



UNDER SECRETARY OF DEFENSE  
4000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-4000

The Honorable John McCain  
Chairman  
Committee on Armed Services  
United States Senate  
Washington, DC 20510

NOV 12 2015

Dear Mr. Chairman:

The enclosed report covering Fiscal Year (FY) 2015 is submitted in response to section 711 of the National Defense Authorization Act for FY 2010 (Public Law 111-84), which requires the Department of Defense (DoD) to develop and implement a comprehensive policy on pain management by the Military Health System (MHS) and provide a report to the Armed Services Committees annually. Key elements include a description of the policy, performance measures, adequacy and effectiveness of pain management services, ongoing pain research, provider training, and patient education.

For FY 2015, the MHS has continued the sustained improvement of pain management policy, clinical care, education, and Tri-Service coordination. Through the Department of Veterans Affairs (VA) and DoD Health Executive Council Pain Management Work Group, the MHS continues to improve synchronization of pain management clinical practice and education with the VA. Recent activities include continued education of patients and providers in primary care, improved utilization of clinical practice guidelines, implementation of the Stepped Care Model for Pain Management, validation of a pain assessment tool, use of the Pain Assessment Screening Tool and Outcome Registry, and DoD/VA joint education and training. Additionally, MHS representatives participated in the development of the National Institutes of Health National Pain Strategy.

Thank you for your interest in the health and well-being of our Service members, veterans, and their families. A similar letter is being sent to the Chairman of the Committee on Armed Services of the House of Representatives.

Sincerely,



Brad Carson  
Acting

Enclosure:  
As stated

cc:  
The Honorable Jack Reed  
Ranking Member



PERSONNEL AND  
READINESS

UNDER SECRETARY OF DEFENSE  
4000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-4000

The Honorable William M. "Mac" Thornberry  
Chairman  
Committee on Armed Services  
U.S. House of Representatives  
Washington, DC 20515

NOV 12 2015

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Brad Carson  
Acting

Enclosure:  
As stated

cc:  
The Honorable Adam Smith  
Ranking Member

# **Report to the Committees on Armed Services of the Senate and the House of Representatives**



## **The Implementation of a Comprehensive Policy on Pain Management by the Military Health Care System for Fiscal Year 2015**

**Required by: National Defense Authorization Act for Fiscal Year  
2010, Section 711**

**Office of the Secretary of Defense  
September 2015**

The estimated cost of this report or study for the Department of Defense is approximately \$14,000 for the 2015 Fiscal Year. This includes \$0 in expenses and \$14,000 in DoD labor.  
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# Contents

<b>EXECUTIVE SUMMARY</b> .....	2
<b>INTRODUCTION</b> .....	4
<b>BACKGROUND</b> .....	4
<b>FISCAL YEAR (FY) 2015 UPDATE</b> .....	6
1. Required Report Elements .....	6
2. Policy and Revisions.....	6
Pain Assessment .....	7
Defense and Veterans Pain Rating Scale (DVPRS).....	7
Pain Assessment Screening Tool and Outcomes Registry (PASTOR).....	7
Pain Treatment and Management .....	9
Patient Centered Medical Home.....	9
Clinical Practice Guidelines (CPGs).....	9
Alternate Input Method Forms .....	11
Specialty Care Referral .....	11
Education and Training .....	12
Pain Research.....	12
3. Effectiveness of Pain Management Services .....	12
Performance Measures .....	12
Opioid Therapy for Chronic Pain CPG .....	13
Low Back Pain .....	14
4. Adequacy of Pain Management Services .....	14
5. Pain Research.....	15
6. Training and Education of Healthcare Personnel .....	17
Joint Pain Education Project.....	17
Acupuncture Training Across Clinical Settings.....	17
Annual Skills Training .....	18
7. Patient Education and Information Dissemination .....	19
<b>REFERENCES</b> .....	21
<b>APPENDICES</b> .....	22
Appendix A: Works Cited .....	22
Appendix B: List of Acronyms.....	27

## EXECUTIVE SUMMARY

This is the annual report required until October 2018, by section 711 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2010 (Public Law 111-84). The NDAA requires the Secretary of Defense to submit an annual assessment of Military Health System (MHS) pain management to the Congressional Armed Services Committees. Key elements include a description of the current pain management policy and revisions made; an assessment of the adequacy and effectiveness of pain management services; an assessment of research completed or underway; training delivered to Department of Defense (DoD) health care personnel; education provided to beneficiaries; and the dissemination of information on pain management to our beneficiaries.

During FY 2015, the MHS continued the sustained improvement of pain management policy, clinical care, education, and Tri-Service coordination, such as, integration of the Defense and Veterans Pain Rating Scale (DVPRS) into clinical practice in pain specialty clinics across MHS. Through Department of Veterans Affairs (VA) and DoD Health Executive Committee (HEC) Pain Management Work Group (PMWG), the MHS continues to improve synchronization of pain management clinical practice and education with the VA. Consistent with these efforts, the DoD and VA collaborated on two pain-related Joint Incentive Fund (JIF) projects to develop a joint pain management education curriculum for primary care providers and a common education package for training basic acupuncture. Additional actions by the MHS included:

- Focusing the efforts for pain management improvements and initiatives on meeting the clinical and educational needs of primary care providers and patients as the MHS continues roll-out of the Patient Centered Medical Home (PCMH) model;
- Service-specific implementation of the stepped care model for pain management to ensure the appropriate level of pain care is available and delivered to patients throughout the continuum of acute and chronic pain;
- Continued improvement of the use and review of existing pain-related Clinical Practice Guidelines (CPG) for Low Back Pain (LBP), Opioid Therapy for Chronic Pain, and Post-Operative Pain, as well as continuing to identify requirements for new CPGs by using resources available through the HEC Work Groups;
- Improvement of the implementation of CPGs across DoD treatment facilities to improve transitions of care between DoD and VA health care systems using cross-organization collaborative efforts to integrate CPGs into provider education across DoD and VA;
- Continued validation of an improved pain assessment tool, the DVPRS, while also promoting the DVPRS as the standard pain rating scale across military medicine;

- Continued development and deployment of the Pain Assessment Screening Tool and Outcome Registry (PASTOR) to integrate the National Institutes of Health (NIH) Patient Reported Outcomes Measurement Information System (PROMIS) into a pain registry and clinical decision making tool for providers;
- Ongoing assessment of patient satisfaction on pain management; and,
- The coordination by the Defense and Veterans Center for Integrative Pain Management (DVCIPM) for the execution of two DoD/VA JIF projects:
  - The Joint Pain Education Project is developing a standardized DoD and VA pain management curriculum for widespread use in education and training programs to improve the pain management competencies of the combined federal clinical workforce.
  - The Acupuncture Training Across Clinical Settings Program (ATACS) was initiated to develop, pilot, evaluate, and implement a uniform tiered acupuncture education and training program in order to expand its use across DoD and VA treatment facilities.

As a result of numerous accomplishments during this reporting period, MHS beneficiaries continue to receive timely and appropriate pain management. Additional progress continues through research, provider and beneficiary education, exploration of new modalities to ensure efficacious pain assessment, and management to all patients.

## INTRODUCTION

More than 116 million Americans suffer from chronic pain with the annual cost of chronic pain in the United States estimated at \$560 billion, including health care expenses, lost income, and lost productivity (Institute of Medicine [IOM], 2011). Pain is a uniquely individual, subjective experience and, because of this, must be treated using multidisciplinary, biopsychosocial approaches. Chronic pain is both physically and emotionally debilitating, and patients with chronic pain are five times more likely to utilize health care services than those without chronic pain. These patients experience significant impairments in their quality of life, to include their physical, social, and psychological well-being. It has been estimated that over 50 percent of chronic pain patients also suffer from coexisting symptoms of depression or anxiety that also affect utilization of healthcare services.

## BACKGROUND

Based on results of the August 2009 Army Pain Management Task Force (PMTF), the DoD developed a comprehensive pain management policy to improve pain management care and services within DoD. While the Army PMTF was predominately composed of Army personnel, representatives from Navy, Air Force, TRICARE Management Activity, and the VA were also included. The recommendations were presented to the VA/DoD Joint Executive Committee, which in turn, chartered a work group, the VA/DoD HEC PMWG, to actively collaborate on a standardized VA/DoD approach to pain management that would improve the quality and effectiveness of care to beneficiaries of VA and MHS. The VA/DoD HEC PMWG continues work initiated by the PMTF and makes recommendations that specifically address the concerns of Congress expressed in the NDAA for FY 2010 as well as some of the key PMTF recommendations. The MHS has been involved in a multi-year initiative to implement the recommendations contained in the PMTF report, revolving around the following lines of effort:

- Synchronize a culture of pain awareness, education, and proactive intervention among patients, medical staff, and leaders;
- Provide tools and infrastructure that support and encourage clinical practice and research advancements in pain management; and,
- Build a full spectrum of best practices for the continuum of acute and chronic pain, based on a foundation of best available evidence.

The PMTF also recommended that the MHS establish a coordinating organization for pain management. In April 2013, DVCIPM was designated as the Department's pain management advisory and coordinating organization. The DVCIPM falls under Uniformed Services University of the Health Sciences (USUHS) and provides the MHS with a consistent focus on pain management, knowledge of current and historical pain initiatives, and a strong collaboration with the Services, the Defense Health Agency (DHA), VA, and civilian pain leaders. For example, the DVCIPM collaborates with

academic institutions such as Duke University, Johns Hopkins University, Northwestern University, Stanford University, and University of Washington. This collaboration facilitates the exchange of ideas, information, and sharing of resources to accomplish otherwise prohibitively expensive and administratively complex research projects. The best example of this cross-Service, cross-federal medicine, and MHS-civilian academic medicine collaboration facilitated by DVCIPM is the PASTOR initiative. The time and funding required for PASTOR development and initial implementation were minimized due to collaboration between the Services and DHA, NIH, and Northwestern University. Section two below describes in more detail the DoD's considerable progress with PASTOR. This collaborative relationship also promotes integration of clinical practice and research lines of effort, and minimizes opportunities for redundancy in funding requests.

In 2011, the IOM released, "Relieving Pain in America," which acknowledged and referenced the work of the PMTF. More importantly, the findings and recommendations in the IOM report largely paralleled those contained in the PMTF report, including:

- Foster a cultural transformation of pain management by adopting a population-level prevention and management strategy;
- Develop better data to shape pain management efforts;
- Address gaps in pain education of medical providers; and,
- Improve translation of effective treatments from research into practice.

After release of the IOM report, the NIH requested that the MHS and DVCIPM provide representation on the NIH Interagency Pain Research Coordinating Committee, a federal advisory committee created by Department of Health and Human Services to enhance pain research efforts, promote collaboration across the government and, most importantly, to develop the National Pain Strategy. The National Pain Strategy is due to be released in the Fall of 2015.

The VA/DoD HEC PMWG was chartered in September 2013 and is co-chaired by the DVCIPM Program Director. The work group continues to integrate pain management clinical practice, research, and education. In addition, the MHS also chartered the MHS PMWG in April 2014, with the goal of developing and maintaining an MHS enterprise pain management strategy. Both work group activities are coordinated through the DVCIPM to standardize collaborative chronic pain management initiatives across the MHS.

## **FY 2015 UPDATE**

### **1. Required Report Elements**

As presented in section 711 of the NDAA for FY 2010 (P.L. 111-84), this report is the FY 2015 update to the FY 2014 report on the implementation of DoD's comprehensive pain management policy. Per section 711, each report shall include the following:

- A description of the policy implemented and any revisions made to the policy;
- A description of the performance measures used to determine the effectiveness of the policy in improving pain care for beneficiaries enrolled in the military health care system;
- An assessment of the adequacy of Department pain management services based on a current survey of patients managed in Department clinics;
- An assessment of the research projects of the Department relevant to the treatment of the types of acute and chronic pain suffered by members of the Armed Forces and their families;
- An assessment of the training provided to Department health care personnel with respect to the diagnosis, treatment, and management of acute and chronic pain;
- An assessment of the pain care education programs of the Department; and,
- An assessment of the dissemination of information on pain management to beneficiaries enrolled in the military health care system.

### **2. Policies and Revisions**

The Policy for Comprehensive Pain Management (Health Affairs Policy 11-003) signed on March 30, 2011, continues to guide pain management efforts, and did not require updating during this reporting period. This policy outlines the requirements for continued appropriate assessment, treatment, and management of pain at every medical encounter in patients seeking care at military treatment facilities (MTF) and pain research. The following is a description of the policy and actions implemented during the reporting period across the key policy components of (1) pain assessment, (2) pain treatment and management, and (3) pain research. The policy strives to reinforce that pain is not only a symptom of disease, but is often, in fact, a disease process in itself. As is the case for all large population based disease processes, the approach taken towards treatment needs to be evidence-based and utilize best practices.

Department of Defense Instruction (DoDI) 6025.13, "Medical Quality Assurance (MQA) and Clinical Quality Management in the Military Health System," addresses MTF

accreditation, and the requirement that all MTFs be accredited by either The Joint Commission (TJC) or other accrediting body. By virtue of their accreditation, all MTFs have demonstrated successful adherence to TJC pain management standards. While meeting TJC pain management standards is a significant accomplishment, the MHS has continued efforts to improve its pain assessment tools and capabilities to be the industry leader in pain management.

### **Pain Assessment**

#### Defense and Veterans Pain Rating Scale

Although neither current DoDIs nor accreditation body standards specify which tool should be used to assess pain, the PMTF highly recommends that the MHS integrate a revised pain assessment tool that would provide additional insight into the impact of pain, beyond information provided with the standard 11 point, 0-10 Visual Analog Scale. Current assessments fail to measure impact of pain on critical indicators such as sleep, activity, mood, and stress. They tend to focus the patient-provider goal of a pain level of zero out of ten on the pain scale, with little discussion on maximizing function. The DoD and VA jointly developed and validated the DVPRS. The DVPRS has been integrated into clinical practice in pain specialty clinics across the MHS. Additional validation studies of the DVPRS were published in 2015 and are annotated in the research section of this report.

Notable integration of the DVPRS within the MHS is demonstrated in the Army Medical Command (MEDCOM) PCMH. In accordance with Annex O of the MEDCOM PCMH Operations Order (OPORD) 11-20, primary care homes conduct a daily huddle, at which patients are flagged based on pre-identified target patient population indicators. Information is shared with Primary Care Pain Champions (PCPC), clinical pharmacists, and Nurse Case Managers. Screening for pain-related issues is part of the Tri-Service Workflow (TSWF) screening module and the DVPRS is being implemented as the instrument for assessing pain in Army PCMHs.

Tri-Service representatives in the MHS PMWG, consisting of the Service representatives from the HEC PMWG, have recommended establishing the DVPRS as the designated MHS pain assessment tool. In addition, the MHS has also been developing a more comprehensive and complex capability for pain assessment and clinical decision making; the PASTOR.

#### Pain Assessment Screening Tool and Outcomes Registry

The PASTOR was developed in response to several recommendations in the PMTF report. DVCIPM has been coordinating the functional expertise of the PASTOR line of effort since it began in 2011. The initial PASTOR concept was adapted to leverage the NIH PROMIS, a 10-plus year initiative with a federal government investment of over \$100 million. The vision was to link the PASTOR and PROMIS databases together in order to improve and expedite PASTOR implementation in the MHS.

The PASTOR development and implementation is being conducted in two areas: a tool for pain research (PASTOR REDCap Research); and, a clinical decision making tool integrated into the DoD electronic health record (PASTOR). The PASTOR REDCap Research tool greatly enhances utilization of the NIH PROMIS tools in a variety of clinical pain research scenarios. The REDCap database is open source software, developed and maintained by a consortium of over 1,450 research institutions, with 229,000 end users, and a strong track record among academic research institutions. The PASTOR REDCap Research database was created as a modular application to allow for fast and easy distribution of the software to existing REDCap institutions. The PASTOR REDCap Research is the main research database for pain-related research protocol submissions, creating an unparalleled and unique level of standardization of validated research measurement tools. Current research partners, such as Duke University and many military researchers, have expressed interest in utilizing the PASTOR REDCap Research as the source for clinical outcome measures. PASTOR REDcap is becoming the designated clinical outcomes tool for DoD pain related research projects.

In addition to the PASTOR REDCap Research tool, work has continued to integrate the clinical PASTOR into Armed Forces Health Longitudinal Technology, DoD's existing electronic medical record. Enterprise-wide integration of the clinical PASTOR will provide direct access for clinicians to beneficiaries with chronic pain. Captured longitudinally at varying points in time, the clinical PASTOR will create millions of data points for analysis. In 2015, the Tri-Service PASTOR Steering Committee continued coordination of further development and deployment of clinical PASTOR. A test version of the PASTOR has been in use at the following MTFs:

1. Walter Reed National Military Medical Center;
2. Madigan Army Medical Center; and,
3. Naval Medical Center San Diego.

Madigan Army Medical Center's Interdisciplinary Pain Management Center successfully integrated PASTOR into their clinic workflow and enrolled over 600 patients into their PASTOR database. This important milestone prepares for PASTOR integration into primary care.

In 2016, there are plans to expand PASTOR to the following MTFs:

1. Brooke Army Medical Center;
2. Tripler Army Medical Center;
3. Eisenhower Army Medical Center;
4. Landstuhl Army Medical Center;
5. Womack Army Medical Center;
6. Wilford Hall Medical Center (Air Force); and,
7. Portsmouth Naval Medical Center.

## **Pain Treatment and Management**

### Patient Centered Medical Home

As the MHS continues to expand the PCMH model, the Air Force, Army, and Navy pain programs, along with the DVCIPM, continue to focus significant effort on providing the necessary clinical, education, and training support for primary care pain management. The DVCIPM is coordinating two DoD/VA Joint JIF projects, ATACS, and the Joint Pain Education Program (JPEP), both discussed later in this report. The Army and Navy Pain Programs, assisted by subject matter experts (SME) from the Air Force, are conducting weekly pain Extension of Community Health Care Outcomes (ECHO) tele-mentoring sessions with primary care providers. The MHS Pain ECHOs utilize a standardized pain curriculum that is also used by the VA Specialty Care Access Network ECHO. This joint DoD/VA effort will improve clinical care, decrease variation, and smooth intra-Service, inter-Service, and DoD-VA transitions of care.

### Clinical Practice Guidelines

The MHS is committed to the practice of evidence-based medicine to increase quality and safety, while decreasing variation. A major enabler for this line of effort is the development and utilization of the CPGs. As detailed in previous reports, the CPGs provide guidance on the diagnosis, treatment, and management of patients based upon clinical evidence obtained from an intensive and comprehensive review and analysis of published medical literature. The CPGs and the supporting tool kits give clinicians a standard to guide their clinical decisions. Compliance with the CPGs is often part of the peer review process.

The VA/DoD Evidenced-Based Practice Work Group (EBPWG) provides the support for development, implementation, and review of a portfolio of CPGs. Based upon recommendations from the HEC, the VA/DoD PMWG will lead the development of pain management clinical practice guidance by conducting annual reviews of existing VA/DoD pain-related clinical guidelines and identifying gaps, revision needs, or requirements for additional guidance documents. The PMWG presents its findings to the EBPWG and jointly develops plans to address the gaps, revisions, or other requirements identified in the annual assessment.

There are numerous examples of Service implementation of the CPGs for clinical quality and education. As part of the Navy Comprehensive Pain Management Program(NCPMP) for FY 2015, Navy has implemented two CPG compliance initiative programs to monitor and improve provider adherence to the LBP and Opioid Therapy for Chronic Pain CPGs. These initiatives measure compliance in an effort to understand the impact of these CPGs on clinical care, identify issues that might prevent compliance with CPGs, and seek to promote the increased use of CPGs across the Navy Medicine enterprise. In FY 2015, Navy established the baseline metrics prior to CPG implementation and was able to gather robust quarterly baseline data for FY 2014 on these metrics.

Table 1: NCPMP Baseline Metrics for the Management of Opioid Therapy for Chronic Pain CPG

	FY14 Q2	FY14 Q3	FY14 Q4
Percent of Chronic Opioid Therapy (COT) patients who were screened for past psychiatric history prior to beginning opioid therapy.	42%	36%	50%
Percent of COT patients who <b>did not</b> suffer from acute psychiatric instability, uncontrolled suicide risk, or diagnosed non-nicotine Substance Use Disorder not in remission and not in treatment at any time while receiving opioid therapy	80%	86%	96%
Percent of COT patients who <b>did not</b> have a concurrent benzodiazepine prescription while receiving opioid therapy	64%	65%	65%
Percent of COT patients with a signed Opioid Pain Care Agreement no more than 12 months old	19%	14%	18%
Percent of COT patients that had a urine drug test at least once every 12 months while receiving opioid therapy	37%	37%	34%
<b>Outcome Measure:</b> Average number of Emergency Room (ER) visits by COT patients	0.98	0.92	0.98
<b>Outcome Measure:</b> Percent of COT patients who received at least one opioid prescription from a MTF ER	5.3%	3.4%	3.2%

Table 2: NCPMP Baseline Metrics for the Diagnosis and Treatment of LBP CPG

	FY14 Q2	FY14 Q3	FY14 Q4
Appropriate Avoidance of Imaging	76%	81%	81%
Appropriate Use of Imaging	56%	52%	53%
<b>Outcome Measure:</b> Percent of acute LBP patients who progress to chronic LBP patients	17%	15%	15%

Due to the lag in data availability, the outcomes of CPG introduction in FY 2015 will not be available for analysis until FY 2016.

Air Force MTFs have educated their respective clinical staff and are utilizing the Opioid Therapy CPG, the supporting DoD/VA Indications for Consultation and Referral during Opioid Therapy handout, and a Chronic Opioid Therapy Treatment guideline. In 2015, the National Capitol Region (NCR) continued to expand pain education for the CPGs through webinars, academic detailing, grand rounds, and department level lectures supported through the National Capitol Region Pain Care Initiative (NCRPI) and the Wounded Warrior Pain Care Initiative (WWPCI).

## Alternate Input Method Forms

The TSWF CPG Alternate Input Method (AIM) forms were created to facilitate incorporation of VA/DoD CPGs into clinical practice. The AIM forms are designed to capture information consistent with recommendations in the CPGs to include algorithms, references, hyperlinks to the full text CPGs, as well as other resources such as forms and calculators. Currently, there are CPG AIM forms for Chronic Opioid Therapy and LBP.

The TSWF maintains visibility of AIM form usage by monitoring the number of times an AIM form is loaded. This does not reflect actual individual encounters. On average, the LBP CPG AIM form is used frequently, about two thousand times per week. The Chronic Opioid Therapy CPG AIM Form is used approximately 124 times per week.

## Specialty Care Referral

The MHS Pain strategy incorporates the Stepped Care Model of Pain Management developed by the VA. The Stepped Care Model is instituted as a strategy to provide a continuum of effective treatment to patients with acute and chronic pain. It covers acute pain caused by injuries or diseases and longitudinal management of chronic pain diseases and disorders that may be expected to persist for more than 90 days and possibly throughout life. Service-specific implementation of the Stepped Care Model continues in 2015 and is outlined below.

Army Medicine OPORD 10-76 and Annex O of PCMH OPORD 11-20 provide guidance for implementation of the Stepped Care Model of Pain Management. Army MTFs are provided with resources to ensure pain is managed by integrated health care teams that employ a bio-psychosocial model of care to decrease the overreliance on medications for pain control. Providers rely on driven solutions and an interdisciplinary approach using the Stepped Care Model of Pain Management. The scope, priority, and allocation of responsibilities are determined through joint Service collaboration of the Army Medical Home (AMH) and the Regional Interdisciplinary Pain Management Centers (IPMC).

- Step One, Primary: The AMH and designated PCPC. The Primary Care Manager (PCM) provides pain management of low complexity common conditions, such as back pain and peripheral neuropathy. The PCMs are additionally supported by the PCPC and an Integrated Behavioral Health Coordinator.
- Step Two, Secondary, Co-Management: The AMH and IPMC. The AMH PCM has access to IPMC resources to co-manage patients not responding to primary care treatment. The IPMC primary care advisor provides tele-mentoring consultation, collaboration, and/or education to the AMH via the PCPC.
- Step Three, Tertiary: IPMCs. Higher risk patients with complex or multiple co-morbidities are referred to specialty pain management. When possible, referrals are made to the regional IPMC.

In January 2015, Navy Medicine developed and released the “Navy Comprehensive Pain Management Program Statement,” in order to introduce the NCPMP’s role. The NCPMP purpose and mission align with Navy Bureau of Medicine and Surgery (BUMED) strategic goals. The memo outlines the NCPMP goals to focus program development on decreasing pain burden, improving quality of life for Navy Medicine beneficiaries, and returning military personnel to full duty. The statement presented the Navy Stepped Care Model as a coordinated tool for managing patients presenting with pain. The NCPMP focuses on prevention strategies, acute pain care, and chronic pain care. The NCPMP will continue educating providers on prevention strategies, improving the treatment of acute and chronic pain by utilizing the Stepped Care Model, and coordinating care between the Medical Home Port, Medical Neighborhood, and Specialty Care.

The Air Force Medical Service (AFMS) has made significant progress in upgrading Step 3 capabilities to IPMCs at two Pain Centers at Eglin Air Force Base (AFB) and Joint Base Elmendorf-Fort Richardson. The AFMS is also projecting the continued expansion of Stepped Care capabilities in 2016 with the opening of two new IPMCs at Travis AFB and Wright-Patterson AFB.

The NCR continues to implement the Stepped Care Model by providing education for primary care providers and access to integrative treatments such as acupuncture and mind-body medicine at Step 1. For Step 2, the NCR added Pain Champions at sites such as Fort Meade, and leveraged telehealth to support other sites, such as Quantico Marine Corps Base with advanced education and treatment options. For Step 3, the NCR expanded access to subspecialty care, recapturing patients from the civilian network, and providing more integrative treatment options. The NCRPI and WWPCI have been instrumental in providing the personnel and resources to support these advances.

#### Education and Training

The MHS continues collaborative Tri-Service pain management education and training. Section five below describes in more detail the Department’s considerable advancement in pain management education and training.

#### **Pain Research**

The MHS continues active engagement in pain research, as demonstrated by the multitude of publications, presentations, and projects led by DoD providers and educators. Section four and Appendix A describe in more detail the Department’s considerable focus on pain management research.

### **3. Effectiveness of Pain Management Services**

#### **Performance Measures**

The DVCIPM, DHA, and Service Pain Program leads continue to collaborate with the Services to synchronize metric development and analysis. The following are the

performance measures used for each Service to determine the effectiveness of DoD's pain management policy in improving pain care for beneficiaries enrolled in the MHS.

Army: Army Medicine is continually seeking to develop performance measures related to pain management. The MEDCOM developed a metric to focus attention and resources at locations with the complex patients, Chronic Pain, High Utilization, and Poly-pharmacy (CHUP). The CHUP reports are generated and distributed to the regional pain management representatives, and disseminated to the IPMCs. Continued collaboration between the Poly-pharmacy and Pain Management offices is ongoing with improved communication to pharmacy and pain management assets throughout Army Medicine.

Navy: To better assess and understand the pain disease burden across Navy Medicine, the NCPMP is working with the Navy Marine Corps Public Health Center (NMCPHC) to perform analyses of patient and population data related to acute and chronic pain. Data is currently being collected based on the methodology created by the NMCPHC in collaboration with several pain management SMEs and information collected through an in-depth literature review. The NCPMP will continue to engage a variety of stakeholders across the enterprise to determine the most appropriate methods for addressing and supporting this patient population. These analyses will assist the NCPMP to enhance education, support pain treatment programs, and facilitate tele-health support projects.

The NCPMP has also assembled two 'tiger' teams of SMEs to review the VA/DoD CPGs on Management of Opioid Therapy for Chronic Pain and Lower Back Pain. The tiger teams had representatives from family medicine, nursing, pharmacy, anesthesiology, sports medicine, physical therapy, radiology, and other relevant specialties. The teams reviewed the CPGs to assess best practices for the safe prescription, chronic use of opioid therapy for pain management, and appropriate treatment of lower back pain. The outcome of these assessments led to the selection of several key recommendations:

#### **Opioid Therapy for Chronic Pain CPG**

- Patients will be screened for past psychiatric history including depression, anxiety, other emotional disorders, risk of suicide to include family history, and previous suicidal attempts. Substance use history such as personal history, family history, and peer group will be assessed prior to beginning opioid therapy;
- Patients with acute psychiatric instability, uncontrolled suicide risk, non-nicotine Substance Use Disorder (Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> Edition criteria) not in remission and not in treatment, or currently prescribed benzodiazepine, will not receive opioid therapy;
- Patients on chronic opioid therapy will have a signed Opioid Pain Care Agreement that is updated at least once every 12 months; and,
- Patients on chronic opioid therapy will be assessed for degree of analgesia, opioid-related adverse effects, functional status, and activities of daily living regularly. A

urine drug screening will be done at least once every 12 months while receiving opioid therapy.

### **Lower Back Pain**

- Patients with non-specific lower back pain should not receive imaging within the first 28 days following initial presentation to their provider; and,
- Patients with non-specific lower back pain who have specific indications, such as history of cancer, evidence of recent trauma, intravenous drug misuse, neurologic impairment, history of lower back pain, or a suspected serious underlying condition may be indicated for imaging earlier than 28 days.

To measure compliance to these recommendations, the NCPMP developed metrics and methodologies for collecting and monitoring Navy provider practices. Data is gathered quarterly from automated and manual chart reviews, and then briefed to Navy Medicine leadership.

Air Force: The AFMS has been reviewing Active Duty and MTF prime member pain care in the network with the intent to recapture these patients and provide greater capacity within the MTFs. The AFMS plans to ensure network referrals are appropriate and necessary to reduce Private Sector Care costs. Additionally, the AFMS has upgraded its two current Continental United States Pain Centers, at Eglin AFB and Joint Base Elmendorf-Fort Richardson, to IPMCs. The AFMS is also opening two new IPMCs at Travis AFB and Wright-Patterson AFB.

## **4. Adequacy of Pain Management Services**

Congress has requested that an assessment of the adequacy of DoD's pain management services be included in this annual report based on a current survey of patients managed in MHS clinics. While there is no standardized tool for surveying adequacy of pain management services for patient satisfaction in DoD outpatient settings, the Services do measure patient satisfaction with pain management in primary care and several specialty care clinics.

The Navy Pain Management Satisfaction Survey administered centrally through the MHS and at Navy clinics from October 2014 to July 2015 shows a patient satisfaction level exceeding the target metric of 90 percent. The Navy is also conducting additional surveys for its Integrated Pain services.

The Mind Body Medicine Survey done at Walter Reed National Medical Center, Bethesda, Maryland, from March to May 2015, showed 100 percent of patients either "strongly agree" or "agree" on the question, "I feel since starting with my providers, I have improved my condition or learned coping mechanisms/self-regulation skills through my appointments."

The DoD is also assessing beneficiary satisfaction with inpatient pain management as part of its annual Hospital Consumer Assessment of Healthcare Provider and Systems survey. Overall patient satisfaction with pain management is based upon patient self-report to two pain related questions:

- “During this hospital stay, how often was your pain well controlled?”; and,
- “During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?”

Using a composite of these two questions, the chart below depicts DoD’s performance on inpatient satisfaction from FY 2013 to quarter 2, FY 2015. Data from quarter 4, FY 2014 is not available. Performance overall of pain management has remained above the national benchmark of 71 percent. The results for the Patient’s Pain Controlled question (“During this hospital stay, how often was your pain well controlled?”) have remained just over 65 percent, while the responses for the Help Controlling Pain question (“During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?”) have remained just over 80 percent.

Figure: Pain Management Satisfaction – Direct Care



## 5. Pain Research

The DoD has continued to make advances in pain research across the Enterprise. The DVCIPM, U.S. Army Medical Research and Materiel Command, Clinical and Rehabilitative Medicine Research Program, Institute for Surgical Research, USUHS, and military MTFs are engaged in numerous research projects relevant to the pain needs of beneficiaries. The DVCIPM also represents the DoD on the NIH-Interagency Pain Research Coordinating Committee that developed and will release the National Pain Strategy in the Fall of 2015.

DoD personnel have published multiple articles on acute and chronic pain management in peer reviewed journals. The MHS national leadership role in pain was exemplified by DoD leaders being selected to deliver keynote addresses at both the 2015 American Academy of Pain Medicine and American Academy of Pain Management national conferences. Numerous MHS clinicians and researchers have presented pain management projects at multiple military, national, and international medical conferences.

This year *Combat Anesthesia: The First 24 Hours* by the Borden Institute was released as part of the Textbooks of Military Medicine Series. This textbook is a collaborative effort between United States and United Kingdom military anesthesiologists and other providers involved in the pain care of wounded coalition forces. It is a distillation of 14 years of combined experience in managing combat trauma through the evacuation system, and will serve as a starting point for clinicians in future conflicts.

Several clinical protocols have been developed by the military, and are currently undergoing clinical trials in both battlefield and non-battlefield pain management environments. These protocols enhance the knowledge and management of acute and chronic pain, particularly for Service members wounded on the battlefield where early intervention may prevent long term chronic pain and narcotic dependence. Having completed the data collection phase, the DoD/VA Regional Anesthesia Military Battlefield Pain Outcomes Study collaborative research project is now analyzing project data to complete the only long term outcomes study looking at both the physical and biopsychosocial aspects of pain in wounded warriors. Manuscripts from this effort are expected to be published in 2016.

As described earlier, the DVPRS has undergone four validation studies, each of which confirmed the validity of this pain screening tool (<http://www.dvcipm.org/clinical-resources/pain-rating-scale>). While the DVPRS has been deployed primarily in pain specialty clinics, the MHS PMWG has been working through MHS governance to expand DVPRS use in primary care and other specialty clinics. Standardization of how patients are queried about their pain will provide the DoD and VA an advantage in evaluating treatment outcomes, and developing effective pain treatment strategies. DVPRS also serves as a screening instrument for the more comprehensive PASTOR screening tool and pain registry.

Following realignment of the VA/DoD HEC Working Groups in 2015, the HEC PMWG developed a FY 2016-2018 Pain Management Joint Strategic Plan Objective requiring the PMWG to identify and recommend translation of pain management-related research, policy or administrative findings into practical applications, programs or clinical recommendations that improve quality, standardization and transition of health care delivery for those being treated for acute and chronic pain. This annual requirement will be conducted in collaboration with the HEC Evidence-Based Practice and Research Work Groups.

## **6. Training and Education of Healthcare Personnel**

In 2015, under the HEC PMWG's two JIF projects, the DoD continued to participate in the development and deployment of standardized pain management training and education capabilities and tools for use in DoD and VA. The expected benefits from developing and utilizing DoD/VA pain management education and training content include: a reduction in the unwarranted variability in clinical care; minimizing redundant and/or asynchronous content; improvement in transitions of care across DoD treatment facilities; and improvement in transitions between DoD and VA health care systems.

### **Joint Pain Education Project**

The JPEP is working to develop a standardized VA and DoD pain management curriculum for widespread use in education and training programs that will improve the pain management competencies of the combined federal clinical workforce. The JPEP focuses on the needs of providers and patients in primary care, and provides a holistic, multi-modal, and multi-disciplinary pain care model that supports the balanced use of medications, procedures, specialty care, and self-care approaches for pain management. The JPEP also provides education outcome and effectiveness data to the MHS and VA.

The JPEP curriculum development process convened DoD and VA inter-professional providers and coordinated approximately 90 SMEs to develop course content for 60 distinct modules organized into four courses:

- Pain Management for Primary Care;
- Pain Management for Subspecialty;
- Pain Care Transitions; and,
- Patient Education.

In 2015, the JPEP completed the initial curriculum development and instructional design tasks. Completed pain modules have been integrated into the VA mini residency program in addition to the VA and DoD-led Pain ECHO tele-mentoring initiatives. For each of the pain management modules, several key constructs are communicated to the provider:

- Anatomy and physiology;
- How to perform an assessment;
- How to treat; and,
- When to refer.

### **Acupuncture Training Across Clinical Settings**

The DVCIPM, in collaboration with Air Force Acupuncture and Integrative Medicine Center at Joint Base Andrews, continue execution of the ATACS JIF project. The

ATACS project was initiated to develop, pilot, evaluate, and implement a uniform tiered acupuncture education and training program in order to expand its use across the MHS and VA treatment facilities. The ATACS also provides a much-needed alternative in cases where the initiation or continuation of opioid analgesics are deemed clinically risky; current medications and other therapies are not working; there is existence of and potential for substance misuse; and where addiction and tolerance issues make medication therapies impractical.

The ATACS initial goal was to train 1,200 providers in Battlefield Acupuncture (BFA), a rapid and effective auricular pain relief technique. It also included training DoD and VA physicians in an accredited 300 hour medical acupuncture course. Since the start of the project in July 2013, the ATACS has trained over 1,700 providers at over 100 training sites, including many military facilities and VA medical centers. The MTFs trained include locations in Korea, Germany, and Southwest Asia. Training locations also included Air Force missile bases with Service members enrolled in the Personnel Reliability Program, a population for whom it is particularly beneficial to control pain without the use of strong pain medicines. Other training locations include the Naval Submarine Base at Groton, where Independent Duty Corpsmen serving on submarines were trained, and the Marine Corps Special Operations Command at Camp Lejeune. The BFA training with JIF funding is still ongoing at more MTFs and VA medical facilities. In 2016, the ATACS project will continue acupuncture data analysis with the development of a joint Service policy for DoD/VA acupuncture utilization, credentialing, and training.

### **Annual Pain Skills Training**

The Annual Pain Skills Training, hosted by the NCRPI and the WWPCI, continues to advance education across the MHS. Objective feedback from providers attending this hands-on training has been positive each year. The 5th Annual Pain Care Skills Training is scheduled for September 2015 at Walter Reed National Military Medical Center and is projected to have over 300 Tri-Service participants from across the MHS, continental United States, and overseas. The 2015 Pain Care Skills Training will include a pre-day for Pain Fellows and Pain Physicians on spinal cord implants. The agenda includes a mix of didactic content on core pain topics and a combination of 32 different hands-on workshops that target all levels of healthcare providers involved in treating pain. Some of the workshops include Palliative Care, Neuroplasticity, Musculoskeletal Ultrasound, Biofeedback, Trigger Point Injections/Botox, Stem Cell Update, Complementary & Integrative Medicine, Therapeutic Movement, Battlefield Acupuncture and Sleep Cognitive Behavioral Therapy. The BUMED and the Office of the Surgeon General have each supported this effort by giving travel funds to support the attendance of primary care and pain management teams.

Also notable in 2015 was the NCPMP collaboration with the Assistant Secretary of Defense for Health Affairs and Addictive Substance Misuse Advisory Committee to develop a requirement for all credentialed and privileged providers to complete the interactive training video entitled "Do No Harm." This training is a requirement to fulfill the White House Office of National Drug Control Policy FY 2014 Drug Control

Guidance. All Navy Budget Submitting Office-18 credentialed and privileged providers were required to complete the one-time training module by September 30, 2015.

## **7. Patient Education and Dissemination of Information**

While the JPEP JIF is primarily focused on developing a standardized DoD/VA pain management curriculum for clinicians, the project is also translating the clinical content for use in educating patients, families, and leaders. Synchronization of the DoD/VA clinicians' orientation to pain management assessment, treatment, and referral processes should significantly improve DoD and VA health systems' goal of providing consistency in the education to patients, families, and leaders in relation to their pain management. The JPEP completed development and began piloting a 36 module pain management curriculum in DoD and VA Pain ECHO tele-mentoring programs. In 2016, JPEP will conduct level 1-4 content evaluation and coordinate with the DHA Education and Training Directorate and VA Employee Education System to make materials available through "e-learning" platforms. The JPEP also developed a pain video intended to provide pain management orientation for clinicians, patients, families, and leaders. The five minute video provides a simple overview of pain, general treatment options, recommended coping strategies, and proper role of medications for pain relief (<https://player.vimeo.com/video/137163303>). Additional Service-level initiatives include:

The Air Force Center of Excellence for MultiMedia developed a series called "Back on Track: A Guide to Low Back Pain." This patient education program provides an easy-to-follow and practical exploration of LBP. Common injuries are explained, along with diagnosis and management strategies for relieving both acute and chronic LBP. An active lifestyle and exercise are highlighted as therapeutic methods for reducing pain and preventing further injury. Demonstration videos show the viewer how to perform 18 different exercises for flexion, extension, and strengthening the back. It is available to patients in CD-ROM and DVD (<https://www.lowbackpainatoz.org/>).

The Navy Health Promotion and Wellness Wounded, Ill, and Injured team at the NMCPHC developed a patient information website to facilitate effective pain management, improve level of functioning, and return to mission through the provision of resources. (<http://www.med.navy.mil/sites/nmcphc/wounded-ill-and-injured/Pages/wii.aspx>).

The NCR (Army, Navy, and Joint MTFs) initiated a patient education program known as the Interactive Pain Management Series (IPMS), an eight week program that covers several key pain topics such as understanding pain, safe medication use, physical and other pain treatments, psychological wellbeing, communication and pain, sleep and pain, sexuality, physical activities, and healthy lifestyles. A pain provider, occasionally with a pain psychologist, leads the group. The IPMS is conducted at Walter Reed National Military Medical Center and via video conferencing with the NCR Tele-Pain Program at Kimbrough Ambulatory Care Center at Fort Meade, Naval Medical Clinic Quantico, Di Lorenzo Tricare Health Clinic, and Fort Belvoir Community Hospital. The IPMS

program is designed to fully educate patients on their pain diagnosis, as well as teach self-management of pain-related issues.

## REFERENCES

- Banks, D.E., Buckenmaier, C., & Mahoney, P.F. (2015). *Combat anesthesia: The first 24 hours*. Falls Church, VA: Office of the Army Surgeon General. (2011). Retrieved from <http://www.cs.amedd.army.mil/FileDownloadpublic.aspx?docid=123f6b20-e846-46a6-a2c0-5840a07944c4>.
- Center for Disease Control (2015). *Injury prevention and control: Prescription drug overdose*. Retrieved from <http://www.cdc.gov/drugoverdose/>.
- Department of Defense (2011). *Policy for Comprehensive Pain Management (Health Affairs Policy 11-003)*. Washington, DC: Assistant Secretary of Defense (Health Affairs). Retrieved from <http://www.health.mil/Policies/2011/04/05/Policy-for-Comprehensive-Pain-Management>.
- Department of Defense (2013). *Medical Quality Assurance (MQA) and Clinical Quality Management in the Military Health System (MHS) (DoD Instruction 6025.13)*. Washington, DC: Office of the Secretary of Defense for Personnel and Readiness. Retrieved from <http://www.dtic.mil/whs/directives/corres/pdf/602513p.pdf>.
- Institute of Medicine (2011). *IOM report calls for cultural transformation of attitudes toward pain and its prevention and management*. Retrieved from <https://iom.nationalacademies.org>.
- National Defense Authorization Act for Fiscal Year 2010, Pub.L. No. 111-84, §711, 123 Stat. 4, (2009).
- Office of The Army Surgeon General. (2010). *Pain Management Task Force Final Report*. Retrieved from [http://www.regenesbio.com/pdfs/journal/pain\\_management\\_task\\_force\\_report.pdf](http://www.regenesbio.com/pdfs/journal/pain_management_task_force_report.pdf).
- U.S. Army Medical Command (2014). *Army PCMH operations manual*. Retrieved at <http://www.usafp.org/wp-content/uploads/2013/12/ARMY-PCMH-Operations-Manual-Final-24-Jan-14.pdf>.
- White House (2014). *National Drug Control Strategy*. Retrieved from [https://www.whitehouse.gov/sites/default/files/ndcs\\_2014.pdf](https://www.whitehouse.gov/sites/default/files/ndcs_2014.pdf).

## APPENDICES

### *Appendix A: Works Cited*

#### **National Publications:**

- Bicket, M.C., Chakravarthy, K., Chang, D., & Cohen, S.P. (2015). Epidural steroid injections: An updated review on recent trends in safety and complications. *Pain Management, 5*(2), 129-146.
- Bicket, M.C., Horowitz, J.M., Benzon, H.T., & Cohen, S.P. (2015). Epidural injections in prevention of surgery for spinal pain: Systematic review and meta-analysis of randomized controlled trials. *Spine Journal, 15*(2), 348-362.
- Bleckner, L., Solla, C., Fileta, B.B., Howard, R., Morales, C.E., & Buckenmaier, C.C. (2014). Serum free ropivacaine concentrations among patients receiving continuous peripheral nerve block catheters: Is it safe for long-term infusions? *Anesthesia & Analgesia, 225-229*.
- Buchheit, T., Van de Van, T., Hsia, J.H., MacLeod, D.B., White, W., Chamesian, A., ... Shaw, A.D. (2015). Pain phenotypes and associated clinical risk factors following traumatic amputation: Results from Veterans Integrated Pain Evaluation Research (VIPER). *Pain Medicine*, July 14 issue.
- Buckenmaier, C. & Schoomaker, E. (2014). Patients' use of active self? Care complementary and integrative medicine in their management of chronic pain symptoms. *Pain Medicine, 15*, S7-S8.
- Butler, F. K., Kotwal, R.S., Buckenmaier, C.C., Edgar, E.P., O'Connor, K.C., Montgomery, H.R., ... Bailey, J.A. (2014). A triple-option analgesia plan for tactical combat casualty care: TCCC guidelines change 13-04. *Journal of Special Operations Medicine, 14*(1), 13-25.
- Campbell, C.M., Buenaver, L.F, Raja, S.N., Kiley, K.B., Swedberg, L.J., Wacnik, P.W., ... Christo, P.J. (2015). Dynamic pain phenotypes are associated with spinal cord stimulation-induced reduction in pain: A repeated measures observational pilot study. *Pain Medicine, 16*(7), 1349-1360.
- Chan, M.H., & Pasquina, P. B. (2015). Chronic pain after amputation: Atlas of amputations and limb deficiencies. Release anticipated Winter 2015.
- Chang, D.S., Raghavan, R., Christiansen, S., & Cohen, S.P. (2015). Emerging targets in treating pain. *Current Opinion in Anesthesiology, 28*(4), 379-397.

- Cohen, S.P., Hameed, H., Pasquina, P.F., & Hurley, R.W. (2014). Sedation for diagnostic injections: Prioritizing patient interests. *Pain Medicine*, 15(11), 1980-1981.
- Cohen, S.P., Hanling, S., Bicket, M.C., White, R.L., Veizi, E., Kurihara, C., ... Pasquina, P.F. (2015). Epidural steroid injections compared with gabapentin for lumbosacral radicular pain: Multicenter randomized double blind comparative efficacy study, *BMJ*, 16, 1-9.
- Cohen, S.P., Hayek, S., Pasquina, P.F., & Vorobeychik, Y. (2015). *Anesthesiology*, 122(6), 1443-1444.
- Cohen, S.P., Hayek, S., Semenov, Y., Pasquina, P.F., White, R.L., Veizi, E., Huang, J.H., ... Vorobeychik, Y. (2014). Epidural steroid injections, conservative treatment, or combination treatment for cervical radicular pain: a multicenter, randomized, comparative-effectiveness study. *Anesthesiology*, 121(5), 1045-1055.
- Cohen, S.P. Moon, J.Y, Brummett, C.M, White, R.L, & Larkin, T.M. (2015). Medial Branch Blocks or intra-articular injections as a prognostic tool before lumbar facet radiofrequency denervation: A multicenter, case-control study. *Regional Anesthesia Pain Medicine*, 40(4), 376-383.
- Cohen, S.P. & Vorobeychik, Y. (2015). Authors' reply to Lin and colleagues. *BMJ*, 350.
- Cohen, S.P. (2015). Botulinum toxin type b for chronic pain: Panacea or snake oil? The need for more and better preclinical studies. *Anesthesia & Analgesia*, 121(1), 20-21.
- Cohen, S.P. (2015). Epidemiology, diagnosis, and treatment of neck pain. *Mayo Clinic Proceedings*, 90(2), 284-299.
- Cohen, S.P. (2014). Precision targeting for neuroablative therapies: the future of interventional pain medicine. *Regional Anesthesia Pain Medicine*, 39(6), 447-449.
- Cook, K. F., Buckenmaier, C.C., & Gershon, R.C. (2014). PASTOR/PROMIS pain outcomes system: What does it mean to pain specialists? *Pain Management*, 4(4), 277-283.
- Fowler, I.M. & Tucker, A.A. (2014). Reply to Drs Moriggl et al. *Regional Anesthesia and Pain Medicine*, 39(4), 352-353.
- Grammer, G.G., Williams-Joseph, S., Cesar, A., Adkinson, D.K., & Spevak, C. (2015), Significant reduction in phantom limb pain after low-frequency repetitive transcranial magnetic stimulation to the primary sensory cortex. *Military Medicine*, 180(1), 126-128.

- Holtkamp, M.D. & Neely, E.T. (2014). Onabotulinumtoxin A for treatment of chronic daily headache secondary to meningeal traction. *Pain Medicine News*, 12(12).
- Hooten, W.M., Cohen, S.P., & Rathmell, J.P. (2015). Introduction to the symposium on pain medicine. *Mayo Clinic Proceedings*, 90(1), 4-5.
- Hoyt, B.W., Pavey, G.J., Pasquina, P.F., & Potter, B.K. (2015). Rehabilitation of lower extremity trauma: A review of principles and military perspective on future directions. *Current Trauma Reports*, 1(1), 50-60.
- Hsu E., Murphy, S., Chang, D., & Cohen, S.P. (2015). Expert opinion on emerging drugs: chronic low back pain. *Expert Opinion on Emerging Drugs*, 20(1), 103-127.
- Jonas, W. B., & Schoomaker, E.B. (2014). Pain and opioids in the military: We must do better. *JAMA Internal Medicine*, 174(8), 1402-1403.
- King, H.C., Hickey, A.H., & Connelly, C. (2013). Auricular acupuncture: A brief introduction for military providers. *Military Medicine*, 178(8), 867.
- Koch, K.K. & Moran T.J. (2015). Spontaneous intracranial hypotension: Trendelenburg just may be the answer. *Military Medicine*, 180, 369-371.
- Moon, J.Y., Kurihara, C., Beckles, J.P., Williams, K.E., Jamison, D.E., & Cohen, S.P. (2014). Predictive factors associated with success and failure for calmare (scrambler) therapy: A multi-center analysis. *Clinical Journal of Pain*, 31(8), 750-756.
- Mulvaney, S.W., Lynch, J.H., De Leeuw, J., Schroeder, M. & Kane, S. (2015). Neurocognitive performance is not degraded after stellate ganglion block treatment for post-traumatic stress disorder: A case series. *Military Medicine*, 180(5).
- Mulvaney, S.W., Lynch, J.H., Hickey, M.J., Rahman-Rawlins, T., Schroeder, M., Kane, S., & Lipov, E. (2014). Stellate ganglion block used to treat symptoms associated with combat-related post-traumatic stress disorder: a case series of 166 patients. *Military Medicine*, 179(10), 1133-40.
- Pasquina, P., Kirtley, R., & Ling, G. (2014). Moderate-to-severe traumatic brain injury. *Seminars in Neurology*, 34(5), 572-583.
- Pasquina, P.F., Miller, M., Carvalho, A.J, Corcoran, M., Vandersea, J., Johnson, E., & Chen, Y.T. (2014). Special considerations for multiple limb amputation. *Current Physical Medicine and Rehabilitation Reports*, 2(4), 273-289.
- Petz, L. N., Tyner, S., Barnard, E., Ervin, A., Mora, A., Clifford, J. ...Bebarta, V. (2015). Prehospital and en route analgesic use in the combat setting: A prospectively designed, multicenter, observational study, *Military Medicine*, 180(3S), 14-18.

- Richard, C., Niemtow, L., Marcucci, A., York, J.A., Ives, J., & Walter, W.B. (2014). The Roles of Acupuncture and other components of integrative medicine in cataclysmic natural disasters and military conflicts. *Medical Acupuncture*, 26(6), 255-263.
- Tung, M.L., Murphy, I.C., Griffin, S.C., Alphonso, A.L., Hussey-Anderson, L., ...Hughes, K.E., Tsao, J.W. (2014). Observation of limb movements reduces phantom limb pain in bilateral amputees. *Annals Clinical and Translational Neurology*, 1(9), 633-638.
- Verdun, A.V., Cohen, S.P., Williams, B.S., & Hurley, R.W. (2014). Pneumocephalus after lumbar epidural steroid injection: A case report and review of the literature. *A Case Report*, 1(3), 9-13.

#### **Textbook Contributions:**

- Alexander, J.C., Humair, R., & Epps, W.J. (2014). Cervical Pain. Gatchel, R.J & Schultz, I.Z., *Handbook of Musculoskeletal Pain and Disability Disorders* (35-54). New York, NY: Springer.
- Banks, D.E., Buckenmaier, C. & Mahoney, P.F. (2015). *Combat Anesthesia: The First 24 Hours*. San Antonio, TX: Borden Institute.
- Pasquina, P., Hendershot, B., & Isaacson, B. (2015). Secondary Health Effects of Amputation. Smith, D.G., *Atlas of Amputations and Limb Deficiencies Fourth Edition*, anticipated Winter 2015.

#### **Poster Presentations:**

- Do, N., Lesnik, I., & Hanling, S.R. (2014, November). *Pain Assessment Screening Tool and Outcomes Registry (PASTOR)*. Poster presented at American Medical Informatics Association Annual Symposium, Washington, DC.
- Gliniecki, R.A., Whiting, J., Hauff, N., Fowler, I.M., & Lambert, M. (2015, March) *Serratus plane and rectus sheath blocks with liposomal bupivacaine after upper abdominal surgery*. Poster presented at American Academy of Pain Medicine, National Harbor, MD.
- Hackworth, R.J., Hanling, S.R., Quiko, A., Tse, T., & Fowler, I.M. (2015, March). *The use of injectable micronized dehydrated amniotic/chorionic membrane allograft (AmnioFix) for shoulder pain*. Poster presented at American Academy of Pain Medicine, National Harbor, MD.
- Hanling, S.R., Drastal, C.A., Walker, G., Hackworth R.J., Muchowski, K., & Fu, D. (2015, March). *U.S. Navy Bureau of Medicine (BUMED) chronic opioid therapy*

*clinical pathway guideline adherence model.* Poster presented at American Academy of Pain Medicine, National Harbor, MD.

Hanling, S.R., Sandbrink, F., Burgo, L., Hunt, S., Gallagher, R., & Buckenmaier, C. (2015, March). *Joint Pain Education Program (JPEP).* Poster presented at American Academy of Pain Medicine, National Harbor, MD.

Hanling S.R., Drastal, C.A., & Lagrew, J. (2015, March). *IV cosyntropin versus epidural blood patch for treatment of post-dural puncture headache (PDPH).* Poster presented at American Academy of Pain Medicine, National Harbor, MD.

Hanling S.R., Hickey, A.H., Lesnik, I.K., Hackworth, R.J., McLay, R., Drastal, C.A., & Adams, G. (2014, August). *A randomized, double-blind, placebo-controlled trial of stellate ganglion block in the treatment of post traumatic stress disorder.* Poster presented at Military Health System Research Symposium, Fort Lauderdale, FL.

Holtkamp, M.D. & Neely, E.T. (2015, May). *Onabotulinumtoxin A for treatment of chronic daily headache secondary to meningeal traction.* Poster presented at 17th Congress of the International Headache Society, Valencia, Spain.

Medina-Torne, S., Hanling, S.R., Lesnik, I.K., Sheridan, T.M., McChesney, K., Nahavandi, P., ... Texidor, A. (2015, March) *US Navy's first functional restoration pain program: Improving readiness, restoring function, and relieving pain.* Poster presented at American Academy of Pain Medicine, National Harbor, MD.

## **Presentations**

Spevak, C. (2015, April). *Pain and addiction common threads.* Presented at American Society of Addiction Medicine Annual Meeting, Austin, TX.

Spevak, C. (2014, September). *Review of opioid and non-opioid modalities for pain.* Presented at Department of Defense Warrior Pain Care Initiative Symposium, San Diego, CA.

Spevak, C. (2014, April). *Use of Tele-Health for Pain and Substance Abuse Education in the Military Health System.* Presented at American Pain Society Annual Meeting, Tampa FL.

Spevak, C. (2014). *Use of Tele-Medicine for Addiction.* Presented at American Society of Addiction Medicine Annual Meeting, Orlando, FL.

## ***Appendix B: List of Acronyms***

AFB	Air Force Base
AFMS	Air Force Medical Service
AIM	Alternate Input Method
AMH	Army Medical Home
ATACS	Acupuncture Training Across Clinical Settings
BFA	Battlefield Acupuncture
BUMED	Navy Bureau of Medicine
CHUP	Chronic Pain High Utilization, and Poly-pharmacy
COT	Chronic Opioid Therapy
CPG	Clinical Practice Guideline
DHA	Defense Health Agency
DoD	Department of Defense
DoDI	Department of Defense Instruction
DVCIPM	Defense and Veterans Center for Integrative Pain Management
DVPRS	Defense and Veterans Pain Rating Scale
EBPWG	Evidence-Based Practice Work Group
ECHO	Extension of Community Healthcare Outcomes
ER	Emergency Room
FY	Fiscal Year
HEC	Health Executive Committee
IOM	Institutes of Medicine
IPMC	Interdisciplinary Pain Management Centers
IPMS	Interactive Pain Management Series
JIF	DoD/VA Joint Incentive Fund
JPEP	Joint Pain Education Program
LBP	Low Back Pain
MEDCOM	Army Medical Command
MHS	Military Health System
MQA	Medical Quality Assurance
MTF	Military Treatment Facility
NCPMP	Navy Comprehensive Pain Management Program Statement
NCR	National Capitol Region
NCRPI	National Capitol Region Pain Care Initiative
NDAA	National Defense Authorization Act
NIH	National Institutes of Health
NMCPHC	Navy Marine Corps Public Health Center
OPORD	Operations Order
PASTOR	Pain Assessment Screening Tool and Outcome Registry
PCM	Primary Care Manager
PCMH	Patient Centered Medical Home
PCPC	Primary Care Pain Champions
PMTF	Pain Management Task Force
PMWG	Pain Management Work Group
PROMIS	NIH Reported Outcomes Measurement Information System
SME	subject matter expert

TJC	The Joint Commission
TSWF	Tri-Service Work Flow
USUHS	Uniformed Service University of the Health Sciences
VA	Department of Veterans Affairs
WWPCI	Wounded Warrior Pain Care Initiative