N	7	PA	OFF	Name	No	N/A	N/A		
106	Jun 2021	7-Jun-2021	No	48	M	Other	Refuse	Dysparenia	Low Back	Single	Unspecified	<12 months	1	Name	Non-Pharm	Non-Pharm	1, 2, 3	No	N	5	NP	OFF	Name	No	N/A	N/A	
55	Jun 2021	20-Jun-2021	No	48	F	Black	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Non-pharm	Non-Pharm	Non-Pharm	1, 2, 3	Yes	N	5	PA	Permitting	Name	No	N/A	N/A	
53	Jul 2021	20-Jul-2021	No	50	M	Unknown	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Name	Non-Pharm	Non-Pharm	1, 2	No	N	6	NP	OFF	Name	No	N/A	N/A	
89	Jul 2021	22-Jul-2021	No	48	F	White	Dependent	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Name	Options	4	No	N	0	PA	OFF	Name	Yes	Yes	Yes		
60	Aug 2021	2-Aug-2021	No	46	M	White	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Non-pharm	Non-Pharm	Non-Pharm	2, 3	No	N	6	PA	OFF	Name	No	N/A	N/A	
28	Aug 2021	28-Aug-2021	No	87	F	White	Dependent	Dysparenia	Low Back	Single	Unspecified	8-12 months	1	Non-pharm	Non-Pharm	Non-Pharm	3	Yes	N	8	PA	OFF	Name	No	N/A	N/A	
62	Aug 2021	2-Aug-2021	No	46	M	White	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Name	Non-Pharm	Non-Pharm	1	No	N	0	PA	OFF	Name	Yes	N/A	N/A	
69	Aug 2021	17-Aug-2021	No	55	M	White	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Name	Options	6	No	N	0	NP	OFF	Name	Yes	No	No		
61	Aug 2021	28-Aug-2021	No	54	M	Other	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Name	Non-Pharm	Non-Pharm	1, 3	Yes	N	3	NP	OFF	Name	No	N/A	N/A	
31	Sep 2021	19-Sep-2021	No	51	M	Other	Refuse	Radiculopathy	Low Back	Single	Radicular	<24 months	1	Name	Non-Pharm	Non-Pharm	1, 2	Yes	N	0	PA	OFF	Name	No	N/A	N/A	
88	Sep 2021	15-Sep-2021	No	72	F	Other	Dependent	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Name	Name	0	No	N	2	DO	OFF	Name	No	N/A	N/A		
77	Oct 2021	20-Oct-2021	No	65	M	Black	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Non-pharm	Non-Pharm	Non-Pharm	2, 3	Yes	N	4	DO	OFF	Name	No	N/A	N/A	
76	Nov 2021	3-Nov-2021	No	62	F	Unknown	Dependent	Dysparenia	Low Back	Single	Unspecified	Unspecified	1	Name	Options	6	No	N	7	NP	OFF	Name	Yes	Yes	Yes		
24	Nov 2021	14-Nov-2021	No	56	M	White	Refuse	Thrombocytopenia	Low Back	Single	Unspecified	<24 months	1	Non-pharm	Non-Pharm	Non-Pharm	1	No	N	6	DO	OFF	Name	Yes	N/A	N/A	
144	Nov 2021	15-Nov-2021	No	62	M	White	Refuse	Dysparenia	Low Back	Single	Unspecified	Unspecified	1	Non-pharm	Non-Pharm	Non-Pharm	1, 3	Yes	N	7	DO	OFF	Name	No	N/A	N/A	
72	Nov 2021	28-Nov-2021	No	65	M	Black	Refuse	Radiculopathy	Low Back	Single	Radicular	Unspecified	1	Name	Options	6	No	N	6	DO	ON	Name	Yes	Yes	Yes		
57	Nov 2021	28-Nov-2021	No	48	F	Asian	Dependent	Musculoskeletal	Low Back	Single	Muscular	Unspecified	1	Name	Non-Pharm	Non-Pharm	1	No	N	2	PA	Permitting	Name	No	N/A	N/A	
124	Nov 2021	30-Nov-2021	No	58	M	Black	Refuse	DID	Low Back	Single	Unspecified	8-12 months	1	Name	Non-Pharm	Non-Pharm	1, 2	No	N	2	PA	OFF	Name	No	N/A	N/A	
101	Dec 2021	24-Dec-2021	Yes	48	F	Black	Refuse	Dysparenia	Low Back	Single	Unspecified	8-12 months	1	Name	Non-Pharm	Non-Pharm	1, 2, 3	Yes	N	4	DO	OFF	Name	No	N/A	N/A	
184	Mar 2022	2-Mar-2022	No	56	M	Other	Refuse	Radiculopathy	Low Back	Single	Radicular	<24 months	1	Name	Non-Pharm	Non-Pharm	1, 2, 4	Yes	N	0	PA	OFF	Name	No	N/A	N/A	
61	Jun 2021	28-Jun-2021	No	65	M	Other	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	2	Non-pharm	Non-Pharm	Non-Pharm	1, 3	Yes	N	0	DO	OFF	Name	Yes	Yes	Yes	
101	Jun 2021	28-Jun-2021	No	58	F	White	Refuse	DID	Low Back	Single	Unspecified	Unspecified	2	Name	Non-Pharm	Non-Pharm	2	No	N	3	NP	OFF	Name	No	N/A	N/A	
2	Jul 2021	1-Jul-2021	No	50	F	White	Dependent	Dysparenia	Low Back	Single	Unspecified	<24 months	2	Non-pharm	Non-Pharm	Non-Pharm	1	Yes	N	3	PA	OFF	Name	No	N/A	N/A	
18	Jul 2021	22-Jul-2021	No	58	F	White	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Name	Non-Pharm	Non-Pharm	1, 2	Yes	N	7	NP	OFF	Name	CT	No	N/A	N/A
17	Aug 2021	3-Aug-2021	No	34	M	White	Dependent	Dysparenia	Low Back	Single	Unspecified	12-24 months	2	Pharm	Non-Pharm	Non-Pharm	1	Yes	N	3	PA	OFF	Name	No	N/A	N/A	
5	Aug 2021	23-Aug-2021	No	40	F	Other	Dependent	Dysparenia	Low Back	Single	Unspecified	8-12 months	1	Non-pharm	Non-Pharm	Non-Pharm	1	No	N	7	PA	OFF	Name	No	N/A	N/A	
135	Aug 2021	28-Aug-2021	Partial	53	M	White	Refuse	Radiculopathy	Low Back	Single	Radicular	12-24 months	2	Name	Non-Pharm	Non-Pharm	1, 2, 3	Destroyed	N	7	PA	OFF	Name	No	N/A	N/A	
108	Sep 2021	1-Sep-2021	No	50	M	White	Refuse	DID	Low Back	Single	Radicular	<12 months	2	Name	Non-Pharm	Non-Pharm	2, 4	Destroyed	N	7	PA	OFF	Name	No	N/A	N/A	
50	Oct 2021	12-Oct-2021	No	62	F	Other	Dependent	Spondylolisthesis	Low Back	Single	Radicular	<24 months	1	Name	Name	0	No	N	7	PA	OFF	Name	No	N/A	N/A		
52	Oct 2021	2-Oct-2021	No	62	F	Other	Refuse	Dysparenia	Low Back	Single	Radicular	<24 months	2	Name	Name	0	No	N	7	PA	OFF	Name	No	N/A	N/A		
49	Nov 2021	2-Nov-2021	No	42	M	White	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	2	Non-pharm	Non-Pharm	Non-Pharm	1, 2	Yes	N	8	PA	OFF	Name	No	N/A	N/A	
15	Nov 2021	18-Nov-2021	No	60	M	White	Refuse	Dysparenia	Low Back	Single	Unspecified	8-12 months	2	Name	Non-Pharm	Non-Pharm	1, 2	Yes	N	3	DO	OFF	Name	No	N/A	N/A	
90	Nov 2021	23-Nov-2021	No	65	F	Black	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	2	Name	Non-Pharm	Non-Pharm	2, 5, 6	Yes	N	10	PA	OFF	Name	Yes	Yes	Yes	
158	Mar 2022	20-Mar-2022	No	60	F	White	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	2	Name	Non-Pharm	Non-Pharm	2, 5, 6	Yes	N	4	DO	OFF	Name	Yes	Yes	Yes	
35	Jul 2021	8-Jul-2021	No	56	F	Black	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	3	Pharm	Non-Pharm	Non-Pharm	1, 2	Yes	N	8	PA	OFF	Name	No	N/A	N/A	
20	Jul 2021	28-Jul-2021	No	62	F	Other	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	2	Name	Non-Pharm	Non-Pharm	2, 5, 6	No	N	7	PA	OFF	Name	No	N/A	N/A	
54	Jul 2021	28-Jul-2021	No	47	M	White	Refuse	Dysparenia	Low Back	Single	Unspecified	<24 months	1	Name	Non-Pharm	Non-Pharm	1, 2	No	N	8	NP	OFF	Name	CT	No	N/A	N/A
11	Jul 2021	28-Jul-2021	No	34	M	Unknown	Dependent	Dysparenia	Low Back	Single	Unspecified	<12 months	3	Name	Non-Pharm	Non-Pharm	1, 2	No	N	9	PA	OFF	Name	No	N/A	N/A	
64	Aug 2021	1-Aug-2021	No	56	F	Unknown	Dependent	Dysparenia	Low Back	Single	Unspecified	Unspecified	3	Non-pharm	Non-Pharm	Non-Pharm	1, 2, 3	No	N	5	PA	OFF	Name	No	N/A	N/A	
5	Sep 2021	2-Sep-2021	No	51	M	White	Refuse	DID	Low Back	Single	Unspecified	<24 months	1	Name	Non-Pharm	Non-Pharm	1, 2, 3	Yes	N	10	NP	Permitting	Name	No	N/A	N/A	
105	Sep 2021	23-Sep-2021	No	40	M	Black	Refuse	DID	Low Back	Single	Unspecified	Unspecified	1	Name	Non-Pharm	Non-Pharm	1	No	N	7	NP	OFF	Name	No	N/A	N/A	
105	Oct 2021	18-Oct-2021	No	59	F	Unknown	Refuse	Dysparenia	Low Back	Single	Unspecified	Unspecified	1	Name	Name	0	Destroyed	N	7	PA	OFF	Name	No	N/A	N/A		
6	Oct 2021	2-Oct-2021	No	50	M	Black	Refuse	Dysparenia	Low Back	Single	Unspecified	12-24 months	1	Non-pharm	Non-Pharm	Non-Pharm	1, 4	No	N	5	DO	ON	Name	No	N/A	N/A	
111	Nov 2021	2-Nov-2021	No	64	F	White	Refuse	Dysparenia	Low Back	Single	Neuropathic	Unspecified	3	Name	Non-Pharm	Non-Pharm	1	Yes	N	7	PA	OFF	Name	No	N/A	N/A	
71	Nov 2021	28-Nov-2021	No	44	F	Unknown	Dependent	Dysparenia	Low Back	Single	Unspecified	12-24 months	3	Non-Pharm	Non-Pharm	Non-Pharm	1	Yes	N	7	PA	OFF	Name	No	N/A	N/A	
12	Dec 2021	1-Dec-2021	No	70	F	Unknown	Dependent	Dysparenia	Low Back	Single	Unspecified	<24 months	3	Name	Non-Pharm	Non-Pharm	1, 2, 3	No	N	2	PA	OFF	Name	No	N/A	N/A	
155	Mar 2022	8-Mar-2022	No	61	F	Black	Dependent	Dysparenia	Low Back	Single	Unspecified	<24 months	3	Pharm	Non-Pharm	Non-Pharm	1, 2, 5, 5	No	N	5	PA	OFF	Name	No	N/A	N/A	
67	Jun 2021	23-Jun-2021	No	63	M	Black	Dependent	Radiculopathy	Low Back	Single	Radicular	<24 months	4	Non-pharm	Non-Pharm	Non-Pharm	1, 4	No	N	8	PA	OFF	Name	Yes	Yes	Yes	
122	Jul 2021	26-Jul-2021	No	57	F	White	Dependent	Neuropathic	Low Back	Multiple	Neuropathic	8-12 months	5	Name	Non-Pharm	Non-Pharm	1	Yes	N	0	NP	OFF	Name	No	N/A	N/A	
62	Aug 2021	28-Aug-2021	No	46	F	White	Dependent	Dysparenia	Low Back	Single	Unspecified	<24 months	7	Non-pharm	Non-Pharm	Non-Pharm	1, 2	No	N	9	NP	ON	Name	No	N/A	N/A	

Appendix G

Keesler Determination Letter/ IRB Approval

**59th Medical Wing (59th MDW)
Institutional Review Board (IRB)**
59th Clinical Research Division/SGVUS/(210) 292-7143
2200 Bergquist Dr, Bldg 4430, Lackland AFB, TX 78236-5300

November 2, 2021

FINAL DETERMINATION – NOT RESEARCH

Determination Date: 2 Nov 2021

Project Lead: Maj Nathan Stevens/

Reference Number: FWH20220003N

Project Title: Implementing DHA-PI 6025.04 Into Primary Care Clinics Using A Clinical Decision Support Tool for Pain Management

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

Your activity was determined on 2 Nov 2021 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 activity is not funded by DHHS/DoD as research; is not a systematic investigation to test a hypothesis and permit conclusions to be drawn; is not designed to develop or contribute to generalizable knowledge; and the purpose is not to investigate the safety or effectiveness of a drug, medical device or biologic.

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 Protocol Office. Protection of subjects' rights safety and welfare and 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 Protocol Office, so that a regulatory expert may determine whether or not the revised plan involves human subject research activities.

GRANT.EARL. Digitally signed by
GRANT.EARL.JR.1126544380
JR.1126544380 2021.11.02 11:47:56
Earl Grant, Jr., PhD
Designated Exempt Reviewer

File this and any other IRB correspondence in your study binder

Appendix H

Project Timeline

Project Year 1 (2020/2021)															
Activity/Month	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
USUHS VPR Submission and Approval				X	X										
Site IRB Submission and Approval						X									
Project Planning -Task 1: Data collection (KMC demographics) -Task 2: BCA -Task 3: Stakeholder engagement meetings -Task 4: Develop chart audit tool based on DHA-PI guidance	X	X	X					X			X			X	
Project Implementation: -Task 1: Collaborate with KMC IT team to find or create AHLTA template -Task 2: Develop CDST template and associated training -Task 3: Deliver training, obtain feedback, improve training based on feedback -Task 4: Project wrap-up				X				X	X	X	X	X	X	X	X
Data Analysis: -Task 1: Pre-implementation chart audit (assess current compliance) -Task 2: Periodic chart audits -Task 3: Post-implementation chart audits										X	X	X	X	X	X
Dissemination -Task 1: Out brief with executive stakeholders -Task 2: Final preparation for DNP presentation -Task 3: Publication as applicable												X	X	X	X

Project Year 2 (2022)												
Activity/Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Data Analysis -Task 1: Pre-implementation chart audit (assess current compliance) -Task 2: Periodic chart audits -Task 3: Post-implementation chart audits	X	X	X	X								
Dissemination -Task 1: Out brief with executive stakeholders -Task 2: Final preparation for DNP presentation -Task 3: Publication as applicable	X	X	X	X	X							

Appendix I

Staff Training Slides

81 MDG
Train, Develop, and Inspire Premier Warfighters

DHA Pain Management Instruction: Clinical Decision Support Tool

CAPT SAVANNA BOWERS
LT COL TWANA HADDEN
MAJ NATHAN STEVENSON

Wingmen, Leaders, Warriors!

1

Objectives
Train, Develop, and Inspire Premier Warfighters

- Awareness of the Defense Health Agency- Procedural Instruction (DHA-PI) 6025.04 and its purpose
- Describe Stepped Care Model for Pain Management (SCM-PM)
- Describe how the TSWF Pain Management CPG Form (CDST) has the potential to improved Stepped Care Implementation/ Documentation
- Document on the DVPRS pain scale and TSWF Pain Management Form
- Document pain pathway elements such as long-term treatment goals and short-term SMART goals for pain in the TSWF Pain form
- Implement CDST into pain management practice for smooth transition to MHS Genesis
- Similar form/ expectation in MHS Genesis DVPRS

Wingmen, Leaders, Warriors!

2

Purpose of the 2018 DHA-PI 6025.04: Pain Management and Opioid Safety in the Military Health System (MHS)
Train, Develop, and Inspire Premier Warfighters

Implement	Implement Stepped Care Model for Pain pathway
Enable	Enable clinical communities to provide evidence-based pain management guided by clinical practice guidelines.
Treat	Effectively treat acute and chronic pain.
Promote	Promote non-pharmacologic treatment of pain.
Prevent	Prevent acute pain from becoming chronic.
Minimize	Minimize use of opioids with appropriate prescribing and risk mitigation.

Wingmen, Leaders, Warriors!

3

The Stepped Care Model for Pain
Train, Develop, and Inspire Premier Warfighters

- Workflow Algorithm
- Defense and Veterans Pain Rating Scale (DVPRS)
- Patient handouts for self-management, brief cognitive behavioral therapy for pain, pain exit tool, and naloxone education
- CarePoint Opioid Registry Reports
- Risk Index for Opioid-Induced Respiratory Depression (RIOSORD) Risk Tool
- Informed Consent Form
- Prescription monitoring program enrollment form
- Utilization of the CDST provides a centralized place to document Stepped-Care

Wingmen, Leaders, Warriors!

4

The Stepped Care Model for Pain
Train, Develop, and Inspire Premier Warfighters

Wingmen, Leaders, Warriors!

5

Stepped Care Model: Patient Collaboration
Train, Develop, and Inspire Premier Warfighters

Your Pain Treatment Plan may include some of the following approaches

Approaches that overlap indicate an important component of self-management.

Wingmen, Leaders, Warriors!

6

Utilization of DVPRS and CDST

Train, Develop, and Inspire Premier Warfighters

- Pathway will enable patient-centered medical home staff to:
 1. Screen patients for pain.
 2. Complete a biopsychosocial assessment.
 3. Collaboratively set treatment goals.
 4. Minimize use of opioids; assess and minimize risk when used.
 5. Determine level of the Stepped Care Model; connect with team members.
 6. Ensure continuity of care
 7. Copy/forward documentation

Wingmen, Leaders, Warriors!

7

CDST and Pain Management

Train, Develop, and Inspire Premier Warfighters

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8

DVPRS and Pain Assessment

Train, Develop, and Inspire Premier Warfighters

Wingmen, Leaders, Warriors!

9

DVPRS and Pain Assessment

Train, Develop, and Inspire Premier Warfighters

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10

CDST and Pain Management

Train, Develop, and Inspire Premier Warfighters

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11

CDST and Pain Management

Train, Develop, and Inspire Premier Warfighters

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12

Appendix J

Training Flier



**Keesler AFB
Medical Center**

301 Fisher St
Biloxi, MS 39534

Implement DHA-PI 6025.04: Pain Management and Opioid Safety

Implement Stepped-Care Model for Pain Pathway

- Brief cognitive behavior therapy early in treatment
- Patient handouts for self-management
- Non-pharmacological and non-opioid treatments
- Risk mitigation
- Patient Informed consent
- Naloxone education
- Carepoint Opioid Registry
- Prescription monitoring
- Appropriate Tapering

Follow Evidence Based Practice

- Effectively treat acute & chronic pain
- Promote non-pharmacologic treatment
- Prevent acute pain from becoming chronic
- Minimize use of opioids with appropriate prescribing and risk mitigation

Utilize DVPRS and CDST in AHLTA

- Attend Training
- Improve Documentation
- Collaboration
- Continuity of Care
- F/u w/ Pain Champion

Comply with DHA-PI 6025.04

- Ensure compliance with the Stepped Care Model in Pain Management
- Ensure seamless transition to utilize new MHS Genesis PM Tool
- Improve patient outcomes

Direct Access to DHA-PI 6025.04



TRAINING DATES:
Who? All providers, technicians, and RNs
When? /Where?
 - 20 Jan 2022 @ 0700/1130 in Family Practice Conference Room
 - 03 Feb 2022 @ 1200 in Family Practice Conference Room
 - 17 Feb 2022 @ 1200 in Family Practice Conference Room

Appendix K

Feedback from Staff Briefing on AHLTA Pain Management CDST

Please rate the following on a descending scale where 5 = excellent to 1 = poor. *

	5	4	3	2	1
Overall quality of the educational activity					
Teaching strategy employed					
Relevance of the educational activity to your practice					
Helpfulness of the information presented					
Contributed to my skills, knowledge, and attitude to enhance the delivery of patient care					

The intended result of this activity is to improve competence, performance, and patient care. Please rate the effectiveness of this activity's learning objectives in achieving the intended result on a descending scale where 5 = excellent to 1 = poor. *

	5	4	3	2	1
Awareness of DHA-PI 6025.04 and its purpose					
Describe Stepped Care Model for Pain Management (SCM-PM)					
Describe how the TSWF Pain Management CPG Form (CDST) has the potential to improve SCM-PM implementation/documentation					
Document on the DVPRS pain scale and TSWF Pain Management Form					
Document pain pathways elements such as long-term treatment goals and short-term SMART goals for pain in the TSWF Pain Form					
Implement CDST into pain management practice for smooth transition to MHS Genesis					
Similar form/expectation in MHS Genesis DVPRS					

Please rate the presenters for this educational activity using a descending scale where 5 = excellent to 1 = poor. *

	5	4	3	2	1
Presentation Style					
Organizational and Clarity					
Expertise					
Relevance to Outcomes					

Please rate how much you agree that this educational activity has contributed to your professional effectiveness and ability to execute the following, using a descending scale where 5 = excellent to 1 = poor. *

	5	4	3	2	1
Treat and/or manage my patients					
Communicate with patients					
Manage my clinical practice					

After completing this activity, do you anticipate changing any of your procedures and/or processes in providing health care? *

- Yes
- No
- Not applicable

If you answered yes above, what do you anticipate changing or how will you apply what you have learned in your profession? *

What do you anticipate changing or how will you integrate what you learned into practice? *

Do you see any barriers to implementing these changes? *

- Yes
- No

Not applicable

What is your primary patient population? *

Active Duty

Retiree

Dependent

Was the technology user friendly and appropriate to support participant learning? *

Yes

No

Not applicable

Please provide any additional comments.

Appendix L

Data Analysis Table

NURS5131 DATA ANALYSIS TABLE

Project Title: Implementing DHA-PI 6025.04 Into Primary Care Clinics Using A Clinical Decision Support Tool for Pain Management

Project Site: Keesler AFB

Project Members: Maj Twana Hadden, Capt Nathan Stevenson, & Capt Savanna Bowers

		Variable Name	Variable Description and type of measure	Data Source	Possible Range of Values	Level of Measurement	Time Frame for Collection	Statistical Test	Decision Rule
Population or Event Primary Care Providers caring for pain patients at KMC.	IV	Clinical Decision Support Tool/ AHLTA template	Whether or not medical providers are utilizing the pain form in the EHR Process Measure	EHR	Dichotomous - yes (fully completing template; -no (not using template -using a percentage of the template	Nominal	12 months	None	N/A
	DV	Compliance of documentation that meets the CPG guidelines and follows a stepped care approach	Did providers document the CPG recommended interventions & assessments? Did documentation reflect a stepped-care approach (will become more specific once we know what KMC is using to audit provider compliance) Outcome Measure	EHR	Both are Dichotomous - Yes/no	Nominal	12 months	Descriptive statistics - Frequency as a percentage; McNemar's Test	70% compliance (Nusrat et al., 2019) (Will depend on KMC stakeholder expectations)

Appendix M

USU Notice of Project Approval/Form 3202N



OFFICE OF RESEARCH

4301 JONES BRIDGE ROAD

BETHESDA, MARYLAND 20814

PHONE: (301) 295-3303; FAX: (301) 295-6771

NOTICE OF PROJECT APPROVAL

Change Number: Original

VPR Site Number: GSN-61-12020

Principal Investigator: Stevenson, Nathan

Department: Graduate School of Nursing

Project Type: Student

Project Title: Implementing DHA-PI 6025.04 Into Primary Care Clinics Using A Clinical Decision Support Tool for

Project Period: 7/14/2021 to 7/14/2022

Assurance and Progress Report Information:

<u>Name</u>	<u>Sup</u>	<u>Approval Type</u>	<u>Status</u>	<u>Approved On</u>	<u>Forms Received</u>
Progress Report	0			To be Submitted	N/A

Remarks:

This Notice Of Project Approval has been reviewed and approved. Please remember that you must submit a final Progress Report (Form 3210) upon completion of this project.

Questions regarding this approval should be directed to the following person in the Office of Research:

Sharon McIver, (301) 295-9814.

WOODBERRY.MITCHEL
L.WAYNE.1060957114

Digitally signed by
WOODBERRY.MITCHELL.WAYNE.10609571
14
Date: 2021.07.20 16:08:53 -04'00'

For/Mark G. Kortepeter, MD, MPH
FACP, FIDSA, FASTMH
COL (R) MC US Army
Vice President for Research
Uniformed Services University of the Health Sciences

Date

cc: File

Dr. Kennett Radford

Laura Taylor

Appendix N

DNP Project Proposal

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

VPR Date Stamp

Project Number: _____ (VPR will assign)

Project Title: **Implementing DHA-PI 6025.04 Into Primary Care Clinics Using A Clinical Decision Support Tool for Pain Management**

SECTION A: STUDENT POC INFORMATION	
1. Name (Last, First, MI): Stevenson, Nathan, S.	Student E-mail: _____
2. Home Address: _____	Cell Number: _____
SECTION B: COMMITTEE CHAIR / SENIOR MENTOR INFORMATION	
3. Name (Last, First, MI): Trautmann, Jennifer	
4. Telephone: _____ Fax: _____	E-mail: _____
5. USUHS Building/ Room No.: Building E	
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: 10/1/2022 Project End Date: 5/22/2022	
9. Performance Site(s): 81st MDG, Keesler AFB	
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:	
Digitally signed by STEVENSON.NATHAN.S.129660 5073 Date: 2021.05.01 15:48:17 -04'00' May 2021 Student (Project Point of Contact for the Group) (Signature and Date)	Digitally signed by JOHNSON.HEATHER.L.1073935110 Date: 2021.06.27 16:56:31 -04'00' Chair/Senior Mentor (Signature and Date)
Digitally signed by CONNORS.JOHN.T.1122179830 Date: 2021.06.28 12:35:43 -05'00' Chair/Program Director (Signature and Date)	Digitally signed by JOHNSON.HEATHER.L.1073935110 Date: 2021.06.27 16:57:10 -04'00' Chair/Program Director (Signature and Date)
_____ DNP Project Director or PhD Director (Signature and Date)	_____ Associate Dean for Academic Affairs, GSN (Signature and Date)
_____ 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. _____ USUHS Vice President for Research	
_____ Date	

Appendix O

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:		
Name(s) of DNP Project Student Team:		
1. <u>Savanna Bowers</u>	Phase II Site:	AGCNS ☐ FNP ☒ PMHNP ☐ RNA ☐ WHNP ☐
2. <u>Twana Hadden</u>	Phase II Site:	AGCNS ☐ FNP ☒ PMHNP ☐ RNA ☐ WHNP ☒
3. <u>Nathan Stevenson</u>	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:		
<u>Implementing DHA-PI 6025.04 Into Primary Care Clinics Using A Clinical Decision Support Tool for Pain Management</u>		
Committee Approved DNP Project Clinical Question:		
<u>In the Keesler Primary Care Clinic, is integrating a stepped-care model clinical decision tool into the EHR more effective than usual practice at standardizing care of pain patients and overcoming documentation omissions per the DHA-PI 6025.04?</u>		
Names of DNP Project Team Mentors:		
I agree to serve as a member of the DNP Project Team (Team Mentors) for the above 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.		
<i>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.</i>		
Senior Mentor (Chair): <u>Dr. Jennifer Trautmann</u>	Signature: <u>Jennifer Trautmann</u>	Date: <u>28 Dec 2020</u>
Team Mentor (Committee): _____	Signature: _____	Date: _____
Team Mentor (Committee): _____	Signature: _____	Date: _____
Team Mentor (Committee): _____	Signature: _____	Date: _____

Form Version: 1 Jun 2016

Appendix P

Change in Senior Mentor Form



Appendix I:

Daniel K. Inouye Graduate School of Nursing
Change in Student Team Composition Form

DOCTOR OF NURSING PRACTICE PROJECT Change in Student Team Composition Form

Graduation Year: May 2022

Title of DNP Project: Implementing DHA Pain Management Procedural Instruction into Primary Care Clinics Using a Clinical Decision Support Tool for Pain Management

Name(s) of DNP Project Student Team: (* indicates the "new member" in the group)

1. <u>Capt Savanna Bowers</u>	Phase II Site: <u>Keesler</u>	AGCNS ☐	FNP ☒	PMHNP ☐	RNA ☐	WHNP ☐
2. <u>Lt Col Twana Hadden</u>	Phase II Site: <u>Keesler</u>	AGCNS ☐	FNP ☒	PMHNP ☐	RNA ☐	WHNP ☒
3. <u>Maj Nathan Stevenson</u>	Phase II Site: <u>Keesler</u>	AGCNS ☐	FNP ☒	PMHNP ☐	RNA ☐	WHNP ☒
4. <u>*Dr Heather Johnson</u>	Phase II Site: <u>N/A</u>	AGCNS ☐	FNP ☒	PMHNP ☐	RNA ☐	WHNP ☐
5. _____	Phase II Site: _____	AGCNS ☐	FNP ☐	PMHNP ☐	RNA ☐	WHNP ☐
6. _____	Phase II Site: _____	AGCNS ☐	FNP ☐	PMHNP ☐	RNA ☐	WHNP ☐

Approved by:

<u>Heather L. Johnson</u>	JOHNSON.HEATHER.L.1073935110	Digitally signed by JOHNSON.HEATHER.L.1073935110 Date: 2022.04.28 09:42:56 -0400	<u>4/28/22</u>
Senior Mentor (type name)	(Signature)		(Date)

<u>Laura A. Taylor, NURS5330 Coordinator</u>	Laura Taylor, PhD, RN, ANEF, FAAN	Digitally signed by Laura Taylor, PhD, RN, ANEF, FAAN Date: 2022.04.26 17:01:55 -0400	<u>4/26/22</u>
DNP Project Director (type name)	(Signature)		(Date)

*** Once this document is completed, upload the completed form into GSN906 Doctor of Nursing Practice Project Class 20XX located in SAKAI into the same "assignment" location identified for Senior Mentor - Agreement Form.

Appendix Q

Keesler PAO Approval

4/27/22, 12:42 PM

Usuhs.edu Mail - FW: FOUO\ Items for PA approval



Hadden, Twana <twana.hadden@usuhs.edu>

FW: FOUO\ Items for PA approval

4 messages

Connors, John T Lt Col USAF 81 MDG (USA) [REDACTED] Sun, Apr 17, 2022 at 1:48 PM
To: "Hadden, Twana" [REDACTED], "Bowers, Savanna" [REDACTED]

All,

See the approval from PA at KAFB. Please, get a copy to Dr. Johnson for review (if you haven't already) and submit to USUHS PA (with this email attached) with the caveat of incorporating the suggestions below.

V/r

LtCol C

From: 81 TRW/PA [REDACTED]
Sent: Friday, April 15, 2022 4:03 PM
To: CONNORS, JOHN T Lt Col USAF 81 MDG 81 MEDICAL GP/SGME [REDACTED]
Subject: RE: FOUO\ Items for PA approval

Lt Col Connors,

Good afternoon, sir. I've reviewed the material and see no concerns from a Public Affairs perspective. However, I did have one question... page 6 notes that 17 articles were extracted for literature review, but Appendix A indicates only "7 studies included" after a breakout starting with the 2712 studies imported. Not sure if that's a typo or if I missed something in the text about the number dropping from 10 to 17. Please add the disclaimer used in the other included products (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), and then it's good to send up to the next level. Just let me know if you have any questions.

Respectfully,

ERIC M. BURKS, MSgt, USAF

<https://mail.google.com/mail/u/0/?ik=f127609370&view=pt&search=all&permthid=thread-f%3A1730382458194957296&simpl=msg-f%3A1730382458194957296&simpl=msg-f%3A1731270317741423519&simpl=msg-...> 1/4

Appendix R

USUHS POA Approval

4/27/22, 12:45 PM

Usuhs.edu Mail - Fwd: Approval request for "Keesler Final Project w:local PA Approval.pdf"



Hadden, Twana <twana.hadden@usuhs.edu>

Fwd: Approval request for "Keesler Final Project w:local PA Approval.pdf"Bowers, Savanna
To: Twana Hadden

Wed, Apr 27, 2022 at 9:15 AM

----- Forwarded message -----

From: **USU Pub Clearance** (via Google Workspace Approvals) <approvals-noreply@google.com>
Date: Mon, Apr 25, 2022 at 10:47 AM
Subject: Approval request for "Keesler Final Project w:local PA Approval.pdf"
To: [REDACTED]

Approval Complete

✓ USU Pub Clearance (usupubclearance@usuhs.edu) approved the file



 Keesler Final Project w:local PA Approval.pdf



Open



Google LLC 1600 Amphitheatre Parkway, Mountain View, CA 94043. You received this email because you are involved in an approval on a file in Google Drive.

<https://mail.google.com/mail/u/0/?ik=f127609370&view=pt&search=all&permmsgid=msg-f%3A1731271296717932470&simpl=msg-f%3A1731271296717932470>

1/1

Appendix S

DNP Project Completion Verification Form



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

DOCTOR OF NURSING PRACTICE PROJECT Completion Verification Form

Implementing DHA Pain Management Instruction into Primary Care Clinics
The DNP Project titled: Using a Clinical Decision Support Tool for Pain Management

was completed at 81st Medical Center at Keesler AFB, MS by the following student(s):

(Student Name)

(Digital Signature)

Capt Savanna Bowers

BOWERS.SAVANNA
DAWN.1297479454

Digitally signed by
BOWERS.SAVANNA.DAWN.12974794
54
Date: 2022.04.27 11:38:04 -05'00'

Lt Col Twana Hadden

HADDEN.TWANA.
AKEIA.1116438336

Digitally signed by
HADDEN.TWANA.AKEIA.1116438
336
Date: 2022.04.27 06:23:12 -05'00'

Maj Nathan Stevenson

STEVENSON.NATH
ANS.1296605073

Digitally signed by
STEVENSON.NATHANS.12966050
73
Date: 2022.04.27 12:38:51 -05'00'

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

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

Verified by:

(type name)

(Digital Signature)

Heather Johnson

JOHNSON.HEATHER.L.10
73935110

Digitally signed by
JOHNSON.HEATHER.L.1073935110
Date: 2022.04.28 08:33:38 -04'00'

Senior Mentor

Team Mentor

Team Mentor

John Connors

CONNORS.JOH
N.T.1122179830

Digitally signed by
CONNORS.JOHN.T.1122179830
Date: 2022.04.27 17:35:08
-05'00'

Team Mentor
& Phase II Site Director

For RNA Students only - add the following additional signature for final verification of project completion:

RNA Project Director (type name)

(Digital Signature)

Form Version: 4 December 2020

Appendix T

DNP Students CITI Certificates



[Courses](#) [Records](#) [CE/CMEs](#) [Support](#)

Savanna Bowers
ID 9023928

Records

Office of the Under Secretary of Defense (Personnel and Readiness) (ID 603)

Show Records for: [Show All](#)

Office of the Under Secretary of Defense (Personnel and Readiness) Records (ID 603)

OUSD P&R Human Research - Biomed Research Coordinators, Clinical Coordinators, Study Coordinators & Research Administrators (ID 100075)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36037521	80%	98%	23-Mar-2020	23-Mar-2020	23-Mar-2023	View	View-Print-Share

OUSD P&R Human Research - Biomedical Investigators and Research Study Team (ID 36670)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36037518	80%	95%	23-Mar-2020	23-Mar-2020	23-Mar-2023	View	View-Print-Share

OUSD P&R Human Research - Biomedical Research Support Staff (ID 36672)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36037520	80%	99%	23-Mar-2020	23-Mar-2020	23-Mar-2023	View	View-Print-Share

OUSD P&R Human Research - Social and Behavioral Investigators and Research Study Team (ID 36671)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36037519	80%	99%	23-Mar-2020	24-Mar-2020	24-Mar-2023	View	View-Print-Share

OUSD P&R Human Research - Social and Behavioral Research Support Staff (ID 189404)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36037524	80%	100%	23-Mar-2020	24-Mar-2020	24-Mar-2023	View	View-Print-Share

Good Clinical Practice (U.S. FDA Focus) - GCP for Clinical Trials with Investigational Drugs and Medical Devices (U.S. FDA Focus) (ID 104632)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
GCP	36037522	80%	100%	24-Mar-2020	24-Mar-2020	24-Mar-2023	View	View-Print-Share

GCP - Social and Behavioral Research Best Practices for Clinical Research (ID 143802)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36037523	100%	100%	24-Mar-2020	25-Mar-2020	25-Mar-2023	View	View-Print-Share

4/27/22, 12:49 PM

CITI - Collaborative Institutional Training Initiative


[My Courses](#)
[My Records](#)
[My CE/CMEs](#)
[Support](#)

 twana hadden
ID 9022031

Records

All Institutions

Show Records for:

Office of the Under Secretary of Defense (Personnel and Readiness) Records (ID 603)

OUSD P&R Human Research - Biomed Research Coordinators, Clinical Coordinators, Study Coordinators & Research Administrators (ID 100075)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36025778	80%	97%	29-Mar-2020	29-Mar-2020	29-Mar-2023	View	View-Print-Share

OUSD P&R Human Research - Biomedical Investigators and Research Study Team (ID 36670)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36025770	80%	93%	29-Mar-2020	29-Mar-2020	29-Mar-2023	View	View-Print-Share

OUSD P&R Human Research - Biomedical Research Support Staff (ID 36672)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36025777	80%	96%	29-Mar-2020	29-Mar-2020	29-Mar-2023	View	View-Print-Share

OUSD P&R Human Research - Social and Behavioral Investigators and Research Study Team (ID 36671)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36025776	80%	98%	29-Mar-2020	29-Mar-2020	29-Mar-2023	View	View-Print-Share

Good Clinical Practice (U.S. FDA Focus) - GCP for Clinical Trials with Investigational Drugs and Medical Devices (U.S. FDA Focus) (ID 104632)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
GCP	36025831	80%	100%	29-Mar-2020	29-Mar-2020	29-Mar-2023	View	View-Print-Share

Responsible Conduct of Research (RCR) (ID 125083)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36025771	80%	94%	29-Mar-2020	29-Mar-2020	29-Mar-2023	View	View-Print-Share

GCP - Social and Behavioral Research Best Practices for Clinical Research (ID 143802)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36025772	100%	100%	29-Mar-2020	29-Mar-2020	29-Mar-2023	View	View-Print-Share



Nathan Stevenson
ID 9036866

Records

Office of the Under Secretary of Defense (Personnel and Readiness) (ID 603)

Show Records for:

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

Show All

Office of the Under Secretary of Defense (Personnel and Readiness) Records (ID 603)

OUSD P&R Human Research - Biomed Research Coordinators, Clinical Coordinators, Study Coordinators & Research Administrators (ID 100075)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36111644	80%	100%	30-Mar-2020	03-Apr-2020	03-Apr-2023	View	View-Print-Share

OUSD P&R Human Research - Biomedical Investigators and Research Study Team (ID 36670)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36111569	80%	98%	30-Mar-2020	03-Apr-2020	03-Apr-2023	View	View-Print-Share

OUSD P&R Human Research - Biomedical Research Support Staff (ID 36672)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36111643	80%	100%	30-Mar-2020	03-Apr-2020	03-Apr-2023	View	View-Print-Share

OUSD P&R Human Research - Social and Behavioral Investigators and Research Study Team (ID 36671)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36119944	80%	99%	30-Mar-2020	03-Apr-2020	03-Apr-2023	View	View-Print-Share

Good Clinical Practice (U.S. FDA Focus) - GCP for Clinical Trials with Investigational Drugs and Medical Devices (U.S. FDA Focus) (ID 104632)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
GCP	36111645	80%	100%	03-Apr-2020	03-Apr-2020	03-Apr-2023	View	View-Print-Share

Responsible Conduct of Research (RCR) (ID 125083)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36111570	80%	100%	03-Apr-2020	03-Apr-2020	03-Apr-2023	View	View-Print-Share

GCP – Social and Behavioral Research Best Practices for Clinical Research (ID 143802)

Stage	Record ID	Passing Score	Your Score	Start Date	Completion Date	Expiration Date	Gradebook	Completion Record
Basic Course	36111571	100%	100%	03-Apr-2020	03-Apr-2020	03-Apr-2023	View	View-Print-Share

Implementing DHA Procedural Instruction Into Primary Care Clinics Using A Clinical Decision Support Tool for Pain Management

DNP Project Team: Savanna Bowers, BSN, RN, Capt, USAF; Twana Hadden, BSN, RN, Lt Col, USAF; Nathan Stevenson, BSN, RN, Maj, USAF

Senior Mentor: Dr. Heather Johnson

Phase II Site Director: Lt Col John Connors

Keesler Medical Center

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

- Pain management is a current US healthcare priority
 - costly in terms of mortality, morbidity, military readiness, and money/resources
- DHA adopted Stepped-Care Model of Pain Management (SCM-PM) in 2009
 - established DHAPI 6025.04 aligning with SCM-PM
 - defines roles/responsibilities, from strategic to operational/tactical levels
- Keesler stakeholders concerns regarding policy adherence
- This DNP project aims to find a solution to overcome barriers, and to provide a standardized process to improve and sustain adherence

Significance

- 1 in 5 primary care visits are for pain
- Primary care providers prescribe approximately half of all opioids; 40% do not follow recommended protocol pain management
- Stepped-care implementation and provider competence in pain management is a MHS priority
- Policies and directives have had little impact on provider practices
- Failure to use a stepped-care approach in pain management;
 - increases disability
 - increases associated healthcare costs
 - decrease military readiness
- A literature review, concluded that implementing a CDST-related intervention based on the stepped-care model of pain management would be an effective solution for improving provider adherence and documentation compliance to DHA-PI 6025.04 for effective pain management
- Article appraisals: Johns Hopkins Nursing Quality of Evidence-Based Practice tool; each assigned a level of evidence and quality rating (Dang & Dearholt, 2017). Two articles were evidence level IA (multi-center, cluster RCTs), one was level IB (mixed-method RCT), and one was level IIA (quasi-experimental). Lastly, there was one level IIIA (qualitative) and three-level IIIB articles (prospective cohort). The the approach and analysis discussed were relevant to our intervention

(Bair et al., 2015; Barber et al., 2016; Fernandez et al., 2020; Jamison et al., 2016; Khalid et al., 2015; Levy et al., 2015; Quanbeck et al., 2018)

Significance

Databases	Search Terms	Inclusion Criteria	Exclusion Criteria	Total Reviews
- PubMed - CINAHL - Embase	"Decision Support Systems, Clinical" OR "Decision Support Techniques" OR "Electronic Health Records" OR clinical-decision-tool* OR decision-support OR decision-aid* OR downstream-healthcare OR downstream-health-care OR electronic-health-record* OR electronic-medical-record* OR electronic-tool* OR pain-management-guideline* OR plan-do-study-Act OR stepped-care) AND ("Pain Management" OR "Pain/Therapy" OR pain-care[tw] OR pain-manag* OR opioid-prescrib* OR opioid-therapy-guideline* OR opioid-therapy-management OR opioid-management).	- Results limited to the past 10 - English language - - Articles focused on – Stepped Care Model - military – standardization of opioid prescribing – long-term opioid use – chronic pain, primary care – documentation	- Excluded articles that focused on – postoperative pain management – cancer pain – acute pain – surgical pain	- 2312 articles imported from all databases - 960 duplicates were removed - 1352 for title/abstract screened for specific inclusion and exclusion criteria - Initial screening: 39 articles – Full-text review: 22 articles were excluded for wrong intervention, study ongoing, and duplication – Final Review: 17 articles were extracted for our literature review

Significance

Effective pain management is critical for retention and readiness

Addiction rate is lower in AD but high potential for opioid misuse, especially combat vets

Day-to-day operation are vital to defending the nation; misuse is catastrophic

Suggested CDST provides comprehensive approach to pain management and opioid safety

Improving quality of life for DOD beneficiaries

Ensure compliance with DHAPI

Align with the MHS Quadruple Aim

Optimize operations

Build provider confidence in pain management

Prevent outsourcing and unnecessary referrals

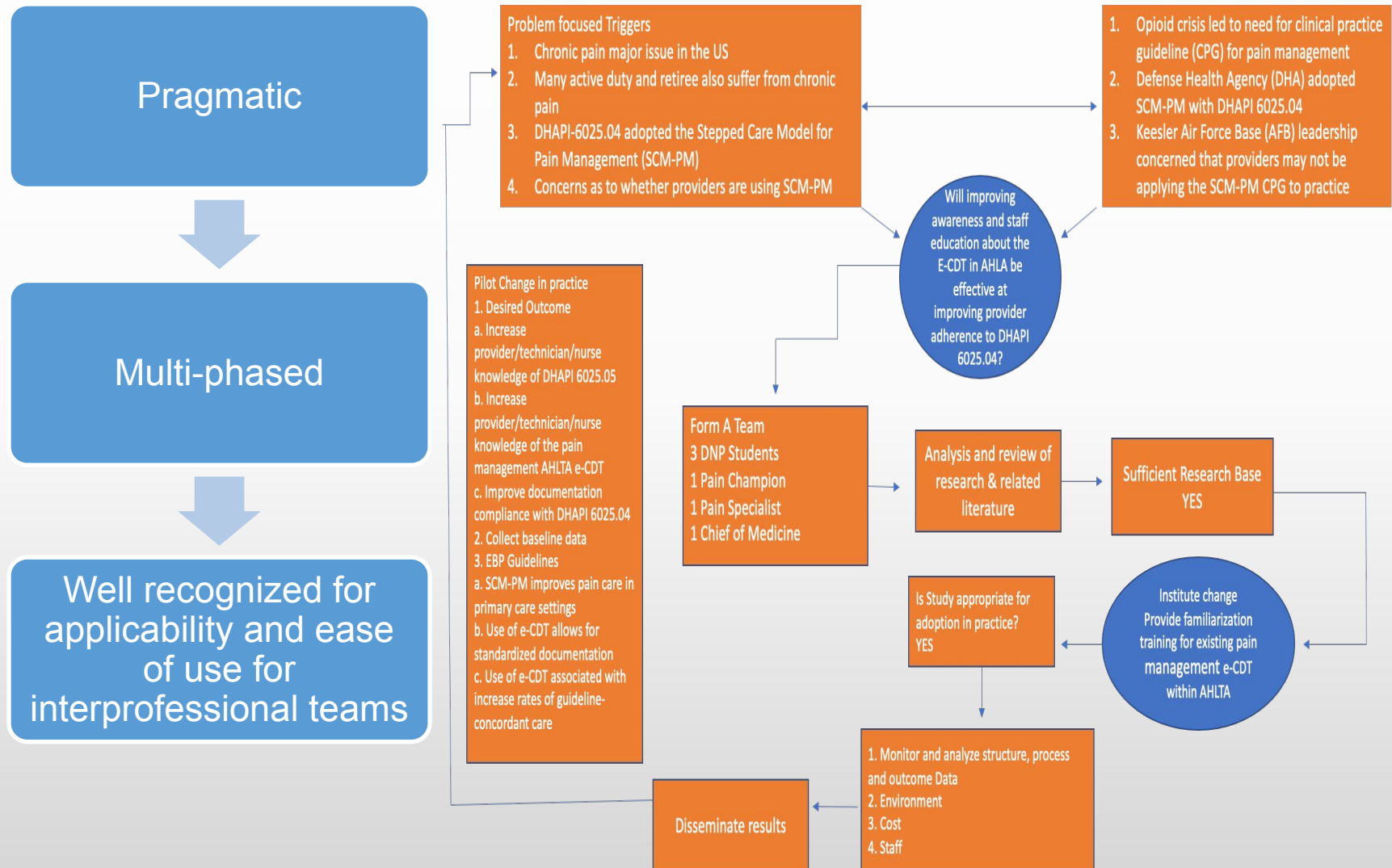
System or Clinical Question

- In the Keesler Primary Care Clinic, will improving awareness and staff education about the current pain management clinical decision tool in AHLTA be effective at improving provider documentation in using the stepped-care care model outlined in DHA-PI 6025.04?

Focus Areas / Arms

- Effectively implement the DHA-PI 6025.04 into primary care at Keesler Medical Center
 - enable providers to provide EBP pain management per the current guidelines
- Introduce the clinical decision support tool
 - promote non-pharmacologic treatment
 - prevent acute pain from becoming chronic
 - minimize use of opioids
 - address local barriers
 - provider/ team education
 - audit and feedback
 - implement plans for local champions
 - sustainment

Translation/Organizing Framework (Iowa Model)



Project Design: General Approach

- Collaborate with KMC Referral Management Office for chart reviews to assess CDST use (AHLTA template)
- Pre-implementation audit; assess if providers are adhering to the current DHAPI 6025.04- evaluate current processes/documentation
- Baseline data
- Develop/deliver template utilization training for providers/nurses
- Obtain feedback for process improvement/ training
- Monitor adherence with chart reviews/ audits post intervention
- Post implementation audit to assess effectiveness of CDST in provider adherence to DHAPI
- Report findings to stakeholders
- Sustainment

Project Design: Setting & Population

Setting:

- 81st MDG at Keesler AFB is a 60 bed inpatient hospital located on the Gulf Coast in Mississippi
- Our setting of focus is the Family Practice Clinic
- 11 providers, 6 nurses, 16 technicians, 4 admin personnel, and 3 Behavioral Health Optimization Program (BHOP) providers

Patient Population:

- 9,000 beneficiaries currently empanelled at the Family Health Clinic
- Lower back pain is the most common chronic pain related chief complaint

Procedural Steps

- Initial Phase
 - Baseline data gathering
 - Pre-intervention
- Implementation Phase
 - Initiate Template/DHAPI Training
 - Periodic reviews/feedback solicitation
 - Data Analysis
- Dissemination
 - Outbrief
 - Finalize prior to graduation

Procedural Steps

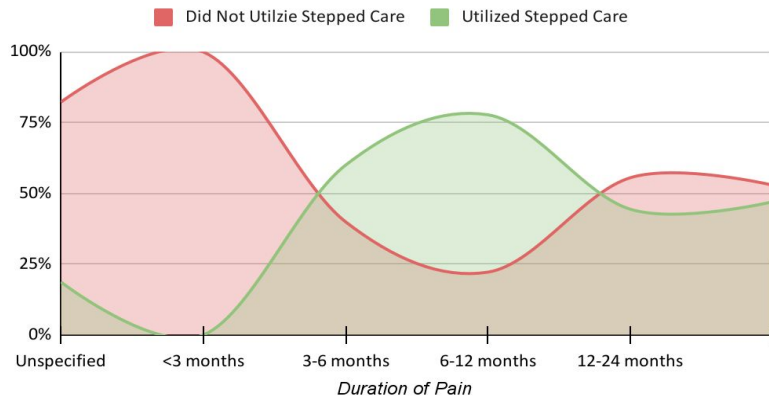
Keesler DNP Project Timeline: Implementing DHAPI 6025.04 Into Primary Care Clinics Using A Clinical Decision Support Tool for Pain Management

Project Year 1 (2020/2021)																
Activity/Month	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
USUHS VPR Submission and Approval				X	X											
Site IRB Submission and Approval						X										
Project Planning -Task 1: Data collection (KMC demographics) -Task 2: BCA -Task 3: Stakeholder engagement meetings -Task 4: Develop chart audit tool based on DHA-PI guidance	X	X	X					X			X			X		
Project Implementation: -Task 1: Collaborate with KMC IT team to find or create AHLTA template -Task 2: Develop CDST template and associated training -Task 3: Deliver training, obtain feedback, improve training based on feedback -Task 4: Project wrap-up				X				X	X	X	X	X	X	X	X	X
Data Analysis: -Task 1: Pre-implementation chart audit (assess current compliance) -Task 2: Periodic chart audits -Task 3: Post-implementation chart audits										X	X	X	X	X	X	X
Dissemination -Task 1: Out brief with executive stakeholders -Task 2: Final preparation for DNP presentation -Task 3: Publication as applicable												X	X	X	X	

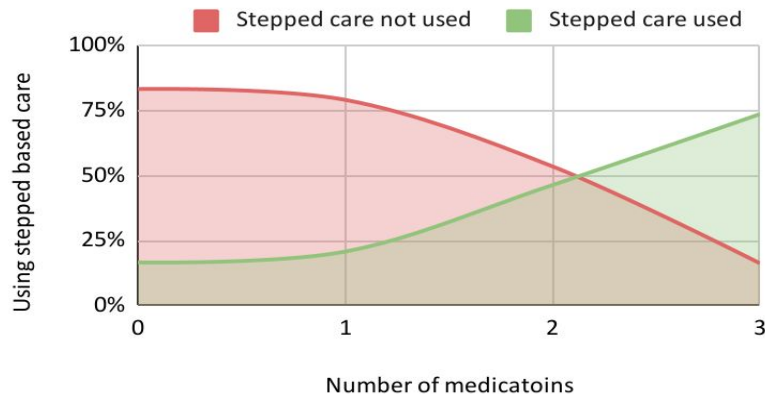
Project Year 2 (2022)													
Activity/Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Data Analysis -Task 1: Pre-implementation chart audit (assess current compliance) -Task 2: Periodic chart audits -Task 3: Post-implementation chart audits	X	X	X	X									
Dissemination -Task 1: Out brief with executive stakeholders -Task 2: Final preparation for DNP presentation -Task 3: Publication as applicable	X	X	X	X	X								

Results

Time Frame of Pain and Frequency of Utilizing Stepped Care



Percent use of stepped care based on number of medications previously used to treat the pain



- 77 clinical encounters met inclusion criteria
- (71 pre education, 6 post education)
- Average monthly referrals decreased from 10 to 3 following training
- Zero encounters used the CDST pre training, 1 encounter utilized the CDST post training
- There was a non significant increase in compliance with stepped care after implementing the CDST
- (25.81% increase; $p = 0.22$)
- Three variables were found to have statistically significance related to stepped care compliance
- 1. Length of time with pain
- 2. Number of medications used to treat pain
- 3. Use of home treatment prior to the encounter
- Non-narcotic treatment was associated with improved compliance with stepped based care approaching significance ($X^2 = 7.037$; $p = 0.0707$)

Analysis

- Due to limitations of our study, which included limited post intervention sample size, we were unable to correlate CDST use with improved stepped-based care.
- Time limitations of a clinical encounter were the most commonly cited barrier to using the CDST which was also found Mathew et al 2021 to be a common barrier
- Data did not show a significant increase in CDST tool use or compliance with the CDST
- A non significant increase in stepped based care followed our training of providers which is consistent with findings by Alford et al., 2016.
- A longitudinal study extending 6-12 months post training would likely have demonstrated significant improvements in stepped based care compliance (Anderson et al., 2016).
- Low back pain made up the majority of new pain management referrals and the majority of these encounters (59.6%) did not follow stepped based care.
- Compliance with stepped based care is associated with encounters for pain lasting 6-12 months and patients who have tried multiple non-narcotic treatment modalities.
- Anderseon et al., 2016 and Edmond et al., 2018 support longer (3-5 year) interventions that consist of frequent education and multidisciplinary teams to effectively implement the Stepped Care Model of Pain Management.
- Our findings suggested the CDST was not user friendly or time efficient. We recommend

Analysis

- Our findings suggested the CDST was not user friendly or time efficient.

Recommendations for best practices:

- Improve the CDST by making it shorter and more user friendly. Mathew et al., 2021 found the providers want resources embedded in the EHR to assist with pain management encounters.
- Continue periodic training of providers about what is required to be documented for stepped care compliance.
 - Anderson et al., 2016 and Alford et al., 2016 found that compliance with best practices increases in the immediate post training period.
 - Periodic training and evaluation of stepped base care should be continued to ensure improvement.

Organizational Impact

- Pain management CDST use didn't improve; organization must continue to search for a viable solution documenting SCM-PM
- Early provider involvement is necessary in development of CDSTs; when they are the end-users
 - 2015 study assessed usability—data obtained from provider participants for the development of final end-product
 - Identify barriers & facilitators early
- Explore other alternative solutions to improve SCM-PM implementation & documentation
 - Existing literature supports SmartPhrase templates & clinical dashboards
- Recognition of education interventions as viable solutions
 - Improve uptake through the emphasis of level of evidence that supports SCM-PM, strength of recommendations, and benefit/harm ratio

Recommendations for Improvement/ Future Direction

- Recommendations
 - Identify problem using the IOWA model framework
 - Include all stakeholders in discussions pertaining to perceive barriers to implementing SCM-PM & utilizing CDST within AHLTA
 - Assign/ identify pain champion to advocate for benefits of CDSTs within the EHR (Anderson et al., 2015)
 - Involve providers in the development or improvement of existing pain management CDST within AHLTA
 - Identify appropriate outcome measures, through new/emerging literature, to establish future quality indicators
- Future Directions
 - Qualitative study examining impact of pain management CDST on patient perception of pain and patient's QOL
 - Replicate project within active duty clinics & examine utilization of SCM-PM
 - Future PI projects that examine other EBP alternatives for improved provider adherence to clinical practice guidelines, i.e. other electronic tools (SmartPhrases, clinical dashboards) or educational-based interventions

Conclusion

- SCM-PM is mandated through DHAPI-6025.04
- e-CDST is an evidence-based intervention utilized to improve provider documentation/adherence to clinical practice guidelines
- Post-implementation data did not show statistically significant uptake of e-CDST
- Post implementation data show an increase in SCM-PM adherence, although no statistical significance was suggested
- Future projects should consider improved design/layout of existing e-CDST or exploring other alternative interventions to improve SCM-PM documentation/adherence

References

- Anderson, D., Zlateva, I., Coman, E., Khatri, K., Tian, T., & Kerns, R. (2016). Improving pain care through implementation of the Stepped Care Model at a multisite community health center. *Journal of Pain Research*, 16(9), 1021–1029. <http://doi.org/10.2147/jpr.s117885>
- Anderson, D., Zlateva, I., Khatri, K., & Ciaburri, N. (2015). Using health information technology to improve adherence to opioid prescribing guidelines in primary care. *The Clinical Journal of Pain*, 31(6), 573–579. <http://doi.org/10.1097/ajp.0000000000000177>
- Bair, M. J., Ang, D., Wu, J., Outcalt, S. D., Sargent, C., Kempf, C., Froman, A., Schmid, A.A., Damush, T.M., Yu, Z., Davis, L.W., & Kroenke, K. (2015). Evaluation of stepped care for chronic pain (ESCAPE) in veterans of the Iraq and Afghanistan conflicts. *JAMA Internal Medicine*, 175(5), 682. <http://doi.org/10.1001/jamainternmed.2015.97>
- Barber, C., Gagnon, D., Fonda, J., Cho, K., Hermos, J., & Miller, M. (2016). Assessing the impact of prescribing directives on opioid prescribing practices among Veterans Health Administration providers. *Pharmacoepidemiology and Drug Safety*, 26(1), 40–46. <http://doi.org/10.1002/pds.4066>
- Buckwalter, K. C., Cullen, L., Hanrahan, K., Kleiber, C., McCarthy, A. M., Rakel, B., Steelman, V., Tripp-Reimer, T., & Tucker, S. (2017). Iowa model of evidence-based practice: Revisions and validation. *Worldviews on Evidence-Based Nursing*, 14(3), 175–182. <https://doi.org/10.1111/wvn.12223>
- Dang, D & Dearholt, S. L. (2018). *John Hopkins nursing evidence-based practice third edition: Models and guidelines*. Sigma Theta Tau International.
- Defense Health Agency. (2018a). *Defense health agency 2018 stakeholder report*. Retrieved from <https://www.health.mil/Reference-Center/Reports>
- Defense Health Agency. (2018b). *Procedural instruction: Pain management and opioid safety in the military health system* (6025.04). Retrieved from <https://health.mil/About-MHS/QASDHA/Defense-Health-Agency/Resources-and-Management/DHA-Publications>
- Dembek, Z.F., & Chekol, T. (2020). The opioid epidemic: Challenge to military medicine and national security. *Military Medicine*, 185(5-6), e662-e667. <http://doi.org/10.1093/milmed/usz487>
- Edlund, M. J., Martin, B. C., Russo, J. E., Devries, A., Braden, J. B., & Sullivan, M. D. (2014). The role of opioid prescription in incident opioid abuse and dependence among individuals with chronic non-cancer pain. *The Clinical Journal of Pain*, 30(7), 557-564. <http://doi.org/10.1097/ajp.0000000000000021>
- Edmond, S. N., Moore, B.A., Dorflinger, L. M., Goulet, J. J., Becker, W. C., Heapy, A. A., Sellinger, J. J., Lee, A.W., Levin, F.L., Ruser, C.B., & Kerns, R. D. (2018). Project STEP: implementing the veterans health administration's stepped care model of pain management. *Pain Medicine*, 19, S30- S37. <http://doi.org/10.1093/pm/pny094>
- Executive Office of the President. (2017) Combating the national drug demand and opioid crisis (Memorandum 82 FR 50305). Federal Register 82(209). <https://www.federalregister.gov/d/2017-23787>
- Feldstein, D. A., Hess, R., McGinn, T., Mishuris, R. G., McCullagh, L., Smith, P. D., Flynn, M., Palmisano, J., Doros, G., & Mann, D. (2017). Design and implementation of electronic health record integrated clinical prediction rules (iCPR): a randomized trial in diverse primary care settings. *Implementation Science*, 12(1). <http://doi.org/10.1186/s13012-017-0567-y>

References continued

- Fernandez, E., Kimmell, L., & Obia, G. (2020). *Analysis of barriers to implementation of the Defense Health Agency procedural instruction (DHA-PI) on pain management and opioid safety in the military health systems* (Unpublished DNP project). Uniformed Services University of Health Sciences, Bethesda.
- Finley, E. P., Schneegans, S., Tami, C., Pugh, M. J., McGeary, D., Penney, L., & Potter, J. S. (2017). Implementing prescription drug monitoring and other clinical decision support for opioid risk mitigation in a military health care setting: A qualitative feasibility study. *Journal of the American Medical Informatics Association*, 25(5), 515-522. <http://doi.org/10.1093/jamia/ocx075>
- George, J. (2020, December 17). *CDC issues advisory as drug overdose death spikes*. Medpage Today. <https://www.medpagetoday.com/publichealthpolicy/opioids/90304>
- Gironda, R. J., Clark, M. E., Massengale, J. P., & Walker, R. L. (2006). Pain among veterans of operations Enduring Freedom and Iraqi Freedom. *Pain Medicine*, 7(4), 339-343. <http://doi.org/10.1111/j.1526-4637.2006.00146.x>
- Jamison, R.N., Scanlan, E., Matthews, M. L., Jurcik, D. C., & Ross, E. L. (2016). Attitudes of primary care practitioners in managing chronic pain patients prescribed opioids for pain: A prospective longitudinal controlled trial. *Pain Medicine*, 17(1), 99-113. <http://doi.org/10.1111/pme.12871>
- Jamison, R. N., Sheehan, K. A., Scanlan, E., Matthews, M., & Ross, E. L. (2014). Beliefs and attitudes about opioid prescribing and chronic pain management: Survey of primary care providers. *Journal of Opioid Management*, 10(6), 375. <http://doi.org/10.5055/jom.2014.0234>
- Katzman, J. G., Qualls, C. R., Satterfield, W. A., Kistin, M., Hofmann, K., Greenberg, N., Swift, R., Comerchi, G.D., Fowler, R., & Arora, S. (2018). Army and Navy ECHO pain telementoring improves clinician opioid prescribing for military patients: an observational cohort study. *Journal of General Internal Medicine*, 34(3), 387-395. <http://doi.org/10.1136/bmjopen-2017-019087>
- Keesler Air Force Base (2015, July 6). 81st MDG fact sheet. Retrieved October 23, 2020, from <https://www.keesler.af.mil/About-Us/Fact-Sheets/Display/Article/607108/81st-mdg-fact-sheet/>
- Kessler, M. E., Carter, R. E., Cook, D. A., Kor, D. J., Mckie, P. M., Pencille, L. J., Scheitel, M.R., & Chaudhry, R. (2017). Impact of electronic clinical decision support on adherence to guideline-recommended treatment for hyperlipidaemia, atrial fibrillation and heart failure: protocol for a cluster randomised trial. *BMJ Open*, 7(12). <http://doi.org/10.1136/bmjopen-2017-019087>
- Khalid, L., Liebschutz, J. M., Xuan, Z., Dossabhoy, S., Kim, Y., Crooks, D., Shanahan, C., Lange, A., Heymann, O., & Lasser, K. E. (2015). Adherence to prescription opioid monitoring guidelines among residents and attending physicians in the primary care setting. *Pain Medicine*, 16(3), 480-487. <https://doi.org/10.1111/pme.12602>
- Larson, M. J., Adams, R. S., Ritter, G. A., Linton, A., Williams, T. V., Saadoun, M., & Bauer, M. R. (2018). Associations of early treatments for low-back pain with military readiness outcomes. *The Journal of Alternative and Complementary Medicine*, 24(7), 666-676. <http://doi.org/10.1089/acm.2017.0290>
- Levy, B., Paulozzi, L., Mack, K. A., & Jones, C. M. (2015). Trends in opioid analgesic-prescribing rates by specialty, U.S., 2007-2012. *American Journal of Preventive Medicine*, 49(3), 409-413. <http://doi.org/10.1016/j.amepre.2015.02.020>

References continued

- Liebschutz, J.M., Xuan, Z., Shanahan, C.W., LaRochelle, M., Keosaian, J., Beers, D., Guara, G., O'Connor, K., Alford, D. P., Parker, V., Weiss, R.D., Samet, J.H., Crosson, J., Cushman, P. A., & Lasser, K.E. (2017). Improving adherence to long-term opioid therapy guidelines to reduce opioid misuse in primary care: a cluster-randomized clinical trial. *JAMA Internal Medicine* 177 (9), 1265-1272. <http://doi.org/10.1001/jamainternmed.2017.2468>
- Military Health Systems Communications Office (MHSC). (2020). Opioid tool on MHS Genesis improves patient safety. <https://health.mil/News/Articles/2020/09/01/Opioid-tool-on-MHS-GENESIS-improves-patient-safety>
- Nusrat, M., Parkes, A., Kieser, R., Hu, B., Farhat, D., Rieber, A., & Ma, H. (2019). Standardizing opioid prescribing practices for cancer-related pain via a novel interactive documentation template at a public hospital. *Journal of Oncology Practice*, 15(11). <http://doi.org/10.1200/jop.18.00789>
- Parchman, M. L., Penfold, R. B., Ike, B., Tauben, D., Von Korff, M., Stephens, M., Stephen, K.A., & Baldwin, L. (2019). Team-based clinic redesign of opioid medication management in primary care: Effect on opioid prescribing. *The Annals of Family Medicine*, 17(4), 319-325. <http://doi.org/10.1370/afm.2390>
- Price-Haywood, E. G., Burton, J., Burstain, T., Harden-Barrios, J., Lefante, J., Shi, L., Jamion, R.N., Bazzano, A., & Bazzano, L. (2020). Clinical effectiveness of decision support for prescribing opioids for chronic noncancer pain: A prospective cohort study. *Value in Health*, 23(2), 157-163. <http://doi.org/10.1016/j.jval.2019.09.2748>
- Pujol, L., Sussman, L., Clapp, J., Nilson, R., Gill, H., Boge, J., Keizer, B., Salas, M., & Goff, B. (2015). Functional restoration for chronic pain patients in the military: Early results of the San Antonio Military Medical Center functional restoration program. *The United States Army Medical Department Journal*, 1-7. <https://pubmed.ncbi.nlm.nih.gov/26606402/>
- Quanbeck, A., Brown, R. T., Zgierska, A. E., Jacobson, N., Robinson, J. M., Johnson, R. A., Deyo, B.M., Madden, L., Tuan, W-J., & Alagoz, E. (2018). A randomized matched-pairs study of feasibility, acceptability, and effectiveness of systems consultation: A novel implementation strategy for adopting clinical guidelines for opioid prescribing in primary care. *Implementation Science*, 13(21). <http://doi.org/10.1186/s13012-018-0713-1>
- Rhon, D. I., Greenlee, T. A., & Fritz, J. M. (2019). The influence of a guideline-concordant stepped care approach on downstream health care utilization in patients with spine and shoulder pain. *Pain Med*, 20(3), 476-485. <https://doi.org/10.1093/pm/pny212>
- Rhon, D. I., Snodgrass, S. J., Cleland, J. A., Greenlee, T. A., Sissel, C. D., & Cook, C. E. (2018). Comparison of downstream health care utilization, costs, and long-term opioid use: Physical therapist management versus opioid therapy management after arthroscopic hip surgery. *Physical Therapy*, 98(5), 348-356. <https://doi.org/10.1093/ptj/pzy019>
- Wilkie, R. (2018, October 26). Fighting pain and addiction for veterans. Retrieved from <https://www.whitehouse.gov/articles/fighting-pain-addiction-veterans/>

References continued

Sherry, T. B., Roth, C. P., Bhandarkar, M., & Hepner, K. A. (2021). *Chronic pain among service members: Using administrative data to strengthen research and quality improvement*. RAND Corporation.

https://www.rand.org/content/dam/rand/pubs/research_reports/RRA1100/RRA1160-1/RAND_RRA1160-1.pdf

Office of the Army Surgeon General. (2010). *Pain Management Task Force: Final Report*. Falls Church, VA:.

United States Congress. (2009). *National Defense Authorization Act for Fiscal Year 2010: Subtitle B-Health Care Administration* (10 USC 1071). Washington, DC: U.S. Government Printing Office.

Vallerand, A. H., Cosler, P., Henningfield, J. E., & Galassini, P. (2015). Pain management strategies and lessons from the military: A narrative review. *Pain Research and Management*, 20(5), 261–268.

<http://doi.org/10.1155/2015/196025>

Wilkie, R. (2018, October 26). Fighting pain and addiction for veterans. Retrieved from <https://www.whitehouse.gov/articles/fighting-pain-addiction-veterans/>

Thank You!

Who would you like
to thank?

Implementing DHA Pain Management Procedural Instruction into Primary Care Clinics Using a Clinical Decision Support Tool for Pain Management

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"The views expressed in this poster are those of the authors and do not necessarily reflect the official policy or position of the Uniformed Services University of the Health Sciences, the Department of Defense, or the United States government."

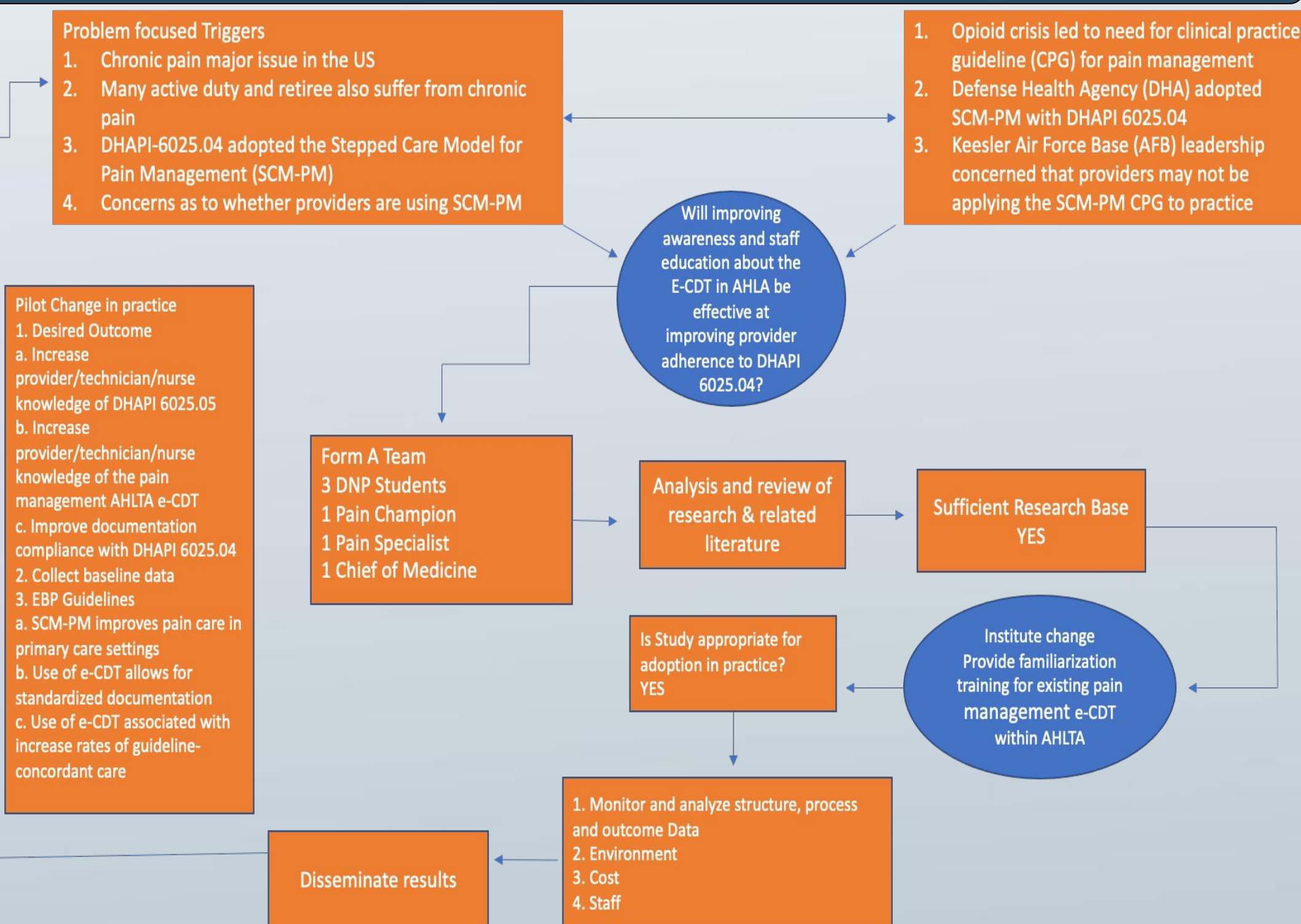
Purpose

The aim of this process improvement (PI) project was to assist the 81st Medical Group (MDG) with identifying a solution to address documentation compliance with DHAPI 6025.04. ¹ The proposed solution was educating staff on the pain management CDST embedded in AHLTA to improve provider compliance with SCM-PM outlined in DHA-PI 6025.04.

Significance of the Problem

- In primary care pain is a common disability & accounts for 20% of visits ²
- Rising rates of pain & opioid prescribing coincide with morbidity & mortality
- Active duty service members (ADSMs) & Veterans have lower opioid addiction rates but higher potential for misuse than civilian populations ³
- Opioid treatment is associated with significant duty limitations when compared with non-opioid treatment modalities ³
- DoD/VA/DHA adopted Stepped-Care Model for Pain Management (SCM-PM)
 - assist healthcare providers in providing best evidence based care
- Key stakeholders express concern as to whether Keesler Medical Facility's (KMC) providers are following SCM-PM
 - lack of documentation of SCM-PM within the electronic health record

Organizing Framework (Iowa Model) ⁴



References

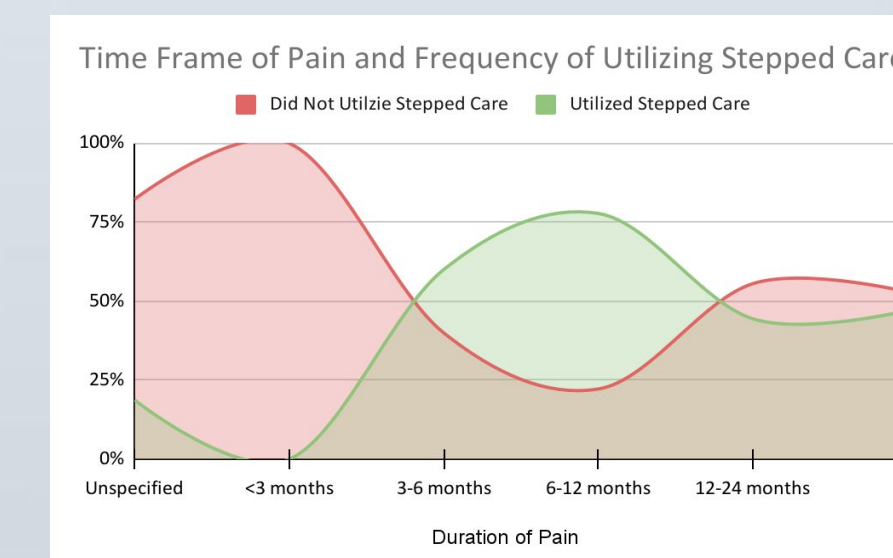
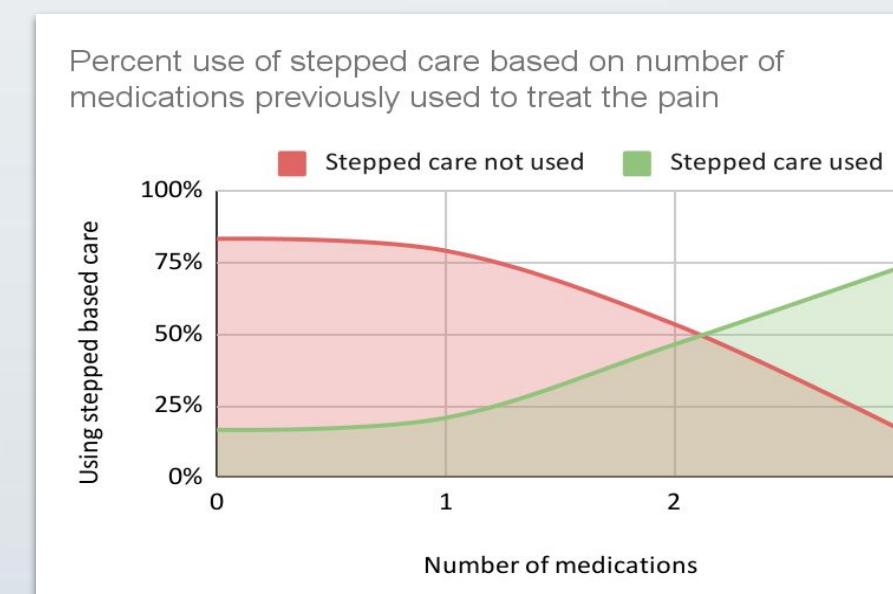
- ¹ Defense Health Agency. (2018b). *Procedural instruction: Pain management and opioid safety in the military health system* (6025.04). Retrieved from <https://health.mil/About-MHS/OASDHA/Defense-Health-Agency/Resources-and-Management/DHA-Publications>
- ² Anderson, D., Zlateva, I., Khatri, K., & Ciaburri, N. (2015). Using health information technology to improve adherence to opioid prescribing guidelines in primary care. *The Clinical Journal of Pain*, 31(6), 573-579. <http://doi.org/10.1097/ajp.0000000000000177>
- ³ Barber, C., Gagnon, D., Fonda, J., Cho, K., Hermos, J., & Miller, M. (2016). Assessing the impact of prescribing directives on opioid prescribing practices among Veterans Health Administration providers. *Pharmacoepidemiology and Drug Safety*, 26(1), 40-46. <http://doi.org/10.1002/pds.4066>
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- ⁵ Nair, K., Raheleh, M., Schabert, I., Taenzer, P., Radhakrishnan, A., Guenter, D. (2015). A clinical decision support system for chronic pain management in primary care: Usability testing and its relevance. *Journal of Innovation in Health Informatics*, 22(3), 329-332. <http://doi.org/10.14236/jhi.v22i3.149>
- ⁶ Mathew, A., McQuinn, H., Flynn, D. M., Ransom, J. C., & Doorenbos, A. Z. (2021). Tools, time, training, and team—Military primary care providers' perspectives on improving chronic pain assessment
- ⁷ Alford, D. P., Zisblatt, L., Ng, P., Hayes, S. M., Pelouquin, S., Hardesty, I., & White, J. L. (2015). SCOPE of pain: An evaluation of an opioid risk evaluation and mitigation strategy continuing education program. *Pain Medicine*, 17, 52-63. <https://doi.org/10.1111/pme.12878>

Project Design

- Pre-implementation audit
 - assessed provider utilization of CDST
 - established baseline provider compliance with DHA-PI 6025.04
 - SCM-PM
- Develop CDST/SCM-PM training for providers, technicians, & nurses
- Continually obtain feedback for process improvement
- Monitor adherence to CDST/ SCM-PM with chart reviews/audits
- Post implementation audit
 - assessed effectiveness of CDST in provider adherence to DHA-PI 6025.04 to include SCM-PM
- Reported findings to stakeholders
- Sustainment

Project Results

- 77 clinical encounters met inclusion criteria
 - 71 pre-intervention
 - 6 post-intervention
- Average monthly referrals decreased from 10 to 3 following training
 - no use of CDST pre-intervention
 - 1 encounter utilized the CDST post-intervention
- No statistically significant increase in SCM-PM compliance after implementing CDST (25.81% increase; $p = 0.22$)
- Three variables reached statistical significance related to SCM-PM compliance
 - length of time with pain
 - number of medications used to treat pain
 - use of home treatment prior encounter
- Non-narcotic treatment was associated with SCM-PM compliance ($X^2 = 7.037$; $p = 0.0707$)



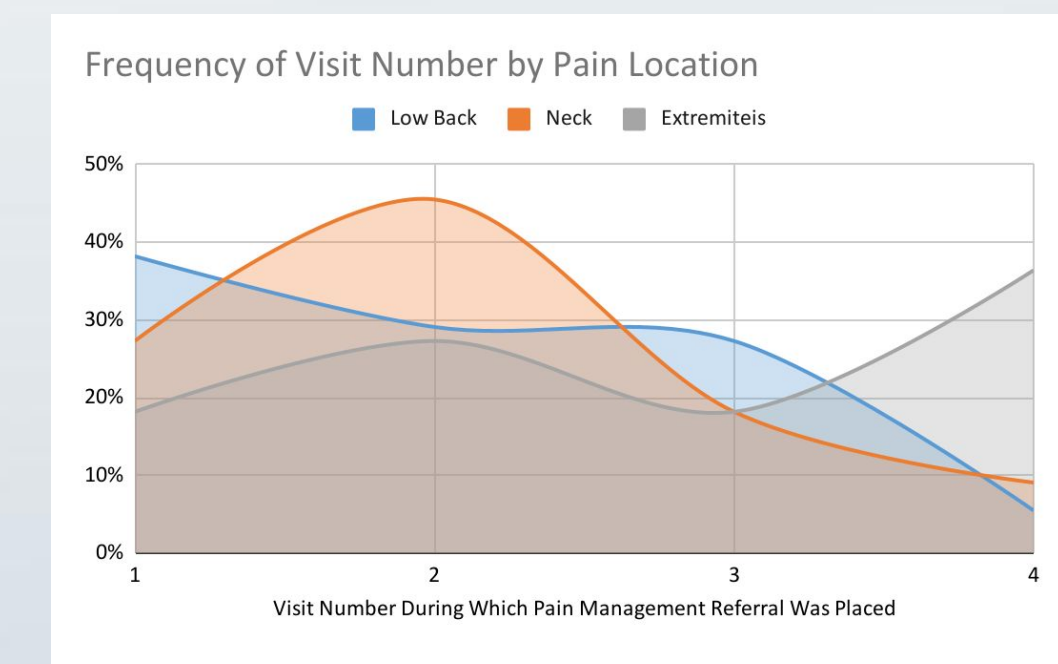
Organizational Impact

- CDST didn't improve compliance with DHAPI/ SCM-PM
 - 81 MDG should continue search for viable solutions
 - early provider / end user involvement is necessary when developing CDSTs
 - end users provide valuable input on usability/ development of final end product ⁵
- Explore other alternative solutions supported in the literature to improve SCM-PM implementation & documentation
 - SmartPhrase templates
 - clinical dashboards
- Recognition of education interventions as viable solutions
 - improve uptake by emphasising the evidence supporting SCM-PM, strength of recommendations, and benefit to harm ratio

"The authors would like to acknowledge our DNP Project Mentors: Dr. Heather Johnson (Senior Mentor), Dr Laura Taylor, and Dr. John Connors, Lt Col, USAF, NC, for their support, guidance, and assistance. Their time, effort, and dedication to this project is appreciated more than words can express."

Analysis of the Results

- Due to limited-post intervention sample size; unable to correlate CDST use with improved stepped-based care
- Most common barrier to use of CDST was time; (15- 20 minutes clinical encounters) which was also supported in research ⁶
- Data did not show a statistically significant increase in CDST utilization or in compliance with the SCM-PM
- Consistent with previous evidence there was a non-significant increase in documentation of the SCM-PM post-intervention among providers ⁶
 - a longitudinal study extending 6-12 months post-intervention likely would have demonstrated significant improvements in SCM-PM compliance ²
- Low back pain was the most common diagnosis for new pain management referrals & the majority of these encounters (59.6%) did not follow SCM-PM
- Stepped-based care was use most frequently in patients who had pain for 6-12 months and tried multiple non-narcotic treatment modalities



Recommendations for Improvement/ Future Direction

- Identify problem
 - utilize IOWA model framework
 - identify barriers & facilitators early
- Include all stakeholders
 - discuss perceive barriers to implementing SCM-PM & utilizing CDST within AHLTA
 - involve providers/end-users in development or improvement of pain management CDST
- Assign/ identify pain champion
 - advocate for CDSTs within the EHR ³
- Identify appropriate outcome measures in the literature
 - new/emerging supported tools
 - establish future quality indicators
- Qualitative study examining impact of pain management CDST on patient perception of pain and patient's quality of life
- Replicate project within active duty clinics & examine utilization of SCM-PM
- Future PI projects
 - other EBP alternatives for improved provider adherence to clinical practice guidelines
 - electronic tools (SmartPhrases)
 - educational-based solutions