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## Pain Assessment Policy Update and Nursing Education on Best Practices for Pain Assessment: A Quality Improvement Project

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**Pain Assessment Policy Update and Nursing Education on Best Practices for Pain  
Assessment: A Quality Improvement Project**

Jennifer Zhang, BSN, RN

A DNP project submitted in partial fulfillment of the requirements for  
the degree of Doctor of Nursing Practice, Davis & Henley College of Nursing

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Sacred Heart University Davis & Henley College of Nursing

May 2022

This is to certify that the DNP Project Final Report by

Jennifer Zhang

has been approved by the DNP Project Team on

April 14, 2022

for the Doctor of Nursing Practice degree

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## Abstract

**Significance and Background:** Chronic pain assessment should focus on patients' functional status, quality of life (QOL), and pain control. A tool to assess pain intensity and biopsychosocial impacts of pain for patients with chronic pain was needed in a Federally Qualified Health Center (FQHC). The Defense and Veterans Pain Rating Scale (DVPRS) incorporates a numeric rating scale with four functional questions on pain interference on ADLs. DVPRS design stimulates communication between patients and providers about their pain, its impact on function, and state of mind. Treatments are focused on making the pain tolerable and optimizing patient function while avoiding unwanted side effects from medications. Convincing evidence supported the use of the DVPRS.

**Purpose:** Provide nursing and provider education on best practices for pain assessment and to implement the DVPRS in a FQHC. Track nurse adherence to using a new pain scale and providers treatment for chronic pain.

**Methods:** Plan-Do-Study-Act. *Plan-* DVPRS was added to pain policy in a FQHC. *Do-* DVPRS was presented to five providers and six nurses and practiced using the DVPRS and documenting the results. *Study-* data on DVPRS use in patients presenting with pain and their treatment plans. *Act-* present to stakeholders and plan for next PDSA cycle.

**Outcome:** There were 292 in-clinic, adult patient encounters with pain: chronic (46%), acute (21%), both (3%), and unknown (31%). Sixteen patients were assessed for pain using the DVPRS. Nurse adherence to workflow for documentation was poor and inconsistent with fourteen (87.5%) patients who had at least one inconsistency in their documentation. Barriers to provide on-site support and feedback led to poor adherence and process errors. Seventy-seven percent of patients assessed with the DVPRS, and a pain diagnosis received either referrals and/or new non-opioid medication prescriptions.

**Discussion:** Despite low nurse adherence, DVPRS education, use and purpose informs providers' plan of care. Adopting a brief comprehensive pain assessment tool (e.g., DVPRS) in a primary care setting will improve provider and patient communication surrounding pain, assess impacts of pain on function and QOL while eliminating opioid prescriptions with alternative therapies.

*Keywords: comprehensive pain assessment, DVPRS, chronic pain treatments, alternative modalities, FQHC*

## **Problem Identification, Development of Clinical Question, and Evidence Review**

### **Background and Significance of the Practice Problem**

Chronic pain affects 50 million adults in the United States with 19.6 million reporting interference with activities of daily living (ADLs). Effective pain management is achieved with proper evaluation of measurable outcomes, including a biopsychosocial assessment for the development of an effective treatment plan. Measurable outcomes should focus on “quality of life (QOL), activities of daily living (ADLs), and improved functionality” (U.S. Department of Health and Human Services [HHS], 2019, p. 1).

The Numeric Rating Scale (NRS) is commonly used as a starting point to assess severity of current pain and management. The NRS is a reliable and valid standard pain rating tool; however, being unidimensional it might not completely capture an accurate pain assessment for chronic pain and its related disability. Symptoms and functional limitations of a person with chronic pain are influenced by multiple factors. To address the multidimensional domains (biomedical, psychosocial, and behavioral) that contribute to chronic pain, a comprehensive biopsychosocial assessment is necessary. A standardized pain assessment tool to delve deeper into other factors associated with chronic pain can further improve a person’s quality of life (QOL) (Dansie & Turk, 2013).

The Defense and Veterans Pain Rating Scale (DVPRS) and Supplemental Questions is a multidimensional pain scale used to assess pain intensity and its interference on QOL, including general activities, sleep, mood, and stress (Buckenmaier et al., 2013). A patient's pain severity is assessed in a variety of ways including the NRS, visual analog scale (VAS), traffic colors, and associated descriptive phrases, as well as interference with levels of activity, sleep, mood, and stress (Nassif et al., 2015). The DVPRS demonstrated reliability (Cronbach’s alpha =0.902),

validity ( $r= 0.929$  ( $n=171$ ;  $p <0.001$ )) in veteran and military populations, along with strong word alignment ( $ICC= 0.943$ ) when correlating psychometric properties with the pain intensity scale. It is a promising tool in the assessment of the biopsychosocial aspects of chronic pain (Buckenmaier et al., 2013).

### **Description of Local Problem**

A chronic pain management policy at a Federally Qualified Health Center (FQHC) in the Northeast, states that a pain assessment (pain scale and history) is required prior to treatment of chronic pain. A numerical rating scale (NRS) of 0-10 is the tool being used at the FQHC. The NRS is a unidimensional, 11-point pain scale that assesses intensity used by multiple providers and healthcare organizations for its brevity and simplicity; however, the interpretation of numerical values may vary according to cultural background and perception (Blackburn et al., 2018; Giannitrapani et al., 2019). Additional pain assessment issues exist because there is no assessment of the impact of pain on function related to activity, sleep, mood, and level of stress.

### **Organizational Priority**

This project has the support of the FQHC's Chief Medical Officer (CMO) and Chief Nurse Officer (CNO). This project is also under the Alternative to Opioids for Pain (ALTOP) grant that is a partnership between Sacred Heart University Davis & Henley College of Nursing (SHU DHCON) and FQHC to use alternative pharmacological and non-pharmacological treatments for chronic pain that includes best practice for accurate pain assessment.

### **Focus Clinical Question**

In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patients' health-related quality of life (O)?

## **Evidence Review**

**External Evidence.** Databases searched include CINAHL Complete, MEDLINE full text, Cochrane Database of Systematic Reviews with key words: DVPRS, Defense and Veterans Pain Rating Scale, quality of life, health-related quality of life, functional assessment, comprehensive pain assessment, chronic pain, numeric rating scale, unidimensional, and multidimensional. Searches were limited to those articles published in English between 2010-2020, adult, English language, and full-text (see [Appendix A, Table A1, A2, A3](#)). The Rapid Critical Appraisal Tools (Melnyk & Fineout-Overholt, 2019) were used to appraise each of the keeper articles.

**Internal Evidence.** Nurses were surveyed on their current practice for pain assessment. Most nurses asked patients if pain interfered with psychological and social aspects of their lives. Nurses reported on their assessment of functional status during initial intake with half of them communicating with the provider about pain and impact on functional status. However, nurses only document the NRS of pain intensity in the EMR. Preliminary data from nurses suggest the need for best practices for assessment of chronic pain and EMR documentation.

## **Evidence Appraisal, Summary, and Recommendations**

Eight articles were reviewed focusing on chronic pain assessment in the adult population. Convincing evidence supported the use of DVPRS (three level II: randomized control trial (RCT) and one level IV: EBP implementation). In addition, the use of a functional pain assessment was superior to using pain intensity measurements to manage chronic pain (one level V: cohort study, one level VI: observational, and two level VII: expert opinion) (See [Appendix B, Table B1, B2](#)). The outcome synthesis [table B3](#) in [Appendix B](#) shows seven of the eight articles support the use of a pain intensity scale plus functional assessment.

The use of a multidimensional pain screening tool that includes assessment of pain intensity and functional status provides a more accurate assessment and reassessment of chronic pain when compared to the NRS. Functioning and well-being are major areas affected by pain. Targeted outcomes focusing on the assessment of functional status are necessary to evaluate treatment effectiveness and quality of life (QOL).

The DVPRS and Supplemental Questions is a brief, multidimensional pain assessment screening tool used to determine pain intensity and its interference on QOL, including general activities, sleep, mood, and stress. Reliability and validity were demonstrated by the alignment of the numerical pain intensity with word descriptors. The Supplemental Questions were compared with other validated measurements of psychometric properties related to functional assessment. Based on the evidence, the recommendation is to implement the DVPRS and Supplemental Questions for the assessment of chronic pain to include both pain intensity and functional status. Successful implementation will 1) Improve communication and interpretation of pain intensity and interference levels with daily activities for both patients and providers. 2) Ensure a thorough assessment and reassessment of pain to guide interventions. 3) Improve QOL as evidenced by reduced pain intensity and interference of ADLs.

The DVPRS pain assessment tool was successfully implemented in the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute in Columbus, Ohio using quality improvement methods. The DVPRS improved interpretation of pain medication dosing, reflecting pain levels of mild, moderate, and severe. Patients felt the DVPRS was easier to understand, and pain was better described than with the NRS (Blackburn et al., 2018). Pain intensity may take longer to improve. The impact of pain on QOL is more responsive to different therapies, such as cognitive behavioral therapy, physical therapy, occupational therapy,

acupuncture, and yoga. Therefore, supplemental questions guide conversations, treatment plans, and gauging treatment effectiveness (L. Blackburn, personal communication, February 17, 2021). The evidence supports use of the DVPRS in primary care setting to assess acute and chronic pain.

## **Project Plan**

### **Project Goals**

1. To identify best practices for assessing chronic pain in primary care setting.
2. To update pain assessment policy at a FQHC using best available evidence.
3. To implement the updated pain assessment policy at a FQHC and track staff adherence to policy.

### **Project Design and Methodology (EBP Process Steps 0-3)**

#### **Framework**

The methodology for this project began with the evidence-based practice (EBP) process steps 0-3 (Melnik & Fineout-Overholt, 2019) that revealed the DVPRS as an alternative for assessing chronic pain intensity and functional status and met project goal #1. The CMO and CNO support a small test of change of the DVPRS on the Internal Medicine (IM) Unit. The Plan-Do-Study-Act (PDSA) framework will be used to guide the small test of change and address project goals 2 and 3.

**Plan phase.** This DNP student has met with the CMO and nurse leader (NL) to revise the pain assessment policy by adding the DVPRS. See [Appendix C](#) for revised pain assessment policy. Final policy was approved in April for the project pilot. Project goal #2 was addressed in this phase.

**Do phase.** In this phase the updated pain assessment policy at the FQHC will be implemented and nurse adherence to updated policy will be tracked. The implementation process will begin with a pre-survey on the knowledge of pain assessment, nursing policy for pain assessment, functional pain assessment, and interest to increase pain assessment knowledge ([Appendix D](#)). The DNP student will educate the staff (e.g., nurses and providers) on an updated pain assessment policy, DVPRS, guidance on the use of DVPRS and supplemental questions, and EMR documentation (see [Appendix E](#) for EMR and [Appendix F](#) for teaching plan). Two 30-minute virtual luncheons will be scheduled from 12:30-1:00 PM with the licensed practical nurses (LPNs) and providers at the FQHC IM unit, Bridgeport, CT. Laminated DVPRS pocket guides and posters will be available for ease of reference and accessibility at the point of care (see [Appendix G](#), [Figure G1](#) and [Figure G2](#) for pocket guides). Anonymous daily feedback survey will be collected weekly titled, “Feedback for updated Pain Assessment Policy and the DVPRS and Supplemental Questions Pain Scale”. Post-survey assessment of staff knowledge will include the updated pain assessment policy, best practices based on current evidence in the primary healthcare setting, and feedback. Chart audits will be conducted to track adherence to the updated policy and if it was implemented as planned. Written and verbal feedback on the updated pain assessment policy will be collected to evaluate staff satisfaction, opinions, barriers, and facilitators.

**Study phase.** Process measures include measuring staff knowledge before and after receiving education on revised pain assessment policy ([Appendix C](#)). The DNP student will perform weekly chart audits for staff adherence to the updated policy and display the results on a run chart (see [Appendix H](#)). The target goal will be for 90% of all patients presenting with pain to be assessed using the DVPRS by 1-month and this will be sustained in the following two

months. The DNP student will review the results with the ALTOP team at the monthly meetings as well as share results with staff via emails and on-site communications. The DNP student will be onsite twice a week to answer questions and to gather any clinical inputs. A summary of lessons learned will be developed by the DNP student and used to inform any future changes.

**Act phase.** The DNP student will revise policy or process as needed based upon what is learned in the first PDSA cycle.

## **Context**

The project setting is the IM unit at a FQHC in Bridgeport, Connecticut. Participants are the nurses and providers that staff this unit and the adult patient population.

## **Project Team Members and Roles**

The CMO's role is to review policy drafts, approve final policy and offer guidance throughout the project. The CNO will also review policy drafts. The NL of the IM unit is the practice mentor onsite, who will help with the implementation and the championing of the project. The Director of QI will review the project plan to ensure it meets QI standards. The project leader for ALTOP Grant at the FQHC is the liaison between this FQHC and SHU DHCON faculty. Kerry A. Milner, DNSc, RN, EBP-CH is the academic partner, DNP project faculty advisor, and evidence-based practice expert.

## **Key Stakeholders and Buy-in**

The FQHC nurses and patients in the IM unit are the key stakeholders in this project. Direct engagement for nursing buy-in with an open dialogue between all stakeholders of interest will be conducted. Project leader will clearly communicate project goals, missions, and plans for

using the best available evidence for pain assessment in the pilot and the overall benefits (French-Bravo & Crow, 2015; “Upfront Stakeholder,” 2015). Two of three full-time LPN on-site have expressed interest in the new pain assessment scale to capture a more accurate pain intensity. The associated word descriptor for each pain intensity level piqued their interest with the new tool. In addition, appealing to the patient’s concern for effective pain management will engage in buy-in. The new pain assessment scale and supplemental questions will assist providers on how to effectively manage their pain with alternative therapies leading to well-being and improved QOL (Advancing Health Equity, 2021).

### **Barriers and Facilitators to Implementation**

Barriers to implementation of an updated pain assessment policy may include increasing nursing time, new documentation, resistance to change due to culture or practice, low-English proficiency patients, and telehealth phone visits. Barriers to sustainability may include lack of organizational support for adoption of updated pain assessment policy, practice variations in nursing following the pilot, and lack of time for documentation. Plans to address barriers include educating nurses on policy and training on the DVPRS, educate on current best practices based on evidence, provide nurses and patients with pain assessment pocket guide cards for ease of reference, implement standard work practices, identify a process owner, and transfer strategy to continue the work and maintain improvements over time (Dawson, 2019b). Predicted facilitators include point-of-care (POC) laminated DVPRS posters in rooms as reminders and pocket guides for process flow, EMR shortcuts with “my phrases” for supplemental questions, one-on-one education, assign staff champions, direct engagement for buy-in. Additionally, the DNP student/project leader has an established relationship with staff as a SHU student on-site, completing clinical rotations.

## **Sustainment**

Having a standardized comprehensive pain assessment policy and procedure using the DVPRS that is approved and backed by the CMO and CNO is a key step towards sustainability. Another step is to pilot the updated policy and get feedback from the staff who will be using it and make improvements based on their feedback. Identifying pain champions, who are essential team members to provide support and education for the practice change will facilitate sustainability. Their role will include sharing information, supporting the practice change in their department and other IM departments, and training peers (Cullen & Adams, 2012). After successful implementation of pilot, pain champions will be identified for other IM departments for integration and sustainability of new policy. Celebration of achievements and recognition of success will encourage staff to maintain their momentum for practice change as well as having a positive influence on job satisfaction and commitment to the organization (Cullen et al., 2018). The celebration will take place in the FQHC IM unit during lunch from 12:00 to 1:00 P.M. at a date to be determined.

## **Dissemination**

The primary goal of disseminating evidence is to facilitate the translation of evidence-based research into clinical practice or quality improvement projects. Creating and presenting an EBP poster will provide a professional communication of evidence-based findings with visual data, charts, and tables of the most essential aspects of the EBP project. The poster presentation will allow an interactive role for the project leader to answer questions to enable sharing and learning with colleagues (Melnyk & Fineout-Overholt, 2019). A well-developed EBP poster will be highly effective in communicating the project's pertinent findings. The structural component of the poster will include the title, authors, affiliation, purpose statement, model, synthesis of evidence, practice change, implementation strategies, evaluation, and conclusion (Williams &

Cullen, 2016). In addition, the poster will illustrate the DVPRS and Supplemental Questions screening tool, internal evidence with pilot, project details, findings, and implications for practice changes. The project leader will present the poster to the FQHC locations during a luncheon between 12 PM to 1 PM on specific future dates. A calendar invitation to the poster presentation will be sent out to the organization.

External dissemination after laying the groundwork to convert the EBP project into a manuscript within 90 days of the poster presentations (Melnyk & Fineout-Overholt, 2019). The target audience will include healthcare organizations, healthcare providers, pain management providers, and primary care clinics. I will propose the dissemination strategy to my DNP project advisor to collaborate and mentor me in the publication process. Journals being considered for submissions could include *Pain Medicine* and the *Journal of General Internal Medicine*. Query letters with the abstract will be sent via email to editors to determine their interest in the full manuscript (Cullen et al. 2018).

### **Estimated Timeline and Project Table**

See [Appendix I](#), [Table II](#), [I2](#), and [I3](#) for project timeline including pre-implementation, and implementation timeline, notes, actions and outcomes.

## Resources

[Table 1](#) describes the anticipated costs for project implementation and evaluation. Full-time equivalent is 150.02 hours per month x 12 months. The project leader will spend 5% full-time equivalent (FTE) (24 hours per month x 4 months = 96 hours) managing entire project. The project leader will spend time for PowerPoint creation and education, project implementation, reviewing surveys, data collection including electronic documentation and feedback, weekly chart audits and analysis. Additional cost for material and supplies for DVPRS pain scale.

Table 1. *Anticipated Cost Analysis*

<b>Expenses</b>	
Project leader	\$5,000
5% of average annual salary \$100,000	
Virtual luncheon #1	\$100
Virtual luncheon #2	\$100
<b>Laminated DVPRS Pain Scale for POC</b>	
Staples color printed poster 8x11" x 10 (\$0.41/sheet)	\$4.10
Walmart 5x7 Scotch Self-Sealing Photo Laminating Sheets, Gloss, 5" x 7", 5-Count	\$5.50
Walmart Scotch Self-Seal Laminating Pouches, 10 Count, 8.5" x 11", 3 Mil Thick	\$10.60
Staples custom cards 5x7" color front and back x 25	\$24.99
Total Estimated Cost	\$5,246.19

## **Review for Ethical Considerations**

This project has been reviewed by the ALTOP grant team. This project does not require Sacred Heart University Institutional Review Board approval because it is a quality improvement project (see [Appendix J](#)). The approval to implement the project has been received from the CMO and CNO at FQHC.

## **Data Collection Plan**

The DNP student will be on-site twice a week to evaluate nurse adherence to the updated policy including process and documentation. The DNP student will review patient charts who were assessed with the DVPRS and recorded on the *Patient Log* form (See [Appendix K](#)). The NL will collect the *Patient Log* form and communicate patient information to the DNP student weekly. Patient information will be communicated to the data analyst to run data fields requested for data collection (see [Appendix L](#) for data to be collected). The DNP student will complete chart audits of all patient encounters with pain and review all data fields including free text fields, referrals, and medications.

## **Data Analysis Plan**

The DNP student will review data collected and data provided by the data analyst. All data will be organized into spreadsheets. Each chart will be analyzed to ensure accuracy of data collected for fields including documentation in the *pain management* section, *pain scale* (intensity), *method*, *onset date*, and free text field for supplemental questions and handoff. Data analysis will include percentage of nursing adherence to process and documentation as well as providers' plan of care for patients with pain.

## **Project Implementation, Evaluation, ROI**

### **Project Implementation**

A 12-week implementation phase was initiated on August 24 to November 12, 2021. The nurse leader (NL) confirmed the initiation date. Multiple emails were communicated leading up to the project go-live date to all stakeholders and project team members including frontline nurses and providers. Emails included detailed information of pilot, instructions for nursing process flow, screenshots of EMR documentation, and responsibilities for the nurses and providers. The project roll-out was announced in the FQHC provider meeting. However, multiple barriers were encountered that prevented a successful implementation of the pilot and led to deviations from the original project plan. Due to restrictions as an on-site visitor, I was only able to re-educate four LPNs and three providers one-to-one on the process and documentation immediately prior to or during implementation. Deviations resulted and affected staff support, guidance, ability to track nurse adherence to implementation and workflow of the DVPRS and/or Supplemental Question including documentation of assessment in appropriate EMR fields, and providers' plan of care (See [Appendix M](#) for complete details of the PDSA cycles for the project implementation phase).

### **Barriers to Implementation**

#### ***Outside Project Leader***

As the project leader and SHU student completing clinical rotation on-site, I was allowed to visit the unit freely before the project go-live date. This access allowed me to make multiple visits on-site to educate nurses and providers individually or as a group within a busy IM unit during the morning huddle or lunch hour. However, during the implementation phase, my access as an outside project leader was limited after the completion of my clinical rotation. Deviations from plans to be on-site one to two days per week occurred when the organization and NL had

higher priorities including Joint Commission and Health Resources and Services Administration (HRSA) preparation visits.

Thus, I was unable to provide guidance to nurses and providers during point-of-care utilizing the DVPRS pain assessment and documentation. Providing guidance was impossible without the flexibility to be on-site one to two days per week. Evaluating staff adherence to the process could not be completed in real time.

### ***Organization's Joint Commission Preparation***

The organization was preparing for an unannounced Joint Commission site visit. The NL requested me to allow him to get the project off the ground with the staff without my on-site presence. In an effort to communicate with all stakeholders and project team members, weekly emails were sent in the beginning of each week as reminders, with detailed instructions of the workflow and screenshots of the EMR documentation fields. Communication between the NL and myself about patients processed or logged did not occur as planned. After three weeks of implementation, I was made aware nurses and providers had questions about the workflow and documentation. Since the NL was unable to answer their questions, I was invited to be onsite. The meeting was never confirmed; however, I was scheduled to meet with a project team member who is a provider on site to review the process and provider responsibilities. During our meeting, the NL was invited to discuss the progress of the project, reviewed nurses and provider responsibilities, workflow, documentation in EMR, and addressed questions from the staff. The NL assured me he will continue to reinforce staff to assess for pain using the DVPRS during their morning huddles and review processes with nurses and providers if necessary. This opportunity to be on-site for the meeting allowed me to provide support, observe, and guide one

nurse with the DVPRS assessment and documentation.

### ***Poor Communication between NL and Project Leader***

The NL and myself agreed on weekly communication about patients processed and logged for data collection; however, conversations were initiated by me through e-mail and text. It was a challenge to schedule meetings or site visits at the beginning stage and throughout the implementation phase.

### ***No Real-Time Feedback***

Communications about patients processed with the DVPRS was delayed. Nurses were instructed to log each patient's information on a designated form to be collected by the NL weekly and communicated to the project leader (see [Appendix K](#) for log form). Patients who were logged on the form were not communicated to the project leader until after three weeks.

### ***EMR Server Down***

On October 6 to October 31, the EMR went down after a system wide server outage, and I was unable to regain remote access until after the completion of the pilot on December 3. While the server was down, I had no access to the EMR to review charts of patients the nurse processed or evaluate nurse adherence to the documentation process. This led to a delay in reviewing charts processed with the DVPRS until after the implementation phase. I continued to communicate through email with weekly reminders as staff may have forgotten to assess for pain with the DVPRS during the EMR outage.

### ***Project Not a Nursing Priority***

Nurses on the unit were overwhelmed with organizational priorities which led to extremely low nursing adherence with high resistance for implementation of the new pain scale. Nurses felt they did not have time or forgot to implement the new pain scale along with other

screenings during each encounter. In addition, the NL had other priorities on the unit despite awareness and agreement of our go-live implementation date.

### ***No Nurse Champion***

Two nurses were agreeable to being the champion early in the project development. However, the pilot site is a busy IM unit with little time between patients to complete tasks for each patient intake. The NL did not feel assigning a nurse champion was suitable since they are too busy. A nurse champion was never established

### **Evaluation**

Data retrieval included visits from August 24 to November 12, 2021, of adult patients ( $\geq$  18 years old) with a pain diagnosis, pain assessment, and providers plan of care. Excel spreadsheets of patient data collected were provided by the data analyst a week after the end of project implementation. All in-clinic patient encounters were further reviewed and analyzed manually to capture pain scale used, assessment and documentation of pain in appropriate fields, providers documentation of referrals and/or medications, and additional free text fields such as supplemental questions and handoff in the EMR.

The review of charts became a much more detailed and lengthy process. About 408 charts were carefully reviewed to ensure accuracy of data received and to capture additional data fields for analysis including the removal of telehealth visits and nurses who were not trained to use the DVPRS, differentiation of patient encounters with chronic and/or acute pain, assessment method for pain, and adherence to DVPRS documentation. Total time spent with data retrieval and analysis post-implementation equated to approximately 60 hours.

## Process Measures

Six licensed practical nurses (LPNs) and five providers (2 APRN and 3 physicians) were educated on the new pain scale, documentation, and process for the DVPRS and/or Supplemental Questions prior to the 12-week project period. A total of 1,093 patient encounters were seen in-clinic and/or with telehealth, 403 encounters having a pain diagnosis plus 5 encounters not captured from data analyst’s list. After review of 408 patient encounters, there were 292 in-clinic, adult patient encounters with pain: chronic (46%), acute (21%), both (2%), and unknown (31%) duration (see [Table 2](#) and [figure 1](#)). Of these, 270 encounters with pain were assessed with traditional NRS, and only 7 were assessed with the DVPRS as documented in the EMR (see [Table 2](#)). Majority of patients with chronic pain were assessed with the NRS (92%) (see [Figure 2](#)). Nurse adherence for the implementation of the DVPRS was extremely low (5%) for patients with chronic pain (see [Figure 2](#)).

Table 2. *Pain Characteristics, Assessment Method, and Documentation in EMR*

Characteristics	Total encounters with pain (n= 292) <i>f</i> (%)	Numeric Pain Intensity Scale (n= 270) <i>f</i> (%)	DVPRS Method Selected (n= 7) <i>f</i>	No Pain Assessment (n= 15) <i>f</i> (%)
Chronic	134 (46)	123 (46)	7	4 (27)
Acute	61 (21)	54 (20)	0	7 (47) (One refused)
Both	6 (2)	6 (2)	0	0
Pain Type not documented	91 (31)	87 (32)	0	4 (27)

Figure 1. Pain Type as Chronic, Acute, Both, or Undocumented.

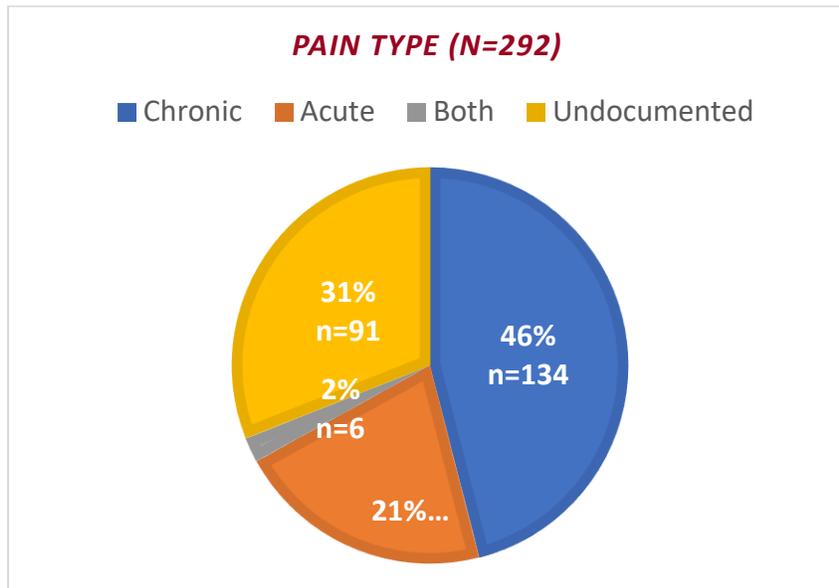
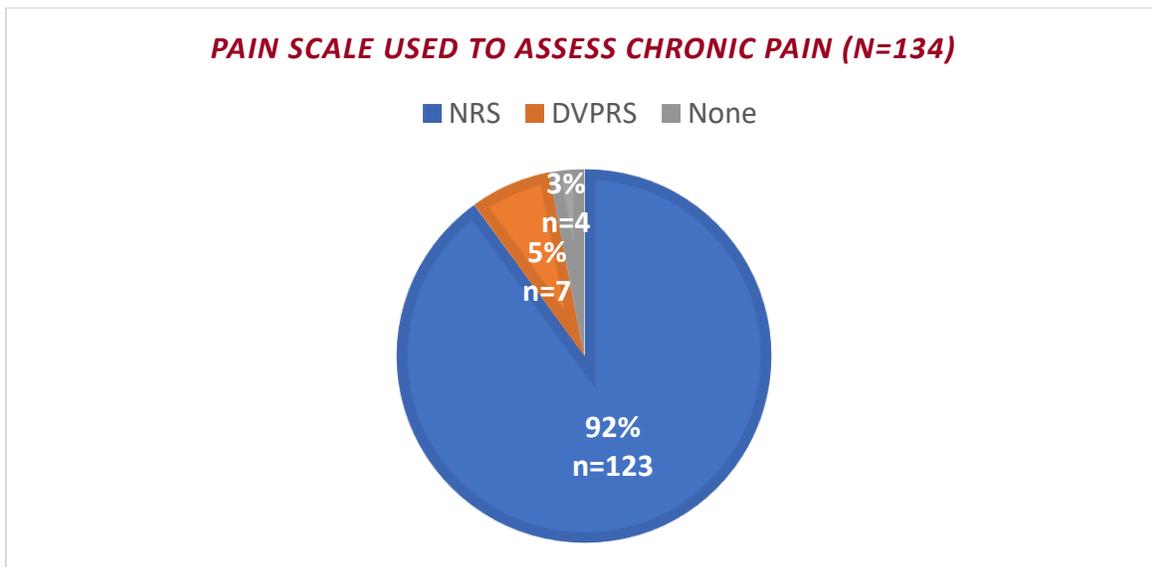


Figure 2. Pain scale used to assess chronic pain



Multiple barriers to implementation hindered the ability to complete an in-person and real-time data collection for the process measures. EMR data was analyzed for nurse adherence to using the DVPRS and/or Supplemental Questions. Nurses documented the use of the DVPRS on seven patients and an additional nine patients who were found through chart review for a total of 16 patient encounters. Nurse documentation adherence based on EMR fields of *pain management* section, *pain scale* (intensity), *method*, *onset date*, and text fields for supplemental questions and hand-off to providers in HPI were collected and carefully analyzed. The follow through for supplemental questions were poor with 14 (87.5%) patient encounters who had at least one inconsistency in their documentation.

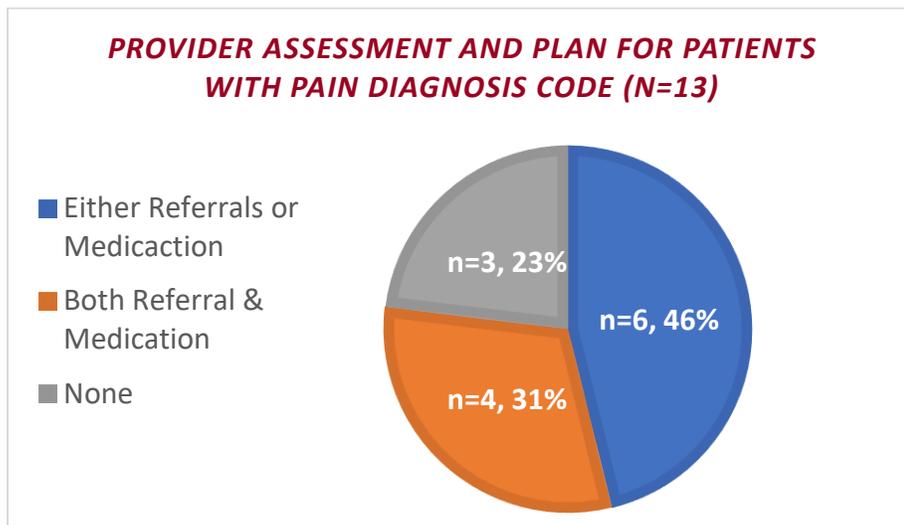
Patients with chronic pain who express pain level of 4 or greater should be further evaluated by supplemental questions addressing four domains of biopsychosocial impacts of pain. Each domain (activity, sleep, mood, and stress) is rated from 0-10, with 10 identifying the most interference from pain. Supplemental questions and handoff documentations were saved in nurses' EMR shortcut "my phrases" to facilitate efficiency at point-of-care (POC). Two out of eleven patients with supplemental questions processed were documented correctly with eight documented incorrectly and one partially correct. Incorrect documentation included adding descriptive text, ratings with yes or no, and changing the words in the questions. Six handoffs were documented in the correct field for the 9 patients with supplemental questions.

### **Outcome Measurements**

Providers' plans of care and/or treatment decisions were collected from 16 patients processed with the DVPRS and/or Supplemental Questions. Outcome measurements included provider referrals to alternative modalities and/or non-opioid medication prescriptions or adjustments.

Of the 16 patients, 13 patients had a pain diagnosis code. Ten out thirteen patients received referrals and/or medications. Six patients (46%) had either a referral or new medication prescription including one increased in frequency, four patients (31%) had both, and three patients (23%) had neither (see [Figure 3](#)). New referrals included chiropractic medicine (1), physiatrist (1), physical therapy (2), and cardiology (1). Four referrals to be considered with next visit included chiropractic medicine (1), physical therapy (1), orthopedic specialty (1), and physiatrist (1). New medication prescription included Voltaren Arthritis Pain 1% gel, Cyclobenzaprine, Naprosyn, Sumatriptan, Gabapentin, and Diclofenac 1% topical gel. Tramadol was increased from twice a day to three times a day for one patient.

Figure 3. *Provider Assessment and Plan for Patients with Pain Diagnosis Code*



Of the 16 patients, 3 patients did not have a pain diagnosis code. Patient #1 had no pain, patient #3 had acute pain of 4 or greater, and patient # 9 had a visual scale of 10 pain on the DVPRS. In further evaluating patients' charts, patient #9 presented with limited mobility to right hand status post stroke and no resolution with visiting nurse service. A possible reason for no interventions for patient #9 may have included not understanding the DVPRS is for pain

assessment and not for stroke. A possible reason for no pain diagnosis and intervention for patient #3 may have included the patient did not express pain to the provider and the patient was already prescribed lidocaine 5% patch and Voltaren 1% gel.

Three patients (23%) did not receive referrals or non-opioid pain medication prescriptions with a pain diagnosis code. Possible reasons for no interventions included patient #14 who was already on Diclofenac 1% gel, patient #8 who was receiving Percocet from an outside provider, and patient #6 who had a pelvic pain diagnosis code with gynecologist follow-up.

In summary, despite low nurse adherence to DVPRS utilization, 77% of patients with a pain diagnosis code and processed with the DVPRS and/or Supplemental Questions received referrals for alternative modalities and/or non-opioid pharmacological interventions. Most common referrals were chiropractic medicine and physical therapy. Additionally, self-pain management education was documented to include resting, increasing fluids, and avoiding headache triggers for one patient. Twenty-three percent of patients with a pain diagnosis code and processed with the DVPRS and/or Supplemental Questions did not receive interventions possibly for the reasons stated above. Providers in the pilot did not prescribe opioids for these patients. However, two patients were receiving opioids for pain management: one patient from an outside provider and another patient from a methadone pain clinic.

## **Post Implementation Feedback Survey**

### ***Qualitative Findings***

A post implementation feedback survey was distributed to the 6 nurses and 5 providers over three weeks using a customized Qualtrics Online Surveys website. Participation was solicited through emails and three on-site reminders with a total of 6 nurses and 3 providers who

completed the survey. All 6 nurses assessed the patient's pain using the DVPRS and/or Supplemental Questions at least once. Three nurses stated the length of time to assess and document each patient was less than 15 minutes. The lack of time or forgetting to implement the pain scale were reasons why two nurses selected *sometimes* for using the new pain assessment tool.

Only three providers completed the feedback survey; two of the three providers stated their nurses used the DVPRS *sometimes* and one provider stated their nurses did not use the DVPRS to assess pain. One provider stated their treatment plan was informed by the DVPRS and explained, it "*made us more aware of the functional limitations and did more [patient] education.*" Another provider stated the treatment plan was sometimes informed by the DVPRS and explained, "*it opened other more nuanced conversations about modalities and patient goals.*"

Nurses' and providers' recommendations to increase adoption of the DVPRS included acquiring a customizable EMR system to streamline the process, make it more accessible and user friendly. Documentation in the EMR field for pain assessment varied between nurses. Nurses and providers agreed the DVPRS is an effective tool for assessment of pain and interference with life, however, they could not afford time to process the DVPRS. Dividing the pain assessment process using the DVPRS between the nurses and providers could increase adoption. Further research on the effectiveness of the DVPRS to inform care or evidence of positive outcomes are recommended.

### **Return on Investment (ROI)**

The final project expenses were over \$13,000 annually. A total of 60 hours of personal time was spent to review charts and data analysis over a 12-week period. The time for data

analysis over a 12-months period was estimated at 240 hours x \$56 hourly rate. This was calculated to be 13.5% for an average annual nurse salary of \$100,000. Additional cost not included are SHU swag gifts for each nurse that participated, which was provided by the College of Nursing (see [Table 3](#)).

Table 3. *Final Project Costs*

<b>Final Project Costs</b>	
Project leader time 13.5% of average annual salary \$100,000	\$13,500
Nursing Education Presentation Breakfast #1	\$50
Nursing Education Presentation Breakfast #2	\$50
On-Site Feedback Survey: Bagels and Coffee	\$40
SHU Pad: Laminated DVPRS Pain Scale for POC	
Color printed poster 8x11" x 10 and Custom Pocket Guides 5x7" color front and back x 25	\$ 9
<b>Total Cost</b>	<b>\$ 13,649</b>

ROI cannot be calculated because the DVPRS was not fully adopted. Future ROI ideas and Quality Indicators include patient satisfaction with pain management; reduction of pain intensity level and biopsychosocial domains as evidenced by a rating of 4 or less; increase referrals for alternative modalities; and zero emergency department (ED) visits for primary

diagnosis of chronic pain within 1 year. About 30% of chronic pain patients visit the ED for uncontrolled pain management, with risk of opioid prescription upon discharge.

## **Dissemination**

### **Implications of Project Results to Organization and Practice Community**

Most patients with chronic pain are treated in primary care settings, with 45% of opioid prescriptions written by primary care providers in the United States (Becker et al., 2018; Tong et al., 2019). According to the Department of Veterans Affairs and the Department of Defense (VADoD) (2017) clinical practice guidelines, chronic pain should be initially treated with non-pharmacologic and non-opioid pharmacologic therapies before considering opioid treatments. Non-pharmacological modalities including cognitive behavioral therapy, mindfulness-based stress reduction, exercise, and physical therapy have been shown to be effective along with condition-specific non-opioid medications (e.g., gabapentin) (Becker et al., 2018; VADoD, 2018).

Conducting a biopsychosocial assessment including functional goals and impact of pain are essential steps in the algorithm for pain management (VADoD, 2017). Adopting a brief comprehensive pain assessment tool such as the DVPRS and Supplemental Questions in a primary care setting will improve provider and patient communication surrounding pain as well as assessing impacts of pain on functional status and quality of life, while providing patient-centered care and eliminating opioid prescriptions with alternative therapies.

### **Sharing Project Results Locally and Regionally**

An executive summary was shared with the practice setting (see [Appendix N](#) for executive summary). A power point presentation was completed for the leadership, ALTOP grant team, and SHU community. As part of the DNP program course, the project was presented

in poster format for the Davis & Henley College of Nursing faculty and students. An abstract was submitted to the Connecticut Advanced Practice Registered Nurse Society (CTAPRN) annual conference and accepted for a podium presentation that was completed on April 7, 2022. (See [Appendix O](#) for CTAPRN schedule and [Appendix P](#) for poster presentation).

### **Key Lessons Learned**

One of the key lessons learned is the importance of strong leadership support for all phases of the project, especially during the implementation phase where success of the quality improvement is dependent on nursing and provider engagement at the frontline level as well as for the sustainment of the project. Active engagement of frontline leadership and staff members on the unit is essential for successful evaluation of efficiency and process flow (Dawson, 2019a). The lack of significant commitment from organizational leadership and dedicated staff on the unit resulted in an unsuccessful project implementation.

Second key lesson learned are challenges encountered as an outside project leader. Project expectations were no longer carried out as discussed, deviations from plans occurred, and communications became poor. Minimal or lack of implementation of the new pain scale led to inconsistent or incorrect use and frequently forgotten. The evaluation of efficiency and process flow was not possible. Constructive feedback in real-time or in an appropriate time frame could not be provided and resulted in incorrect process flow for implementation and documentation in EMR. Ineffective communication and/or negotiation for site visit or meetings with NL made it challenging to carry out the project as planned. Having an on-site project leader or nursing staff champion is essential for successful evaluation of efficiency and process flow of project as well as to give guidance, support, and provide real time feedback.

Third lesson learned is to reduce the time between education and implementation to promote momentum and continued interest for the project. The time from education to project go-live date was 4 weeks. Education was completed in multiple sessions lasting from 10-30 minutes to ensure all staff participated; however, each staff was educated only once prior to implementation. Offering additional education sessions will further facilitate staff recall and reduce process errors.

Lastly, the education in itself was an intervention based on the post-implementation survey, the education on the DVPRS and Supplemental Questions was impactful to the providers to inform care.

### **Sustainability Plan**

Nurse adherence for the pilot implementation of a new pain assessment tool, the DVPRS and/or Supplemental Questions was unsuccessful in the FQHC IM unit. The lack of support from frontline leadership and nursing resistance along with multiple barriers during implementation resulted in an unfavorable process outcome. The PDSA method was used for the QI project to implement change. Despite multiple PDSA cycles, nurse adherence to the new pain scale failed to sustain; however, provider outcome measurements were significant.

QI projects require time and continued monitoring for change to occur. Future PDSA cycles must include ways to increase facilitators and reduce barriers during the implementation phase. Changing practice and workflow in a busy IM unit requires strong organizational, frontline leadership and staff support for all phases of the project. Promoting a culture of change by organizing a QI committee to support nurse involvement with unit projects. Identifying nurse champions, who are essential team members to provide support and education for the practice change will facilitate sustainability. They can promote continuous monitoring and feedback

necessary for process improvements and the prevention of process errors. Staff incentives can be used to recognize their commitment and hard-work, especially when frontline staff buy-in is key for change to happen along with leadership support.

While the utilization and documentation of the DVPRS was primarily focused for the nurses, providers should be educated to ensure all patients with pain are consistently assessed using the same scale. There were 137 patients with a pain diagnosis code but had 0 pain documented by the nurses. Indicating patient endorsed zero pain to the nurses but reported pain to the provider.

## References

Advancing Health Equity. (2021). *Strategies to obtain buy-in*.

<https://www.solvingdisparities.org/tools/roadmap/securing-buy/strategies-obtain-buy>

Becker, W. C., Bair, M. J., Picchioni, M., Starrels, J. L., & Frank, J. W. (2018). Pain

management for primary care providers: A narrative review of high-impact studies, 2014-2016. *Pain Medicine, 19*(1): 40–49. <https://doi.org/10.1093/pm/pnx146>

Blackburn, L. M., Kathy, B., DiGiannantoni, E., Meade, K., O'Leary, C., & Stiles, R. (2018).

Pain Assessment: Use of the Defense and Veterans Pain Rating Scale in patients with cancer. *Clinical Journal of Oncology Nursing, 22*(6):643-648. <https://cjon-ons->

[org.sacredheart.idm.oclc.org/cjon/22/6/pain-assessment-use-defense-and-veterans-pain-rating-scale-patients-cancer](https://cjon-ons-)

Buckenmaier, C. C., Galloway, K. T., Polomano, R. C., Mcduffie, M., Kwon, N., & Gallgher, R.

M. (2013). Preliminary validation of the Defense and Veterans Pain Rating Scale (DVPRS) in a military population, *Pain Medicine, 14*(1): 110-

123. <https://doi.org/10.1111/j.1526-4637.2012.01516.x>

Cullen, L., & Adams, S. (2012). Planning for implementation of evidence-based practice.

*Journal of Nursing Administration, 42*(4): 222-230. <https://journals-lww->

[com.sacredheart.idm.oclc.org/jonajournal/Fulltext/2012/04000/Planning\\_for\\_Implementation\\_of\\_Evidence\\_Based.9.aspx](https://journals-lww-com.sacredheart.idm.oclc.org/jonajournal/Fulltext/2012/04000/Planning_for_Implementation_of_Evidence_Based.9.aspx)

- Cullen, L., Hanrahan, K., Farrington, M., DeBerg, J., Tucker, S., & Kleiber, C. (2018). *Evidence-based practice in action comprehensive strategies, tools, and tips from the University of Iowa Hospitals and Clinics*. Sigma Theta Tau International.
- Dansie, E. J., & Turk, D. C. (2013). Assessment of patients with chronic pain. *British Journal of Anaesthesia*, *111*(1): 19–25. <https://doi.org/10.1093/bja/aet124>
- Dawson, A. (2019a). A practical guide to performance improvement: Implementation of systematic methodologies. *AORN Journal*, *110*(1): 40-48.  
<https://aornjournal.onlinelibrary.wiley.com/doi/abs/10.1002/aorn.12723>
- Dawson, A. (2019b). A practical guide to performance improvement: Tools and tips to sustain and control project improvements. *AORN Journal*, *110*(5): 510-514.  
<https://aornjournal.onlinelibrary.wiley.com/doi/abs/10.1002/aorn.12837>
- Department of Veterans Affairs and the Department of Defense. (2017). *VA/DoD clinical practice guideline for opioid therapy for chronic pain – clinician summary*.  
<https://www.healthquality.va.gov/guidelines/Pain/cot/VADoDOTCPGProviderSummary022817.pdf>
- French-Bravo, M., Crow, G., (2015). Shared Governance: The role of buy-in in bringing about change. *Online Journal of Issues in Nursing*, *20*(2):8.  
<http://ojin.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol-20-2015/No2-May-2015/Articles-Previous-Topics/Role-of-Buy-In-In-Change.html>
- Giannitrapani, K. F., Day, R. T., Azarfar, A., Ahluwalia, S. C., Dobscha, S., & Lorenz, K. A. (2019). What do providers want from a pain screening measure used in daily practice? *Pain Medicine*, *20*(1): 68-76. <https://doi.org/10.1093/pm/pny135>

- Melnyk, B. M., & Fineout-Overholt, E. F. (2019). *Evidence-based practice in nursing and healthcare: A guide to practice* (4<sup>th</sup> ed.). Wolters Kluwer.
- Nassif, T. H., Hull, A., Holliday, S. B., Sullivan, P., & Sandbrink, F. (2015). Concurrent validity of the Defense and Veterans Pain Rating Scale in VA outpatients. *Pain Medicine*, *16*(11): 2152–2161. <https://doi.org/10.1111/pme.12866>
- Tong, S. T., Hochheimer, C. J., Brooks, E. M., Sabo, R. T., Jiang, V., Day, T., Rozman, J. S., Kashiri, P. L., & Krist, A. H. (2019). Chronic opioid prescribing in primary care: Factors and perspectives. *Annals of Family Medicine*, *17*(3): 200–206. <https://doi.org/10.1370/afm.2357>
- U.S. Department of Health and Human Services (2019, May). *Pain management best practices inter-agency task force report: Updates, gaps, inconsistencies, and recommendations*. U. S. Department of Health and Human Services. <https://www.hhs.gov/ash/advisory-committees/pain/reports/index.html>
- Upfront stakeholders buy-in: The keys to success*. (2015). <https://spendmatters.com/2015/07/21/upfront-stakeholder-buy-in-the-keys-to-success/#:~:text=Stakeholder%20buy%2Din%2C%20for%20lack,by%20internal%20or%20external%20individuals>.

## **Appendix A**

### **Description of Evidence Search**

A search of the following databases was conducted: CINAHL Complete, MEDLINE with Full Text, Cochrane Database of Systematic Reviews. Key word search was: DVPRS, Defense and Veterans Pain Rating Scale, quality of life, health-related quality of life, functional assessment, comprehensive pain assessment, chronic pain, numeric pain rating scale, unidimensional, multidimensional. Limits/filters for CINAHL complete and Cochrane Database included English language, all adults over 18 and published between 2010-2020. Limits/filters for database Medline included English language and published between 2010-2020. Inclusion criteria for article selection were DVPRS, chronic pain, primary care, psychosocial and functional impact or measurement. Tables 2 through 4 displays the database, search terms and results of search.

PICO Question: In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?

**Appendix A**  
**Description of Evidence Search**

Table A1. *CINAHL Complete Search Terms and Search Results*

*Limit search year 2010-2020, English, All Adults*

Search Terms	Number of hits	Number of title & abstract reviewed	Number of full-text articles reviewed	Number of articles selected for this review without duplicates
Defense and Veterans Pain Rating Scale or DVPRS	13	13	8	8
Defense and Veterans Pain Rating Scale or DVPRS AND Quality of life or Health-Related Quality of life	3	3	3	duplicate from previous search
Defense and Veterans Pain Rating Scale or DVPRS AND functional assessment	3	3	1	duplicate from previous search
Defense and Veterans Pain Rating Scale or DVPRS AND comprehensive pain assessment	1			duplicate from previous search
Comprehensive Pain Assessment	56	8		
Comprehensive Pain Assessment AND Chronic Pain	16	10	2	2
Numeric Pain Rating Scale and Comprehensive Pain Assessment	4	2	1	1
Unidimensional or Multidimensional AND Chronic Pain Assessment (no age limit)	25	4	2	2

**Appendix A**  
**Description of Evidence Search**

Table A2. *MEDLINE with Full Text Search Terms and Search Results*

*Limit search year 2010-2020, English*

Search Terms	Number of hits	Number of title & abstract reviewed	Number of full-text articles reviewed	Number of articles selected for this review without duplicates
Defense and Veterans Pain Rating Scale or DVPRS	30	8	1	1 (7 duplicates from CINAHL)
Defense and Veterans Pain Rating Scale or DVPRS AND Quality of life or Health-Related Quality of life	4			
Defense and Veterans Pain Rating Scale or DVPRS AND functional assessment	1			
Defense and Veterans Pain Rating Scale or DVPRS AND comprehensive pain assessment	1			
comprehensive pain assessment	70		3	3
comprehensive pain assessment AND chronic pain	48	14	3	3
Numeric Pain Rating Scale and Comprehensive Pain Assessment	6			
Unidimensional or Multidimensional AND Chronic Pain Assessment	33	3	3	3

**Appendix A**  
**Description of Evidence Search**

Table A3. *Cochrane Database of Systematic Reviews Search Terms and Search Results*

*Limit search year 2010-2020, English, All Adults*

Search Terms	Number of hits	Number of title & abstract reviewed	Number of full-text articles reviewed	Number of articles selected for this review without duplicates
Defense and Veterans Pain Rating Scale or DVPRS	1			
Defense and Veterans Pain Rating Scale or DVPRS AND Quality of life or Health-Related Quality of life	0			
Defense and Veterans Pain Rating Scale or DVPRS AND functional assessment	0			
Defense and Veterans Pain Rating Scale or DVPRS AND comprehensive pain assessment	0			
comprehensive pain assessment	35			
comprehensive pain assessment AND chronic pain	4	1		
Numeric Pain Rating Scale and Comprehensive Pain Assessment	0			
Unidimensional or Multidimensional AND Chronic Pain Assessment	0			

## Appendix B. Critical Appraisal

Table B1. *Evidence Summary Table*

Search Question in PICO format: In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
1	Buckenmaier et al. (2013)	Development of the Defense and Veterans Pain Rating Scale (DVPRS) in response to military providers concerns that the standard Numeric Rating Scale (NRS) was inconsistently administered and of questionable	Prospective (cohort) design, II	A convenience sample of 350 inpatient and outpatient active duty or retired military service members  Walter Reed Army Medical Center (WRAMC).	Correlation of numerical pain intensity and word descriptors  Pain intensity 0= no pain 1= hardly notice pain 2=notice pain, does not interfere with activities 3=sometimes distracts me 4=distracts me, but can-	1. Participants were asked to match the words or phrase to the corresponding number on the DVPRS pain intensity item. 2. participants were then asked to complete the original DVPRS tool and the	The DVPRS tool demonstrated acceptable psychometric properties in a military Population. The DVPRS demonstrated acceptable reliability and validity, and has important implications for: 1) standardizing pain assessment	Yes  Level II, strong evidence. High quality of evidence with large effect size $r > 0.8$ . ICC = 0.943 for the alignment of word descriptors overall. The confidence interval with Cronbach's alpha for the five items

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
		clinical value			do usual activities 5=interrupts some activities 6=Hard to ignore, avoid usual activities or required work 7=focus of attention prevents doing daily activities 8=awful, hard to do anything 9=can't bear the pain, unable to do anything 10=as bad as it could be, nothing else matters	additional supplemental items and the seven Brief Pain Intervention (BPI) interference subscale items	practices throughout military and veteran health care settings; 2) improving screening practices to identify risk for pain-related issues; and 3) providing a minimum set of patient-reported outcomes for communication and documentation across transitions of care.	was high, 0.902

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
					Supplemental Questions include: General activity, Sleep, Mood, Level of stress			
2	Nassif et al. (2015)	To investigate the concurrent validity of the DVPRS with other validated self-report measures in two individual samples of U.S. veterans.  <b>Hypotheses</b> : DVPRS	Correlational (cohort) study, II	Study sample #1: 204 veterans, (143 male and 61 female) with a mean age of 48.89 years (range 23–86). Mean years of education was 15.35 years (range 9–23) with approximately half of veterans	Pain interference, pain disability, quality of life, pain intensity	Study #1 evaluated pain interference, pain disability, and QOL as part of a baseline assessment of veterans enrolled in the Integrative Health and Wellness (IHW) Program which	Findings provide preliminary evidence for the concurrent validity of the DVPRS as a brief, multidimensional measure of pain interference that make it a practical tool for use in primary	Yes  Level II Medium quality due to smaller sample size of 13 participants in study #2

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
		<p>pain interference scores would correlate moderately or strongly with pain disability measures and correlate less strongly to measure of less relevant constructs (e.g., quality of life, mental health). Controlling for the effects of other aspects of physical and mental</p>		<p>(n=103) reporting having attained a bachelor's degree or higher. Participants reported a wide range of medical and mental health concerns, and many were receiving disability benefits (n=98)</p> <p>Study sample #2: 13 male U. S. Veterans deployed to the conflicts in</p>		<p>focused on DVPRS and 5 other validated measures (PDQ, VR-36, MYMOP2, BDI-II, and ISI).</p> <p>Study #2 assessed pain intensity and pain interference enrolled in a pilot study to evaluate the effectiveness of guided meditation on chronic pain</p>	<p>care settings to assess the impact of pain on daily functioning and monitor chronic pain over time.</p>	

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
		health, DVPRS pain interference scores would remain correlated with pain disability measures		Afghanistan (OEF) or Iraq (OIF) with co-morbid chronic pain and traumatic brain injury. All participants were male with an average age of 45.77 years (SD56.44, range 35–59), mean years of education was 14.27 years (SD51.76, range 12–17), and 8 participants		management. DVPRS-I (intensity) and DVPRS-II (interference) questions were administered as a baseline assessment in conjunction with four measures (VAS, BPI-I, BDI-II, and PCL-M).		

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
				<p>reported having attained a bachelor's degree or higher.</p> <p>Setting: Comprehensive integrative health clinic at the Washington DC VA Medical Center</p>				
3	Polomano et al. (2016)	To test specific components of the DVPRS tool.	<p>Randomized clinical trial, II</p> <p>Systematic group</p>	Total n=307, Inpatient and outpatient from WRNMMC and	DVPRS Pain levels	Items were rated on a Likert scale from "strongly disagree" to "strongly agree"	Emphasize the importance of screening and assessing the patient's pain-related	Yes

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
			assignment method	Womack Army Medical Center were recruited. Eligibility: > 18, read and understand English, >24-hour hospitalization, treated for pain in outpt setting, active-duty military personnel or Veterans with military-related injuries or other pain conditions			<p>outcomes so that problems can be addressed, a more comprehensive pain management plan developed, and responses to pain therapies tracked and evaluated over time.</p> <p>70.9% felt that the DVPRS was superior to other pain scales</p>	

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
4	Blackburn et al. (2018)	The purpose for the implementation of the DVPRS was to 1) improve communication and consistency among pts, nurses, and providers on pain intensity 2) decrease confusion in the treatment of pain of different intensity 3) assess functional status and pain intensity	EBP implementation, IV	The PubMed, CINAHL®, and Cochrane databases were queried, without exclusive dates, using the following keywords: Defense and Veterans Pain Rating Scale or DVPRS and pain scale or pain assessment. The query retrieved 40 articles. After accounting	Defense and Veterans Pain Rating Scale (DVPRS)  pain scale  pain Assessment  Pain intensity  Functional status	Evaluation of the implementation of the DVPRS instrument for cognitively intact adults was based on chart audits and satisfaction surveys. Chart audits determined pain medication administration consistency. Nurses and patients completed satisfaction surveys, relaying experience	Implementation of the DVPRS as a pain assessment instrument improved communication among providers and patients and consistency of assessment when treating pain intensity. Nurse and patient satisfaction survey results were positive about using the DVPRS to assess	Yes  The DVPRS is a pain assessment instrument that measures pain intensity and patient function. Compared to other pain assessment instruments, the DVPRS provides a more comprehensive pain assessment.

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
				for applicability and duplicates, the authors identified five articles that were relevant to address the validity and efficacy of the DVPRS instrument; three articles were case-controlled studies, one was a review of the development of the tool, and one was an editorial.		using the DVPRS. Chart audits indicated that pain medication administration consistency of practice among nurses increased by 38% after implementation of the DVPRS. DVPRS nurse satisfaction surveys were sent out to five representatives	patients' functional status and pain intensity  Overall, 78% of nurses (N=64) preferred the DVPRS (N=144) patients surveyed agreed the DVPRS was easier to understand, easier to use and better in describing their pain than NRS	

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
				<p>144 patients (60% outpatient, n = 86; 40% inpatient, n = 58) who completed the survey. Patients' ages ranged from 25–78 years; 56% were men (n = 80), and 44% were women (n = 64).</p> <p>64 nurses surveyed</p> <p>Arthur G. James Cancer Hospital and</p>		<p>units, reflecting practice in inpatient and ambulatory care, medical and surgical practice, and general units versus intensive care units.</p> <p>Patient satisfaction with the DVPRS was measured with a convenience sample from available inpatient and ambulatory</p>		

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
				Richard J. Solove Research Institute in Columbus, Ohio		patients currently experiencing pain who were willing to complete a survey rating the tool  The survey asked participants to rate three key statements on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).		

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
5	Markman et al. (2020)	The incorporation of a standardized pain tolerability question (PTQ) would efficiently augment the information gleaned from the NRS and help to align patients' expectations with realistic treatment goals.	Cohort study, V	<p>Participants were recruited electronically after a primary care encounter at 1 of 157 participating primary care practices</p> <p>Eligibility: pts with an active prescription for analgesic medication or an ICD-10 visit diagnosis associated with chronic pain in the EMR</p>	<p>Chronic pain</p> <p>NRS= Numerical Rating Scale</p> <p>PTQ= Patient Tolerable Question</p>	<p>Questions: PTQ "is your pain tolerable?"</p> <p>Rate pain intensity during the past 24 hours</p> <p>To assess Construct validity of PTQ, a comparison was made between the PTQ question with the NRS scale using logistic regression</p>	<p>Discordance between tolerability and pain intensity may be an opening for a clinician to explore mood, sleep, disruption, or the curtailing of activities to control pain.</p> <p>Asking patients with chronic pain about pain tolerability directly addresses the main limitation of the NRS, which asks</p>	<p>Yes. Strong recommendation to incorporate a standardized pain tolerability question to guide effective treatment goals. The NRS, a unidimensional pain scale does not accurately assess chronic pain. Indirectly recommends a comprehensive pain</p>

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
							patients to rate a complex, highly subjective experience on a unidimensional intensity scale.	assessment tool to accurately assess chronic pain related to mood, sleep, and activity.
6	Turk et al. (2008)	Identify domains of functioning with people in chronic pain and what they consider important and to determine their value of and satisfaction with treatment.	Observational, qualitative study  VI	Total of 31 participants in four focus groups. Participants were recruited from 4 clinics (2 tertiary-care pain clinics, 1 oncology clinic, and 1 research clinic) in Round Rock TX,		Phase 1: focus groups were used to identify outcome domains that were important to people with chronic pain.  Phase 2: Using a web-based survey to examine the importance	Results were consistent with other studies that pain reduction, improvement in physical functioning, sleep and fatigue were important treatment outcomes to patients with chronic pain.	Yes  Chronic pain impacts health-related QOL, this study demonstrated that functioning and well-being were important areas affected by pain and should be

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
				<p>Jacksonville FL, Trenton NJ, and Annapolis MD.            &gt; 21 years old, hx of chronic pain for the past 6 months, and English speaking</p> <p>Total 959 individuals were surveyed. Participants were <math>\geq</math> 21 y.o., at least one chronic pain condition for last 3 months.</p>		and relevance of domains identified in a larger diverse sample of people with chronic pain.		used as targets of treatments and used for evaluating effectiveness of treatments.
7	Breivik (2016)	Focus on limitations of changes	Expert opinion, VII	None mentioned		None stated, editorial comments	Pain intensity alone is not	Yes Expert opinion that

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
		in pain-intensity as outcome measure of management of patients with chronic pain					appropriate outcome measure for treatment of chronic pain	using pain intensity measure to manage chronic pain is not adequate – support for using functional pain assessment
8	Sullivan & Ballantyne (2016)	Focusing on pain intensity for the assessment and care of patients with chronic pain (1) establishes the wrong goal of care, (2) results in the selection of the wrong	Expert opinion, VII	None mentioned			The root problem of chronic pain is improper focus on reducing pain intensity. What matters most is not reducing a patients' pain intensity but whether the	Yes Expert opinion that using pain intensity measure to manage chronic pain is not adequate - support for using functional pain assessment

Article number	First author year	Purpose	Evidence type, level of evidence	Sample, setting	Major Variables Study and their Definitions	How major variables were measured	Findings that help answer question	Worth to practice/project, quality of evidence
		patients for the strongest analgesics, and (3) retards our understanding of chronic pain					patients' life has improved	

DVPRS, Defense and Veterans Pain Rating Scale; NRS, Numerical Rating Scale; RCT, randomized control trial; PTQ, patient tolerability question; QOL, Quality of life

## References

1. Buckenmaier III, C. C., Galloway, K. T., Polomano, R. C., McDuffie, M., Kwon, N., Gallagher, R. M. (2013). Preliminary validation of the Defense and Veterans Pain Rating Scale (DVPRS) in a military population. *Pain Medicine*, *14*(1): 110-123.  
<https://doi.org/10.1111/j.1526-4637.2012.01516.x>
2. Nassif, T. H., Hull, A, Holliday, S. B., Sullivan, P., & Sandbrink, F. (2015). Concurrent validity of the Defense and Veterans Pain Rating Scale in VA outpatients. *Pain Medicine*, *16*(11): 2152–2161. <https://doi.org/10.1111/pme.12866>
3. Polomano, R. C., Galloway, K. T., Kent, M. L., Brandon-Edwards, H., Kwon, K., Morales, C., & Buckenmaier III, C. (2016) Psychometric testing of the Defense and Veterans Pain Rating Scale (DVPRS): A new pain scale for military population. *Pain Medicine*, *17*(8): 1505–1519. <https://doi.org/10.1093/pm/pnw105>
4. Blackburn, L. M., Kathy, B., DiGiannantoni, E., Meade, K., O'Leary, C., & Stiles, R. (2018). Pain Assessment: Use of the Defense and Veterans Pain Rating Scale in patients with cancer. *Clinical Journal of Oncology Nursing*, *22*(6):643-648. <https://cjon-ons-org.sacredheart.idm.oclc.org/cjon/22/6/pain-assessment-use-defense-and-veterans-pain-rating-scale-patients-cancer>
5. Markman, J. D., Gewandter, J. S., & Frazer, M. E. (2020). Comparison of pain tolerability question with the numeric rating scale for assessment of self-reported chronic pain. *JAMA Network Open*, *3*(4):e203155.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2764594>

6. Turk, D., Dworkin, R. H., Revicki, D., Harding, G., Burke, L. B., Cella, D., Cleeland, C. S., Cowan, P., Farrar, J. T., Hertz, S., Max, M. B., & Rappaport, B. A. (2008). Identifying important outcome domains for chronic pain clinical trials: An IMMPACT survey of people with pain. *Pain, 137*(2): 276-285. [https://doi: 10.1016/j.pain.2007.09.002](https://doi.org/10.1016/j.pain.2007.09.002)
7. Breivik, H. (2016). Fifty years of the Visual Analogue Scale (VAS) for pain-intensity is still good for acute pain. But a multidimensional assessment is needed for is needed for chronic pain. *Scandinavian Journal of Pain, 11*(1): 150-152.  
<https://doi.org/10.1016/j.sjpain.2016.02.004>
8. Sullivan, M. D., & Ballantyne, J. C. (2016). Must we reduce pain intensity to treat chronic pain? *Pain, 157*(1): 65-69. <https://doi.org/10.1097/j.pain.0000000000000336>

## Appendix B

### Critical Appraisal & Synthesis

Table B2. *Level of Evidence Synthesis Table*

Article Number	1	2	3	4	5	6	7	8
Level I: Systematic review or meta-analysis								
Level II: Randomized controlled trial	X	X	X					
Level III: Controlled trial without randomization								
Level IV: Case-control or cohort study				X				
Level V: Systematic review of qualitative or descriptive studies					X			
Level VI: Qualitative or descriptive study, CPG, Lit Review, QI or EBP project						X		
Level VII: Expert opinion							X	X

## Appendix B

### Critical Appraisal & Synthesis

Table B3. *Outcomes Synthesis Table*

Article Number	1	2	3	4	5	6	7	8
pain intensity scale alone	-		-	-	-		-	-
functional assessment scale alone		+					+	+
pain intensity + functional assessment	+	+	+	+	+	+	+	

+ (support use); - (does not support use)

## References

1. Buckenmaier III, C. C., Galloway, K. T., Polomano, R. C., McDuffie, M., Kwon, N., Gallagher, R. M. (2013). Preliminary validation of the Defense and Veterans Pain Rating Scale (DVPRS) in a military population. *Pain Medicine, 14*(1): 110-123.  
<https://doi.org/10.1111/j.1526-4637.2012.01516.x>
2. Nassif, T. H., Hull, A., Holliday, S. B., Sullivan, P., & Sandbrink, F. (2015). Concurrent validity of the Defense and Veterans Pain Rating Scale in VA outpatients. *Pain Medicine, 16*(11): 2152–2161. <https://doi.org/10.1111/pme.12866>
3. Polomano, R. C., Galloway, K. T., Kent, M. L., Brandon-Edwards, H., Kwon, K., Morales, C., & Buckenmaier III, C. (2016) Psychometric testing of the Defense and Veterans Pain Rating Scale (DVPRS): A new pain scale for military population. *Pain Medicine, 17*(8): 1505–1519. <https://doi.org/10.1093/pm/pnw105>
4. Blackburn, L. M., Kathy, B., DiGiannantoni, E., Meade, K., O'Leary, C., & Stiles, R. (2018). Pain Assessment: Use of the Defense and Veterans Pain Rating Scale in patients with cancer. *Clinical Journal of Oncology Nursing, 22*(6):643-648. <https://cjon-ons-org.sacredheart.idm.oclc.org/cjon/22/6/pain-assessment-use-defense-and-veterans-pain-rating-scale-patients-cancer>
5. Markman, J. D., Gewandter, J. S., & Frazer, M. E. (2020). Comparison of pain tolerability question with the numeric rating scale for assessment of self-reported chronic pain. *JAMA Network Open, 3*(4):e203155.  
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2764594>
6. Turk, D., Dworkin, R. H., Revicki, D., Harding, G., Burke, L. B., Cella, D., Cleeland, C. S., Cowan, P., Farrar, J. T., Hertz, S., Max, M. B., & Rappaport, B. A. (2008). Identifying important outcome domains for chronic pain clinical trials: An IMMPACT survey of people with pain. *Pain, 137*(2): 276-285.  
<http://www.immpact.org/static/publications/Turk%20et%20al.,%202008.pdf>

7. Breivik, H. (2016). Fifty years of the Visual Analogue Scale (VAS) for pain-intensity is still good for acute pain. But a multidimensional assessment is needed for is needed for chronic pain. *Scandinavian Journal of Pain*, *11*(1): 150-152.  
<https://doi.org/10.1016/j.sjpain.2016.02.004>
8. Sullivan, M. D., & Ballantyne, J. C. (2016). Must we reduce pain intensity to treat chronic pain? *Pain*, *157*(1): 65-69. <https://doi.org/10.1097/j.pain.0000000000000336>

## Appendix C

### Pain Assessment Policy

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Title: Pain Assessment

Policy:

All patients are assessed for pain using a comprehensive pain assessment scale, including the Numerical Rating Scale (NRS) and functional assessment at every visit.

Purpose:

To guide the nurse in the assessment of acute and chronic pain intensity and its impact on functionality.

#### I. General instructions

##### A. Assessment

1. All patients are assessed for pain at Federally Qualified Healthcare Center
2. The following methods are available to assess pain
  - a. Wong-Baker FACES<sup>®</sup> Pain Rating Scale for children  $\geq 3$  years old
  - b. Defense Veterans Pain Rating Scale (DVPRS) and Supplemental Questions for cognitively intact adults  $\geq 18$  years old
    - a. Pain intensity using the DVPRS includes Numerical Rating Scale (NRS), word descriptors, face rating scale, and traffic lights
      - i. NRS for children and adults

##### B. Pain assessment includes:

1. Presence of pain
  - a. Acute Pain
    - i. Recent onset, transient, and usually from an identifiable cause (American Chronic Pain Association [ACPA], 2020)
    - ii. Pain lasting  $< 3$  months, once underlying cause of pain have healed or treated (American Society of Anesthesiologists, 2021; U.S. Department of Veterans Affairs, 2021)
  - b. Chronic Pain
    - i. Ongoing or recurrent pain, lasting beyond the usual course of acute illness or injury healing, may be  $> 3$  to 6 months, pain that continues when it should not and adversely affect individual's wellbeing (ACPA, 2020; Tauben & Stacey, 2020).
2. Pain Intensity Scale (0-10)
  - a. Mild = 1-3
  - b. Moderate = 4-5
  - c. Severe  $\geq 7$
3. Pain location

4. Pain onset
5. Pain duration
6. Pain Quality
7. Pain relief acceptable
  - a. Acute pain intensity  $\geq 4 \rightarrow$  notify provider
  - b. Chronic pain intensity score  $\geq 4 \rightarrow$  ask DVPRS Supplemental Questions

C. Impact of chronic pain on function and quality of life (QOL)

1. DVPRS Supplemental Questions
  - a. Domains assessed are activity, sleep, mood, and stress
  - b. Use 0-10 rating scale for each domain
  - c. Any domain with scores  $\geq 4 \rightarrow$  notify PCP for further assessment and interventions related to domain

D. The assessment of pain is documented on the appropriate forms in the Electronic Medical Record (EMR)

1. The vital sign template
2. Health Promotion Plan
  - a. Pain Management
    - i. Pain Scale (0-10)
    - ii. Method
    - iii. Location
    - iv. Onset
    - v. Duration
    - vi. Quality
    - vii. Follow-up plan of care recommendations
      - i. Add Pain Supplemental Questions
      - ii. For each domain rate 0-10
        1. activity, sleep, mood, and stress
      - iii. Domain rating  $> 4 \rightarrow$  providers recommend for alternative therapies

II. Reassessment of pain

- A. Patients are reassessed for new pain or change in acute or chronic pain at each encounter and documented in the electronic medical record

III. Pain assessment reference

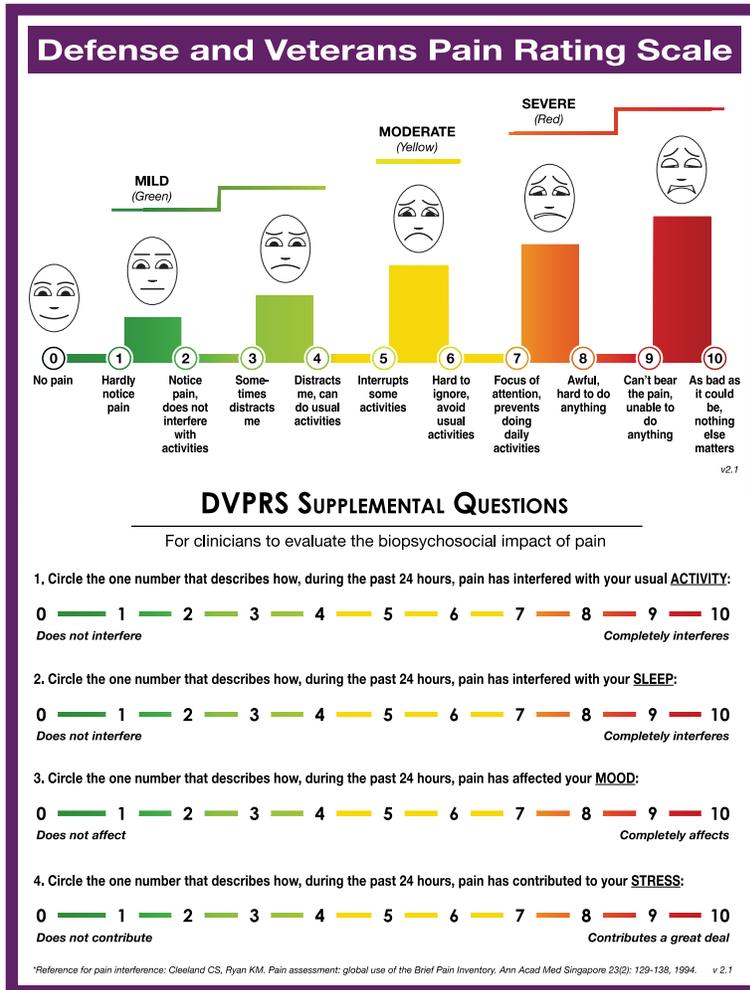
- A. Select pain scale
  1. Choose the appropriate pain assessment scale
  2. Use pain scale to assess patients pain level
  3. Document tool used and score on EMR

IV. Suggested recommendation for Providers

- A. Refer to pain assessment documentation located in Health Promotion Plan  $\rightarrow$  Pain Management tab
- B. Pain supplemental questions used to guide conversation, treatment planning, and a means of indicating if treatments are effective



Wong-Baker FACES<sup>®</sup> Pain Rating Scale for children  $\geq$  3 years old



**Skill Approval:**

Performer of skill is instructed, observed, and approved on the skill by the department coordinator.

**Quality Assurance:**

Abnormal readings are reported to the primary care provider immediately.

Jennifer Zhang, BSN, RN  
 Sacred Heart University, FNP-DNP Student  
 Updated March 7, 2021

## References:

- American Chronic Pain Association. (2020). *ACPA – Stanford resource guide to chronic pain management: An integrated guide to medical, interventional, behavioral, pharmacologic and rehabilitation therapies*. <https://www.theacpa.org/wp-content/uploads/2020/03/ACPA-Resource-Guide-2020-2-26-2020.pdf>
- American Society of Anesthesiologists. (2021). *Types of pain*. <https://www.asahq.org/madeforthismoment/pain-management/types-of-pain/>
- Buckenmaier, C. C., Galloway, K. T., Polomano, R. C., Mcduffie, M., Kwon, N., & Gallgher, R. M. (2013). Preliminary validation of the Defense and Veterans Pain Rating Scale (DVPRS) in a military population, *Pain Medicine*, *14*(1): 110-123. <https://doi.org/10.1111/j.1526-4637.2012.01516.x>
- Tauben, D., & Stacey, B. R. (2020). Evaluation of chronic non-cancer pain in adults. *UpToDate*. [https://www.uptodate.com/contents/evaluation-of-chronic-non-cancer-pain-in-adults?search=chronic%20pain%20assessment&sectionRank=1&usage\\_type=default&anchor=H1045258245&source=machineLearning&selectedTitle=1~150&display\\_rank=1#H877128590](https://www.uptodate.com/contents/evaluation-of-chronic-non-cancer-pain-in-adults?search=chronic%20pain%20assessment&sectionRank=1&usage_type=default&anchor=H1045258245&source=machineLearning&selectedTitle=1~150&display_rank=1#H877128590)
- U.S. Department of Veterans Affairs. (2021). *Acute Pain: Opioids are not always the answer*. [https://www.veteranshealthlibrary.va.gov/142,41572\\_VA](https://www.veteranshealthlibrary.va.gov/142,41572_VA)
- Wong-Baker FACES Foundation. (2021). *Welcome to the Wong-Baker FACES Foundation*. <https://wongbakerfaces.org/>

## Appendix D

### Pain Assessment Survey

Title: \_\_\_\_\_ Date: \_\_\_\_\_

For each of the questions below, circle the response that best characterizes how you feel about the statements, where: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree Nor Disagree, 4 = Agree, and 5 = Strongly Agree

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I assess pain in all my patients	1	2	3	4	5
I know the difference on how to assess acute pain versus chronic pain	1	2	3	4	5
Zero pain may not be achievable in all patients	1	2	3	4	5
I feel patients do not understand the NRS 0-10 pain scale	1	2	3	4	5
A comprehensive pain assessment scale is better in assessment of pain than the numerical rating scale of 0-10	1	2	3	4	5
A functional pain assessment is important in addition to screening pain intensity	1	2	3	4	5
I have heard of the Defense Veterans Pain Rating Scale and Supplemental Questions (DVPRS)	1	2	3	4	5
I feel the DVPRS pain scale is easier to understand than the 0-10 scale	1	2	3	4	5
I feel the DVPRS pain scale is easier to use than the 0-10 scale	1	2	3	4	5

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I feel the DVPRS pain scale is better than the 0-10 scale to describe pain	1	2	3	4	5
I feel the DVPRS pain scale provides accurate consistent pain assessments	1	2	3	4	5
My patients generally find it easy to use the DVPRS pain scale	1	2	3	4	5
The DVPRS and supplemental questions are easy to administer	1	2	3	4	5
I feel the DVPRS pain scale and supplemental questions are better than the NRS for chronic pain	1	2	3	4	5
I use the word descriptors to assess pain when patients do not understand the NRS 0-10 pain rating	1	2	3	4	5
I will use the supplemental questions for all my patients with chronic pain	1	2	3	4	5
FQHC should adopt a comprehensive pain assessment scale when assessing pain	1	2	3	4	5

Comments:

## Appendix E

Figure E1. Documenting Pain Assessment in the Pain Management section of NextGen

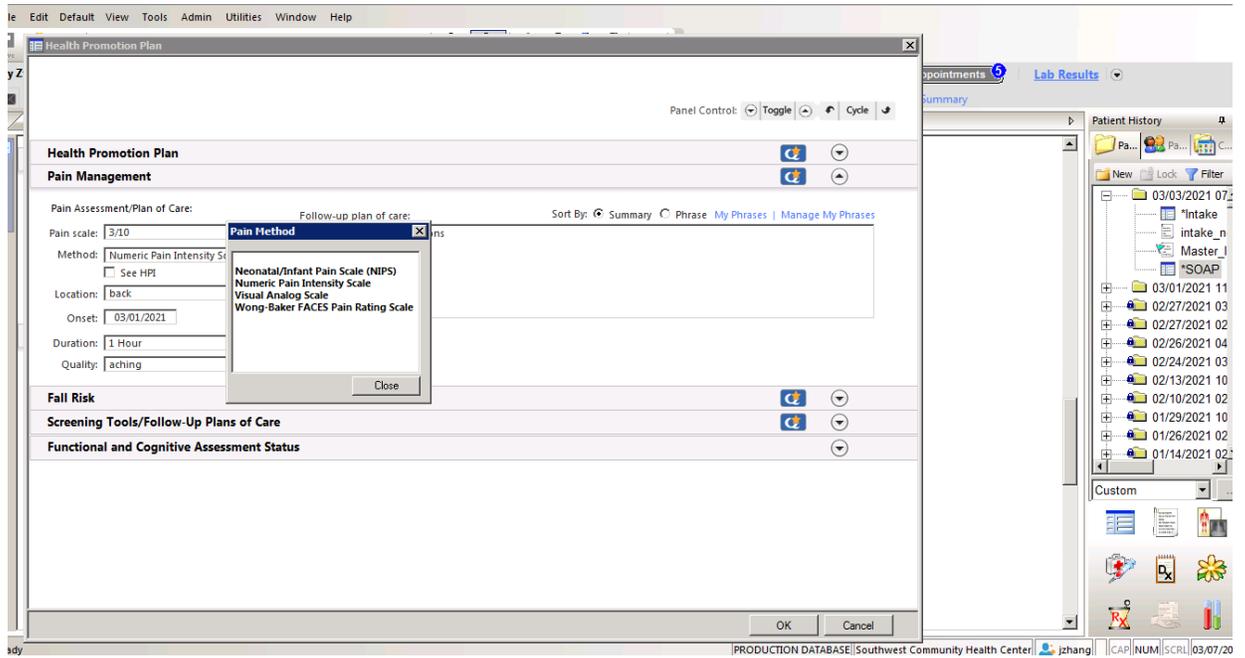
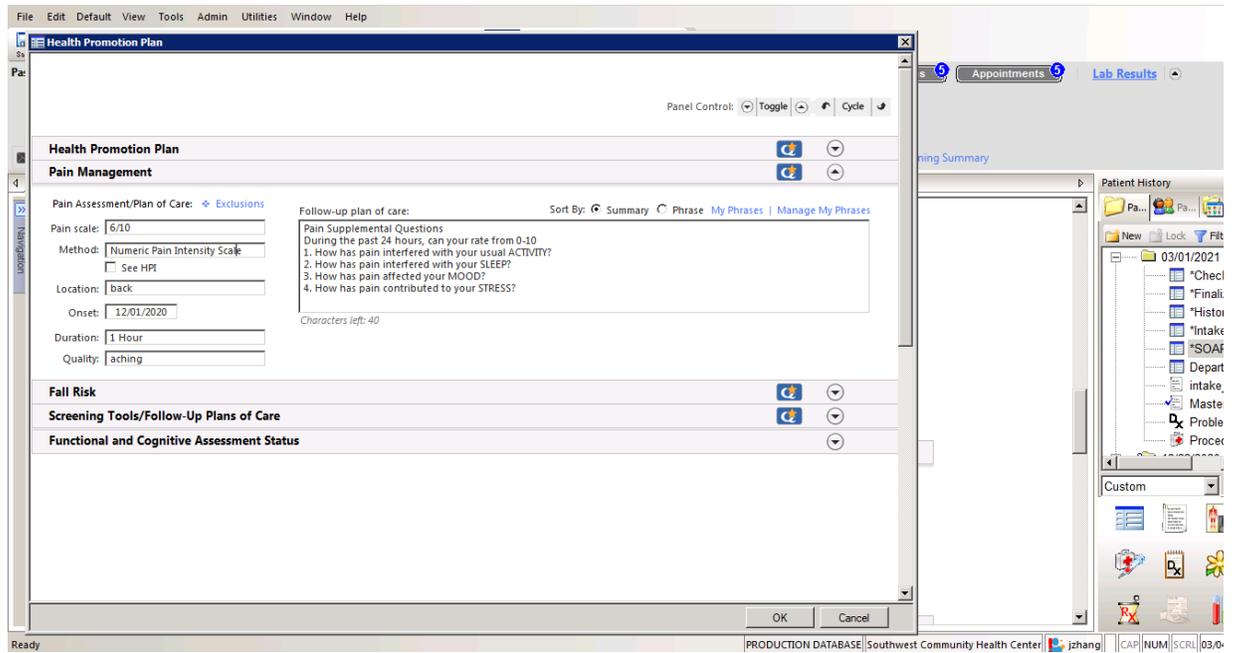


Figure E2. Documenting Pain Supplemental Questions in the Pain Management section



**Appendix F**  
**Teaching Plan for DVPRS Implementation Project**

Setting: FQHC Bridgeport, CT

Attendees: Nurses at FQHC IM Unit/Fairfield

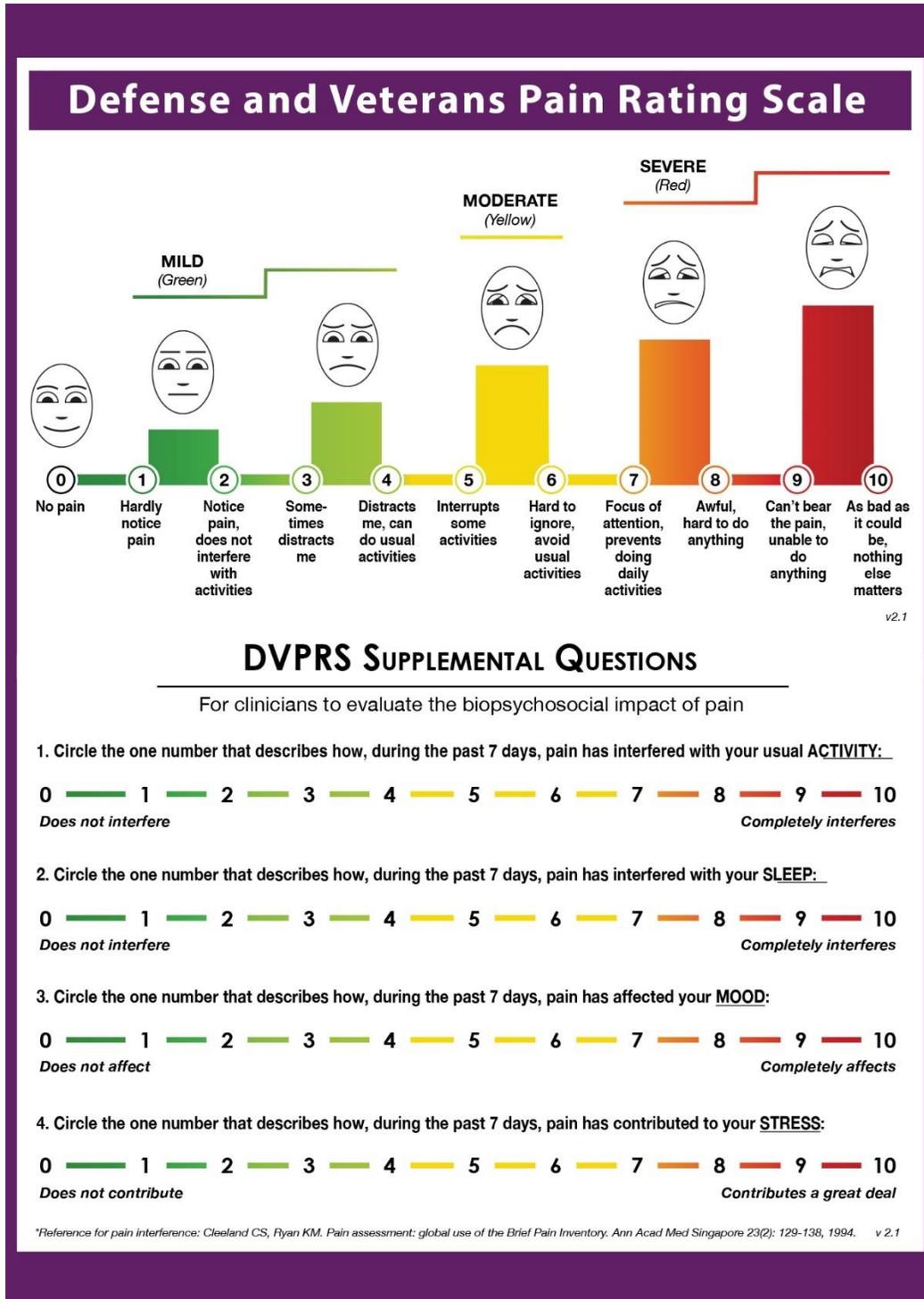
Presenter: Jennifer Zhang, BSN, RN

Topic: DVPRS					
Objective	Time	Content	Activity	Resources/Materials	Assessment
After the education attendees will be able to explain the difference between acute and chronic pain.	1 minute	Acute and Chronic Pain	Power point presentation on iPad	iPad  Supplemental PPT for additional resources	Knowledge test
After the education attendees will be able to give a rationale for using a functional assessment to assess chronic pain.	3 minutes	DVPRS and Supplemental Questions <ul style="list-style-type: none"> <li>• Why the change</li> <li>• How to use</li> <li>• How to teach patients</li> </ul> How and where to document in EMR	Power point presentation on iPad	iPad  Supplemental PPT for additional resources	Knowledge test
After the education attendees will be able to demonstrate the use of the DVPRS in patient with a pain intensity score of 5.	5 minutes		Case study  Role play demonstration:  Jenn- nurse role IM nurses- patient role	DVPRS pocket card	Direct observation: All nurses will perform this correctly.  Chart audit: Document supplemental

Topic: DVPRS					
Objective	Time	Content	Activity	Resources/Materials	Assessment
			Reverse roles		questions for all chronic patients with a pain intensity equal to or greater than 4, in the appropriate section of the EMR 90% of the time at the completion of pilot.
After the education attendees will describe where the DVPRS information is documented in EMR.	2 minutes		Case study  Step-by-step guidance for documentation	NextGen EMR Cindy S. runs report	Chart audit: Document in the appropriate section of the EMR for pain assessment 90% of the time at the completion of pilot.

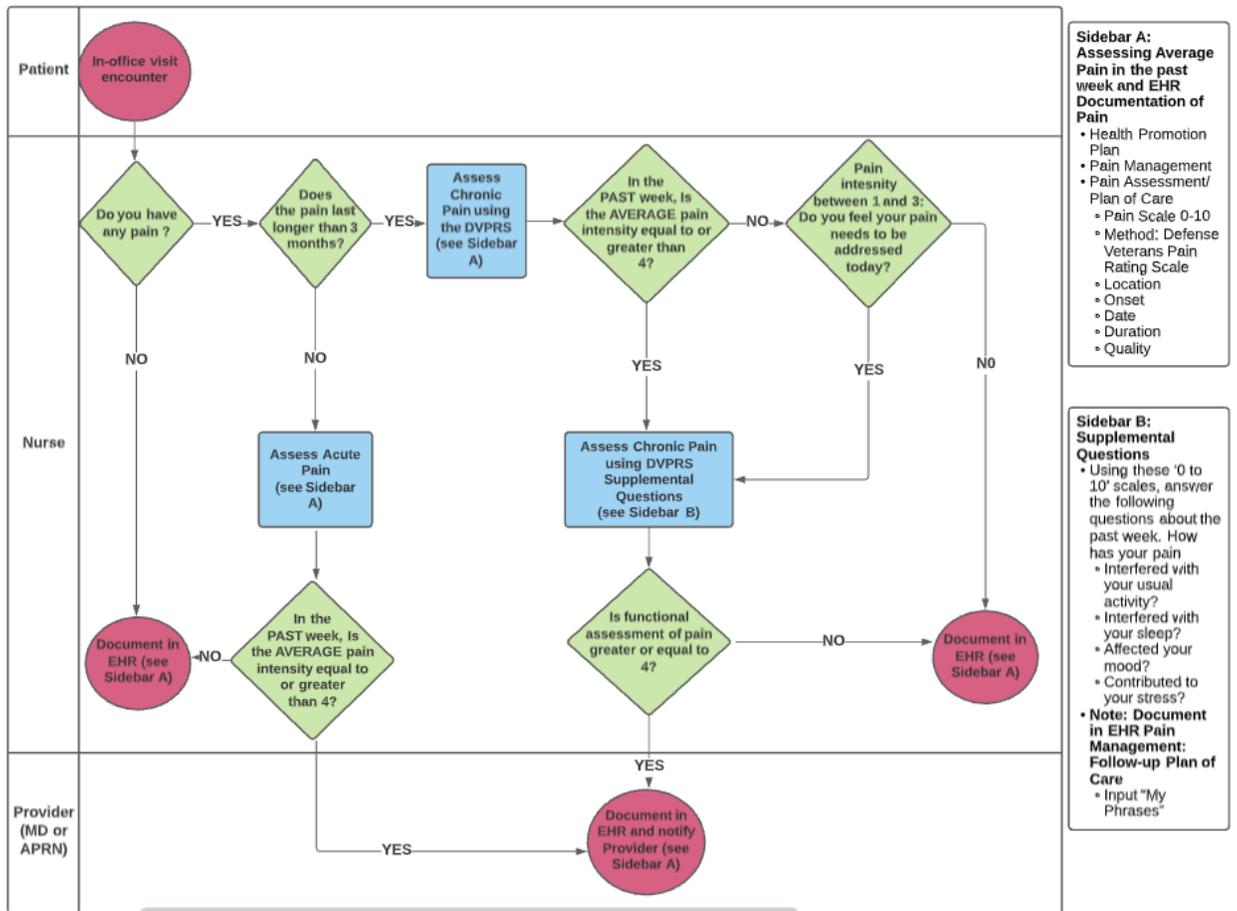
## Appendix G

Figure G1. DVPRS Pocket Guide Front 5 x7”



## Appendix G

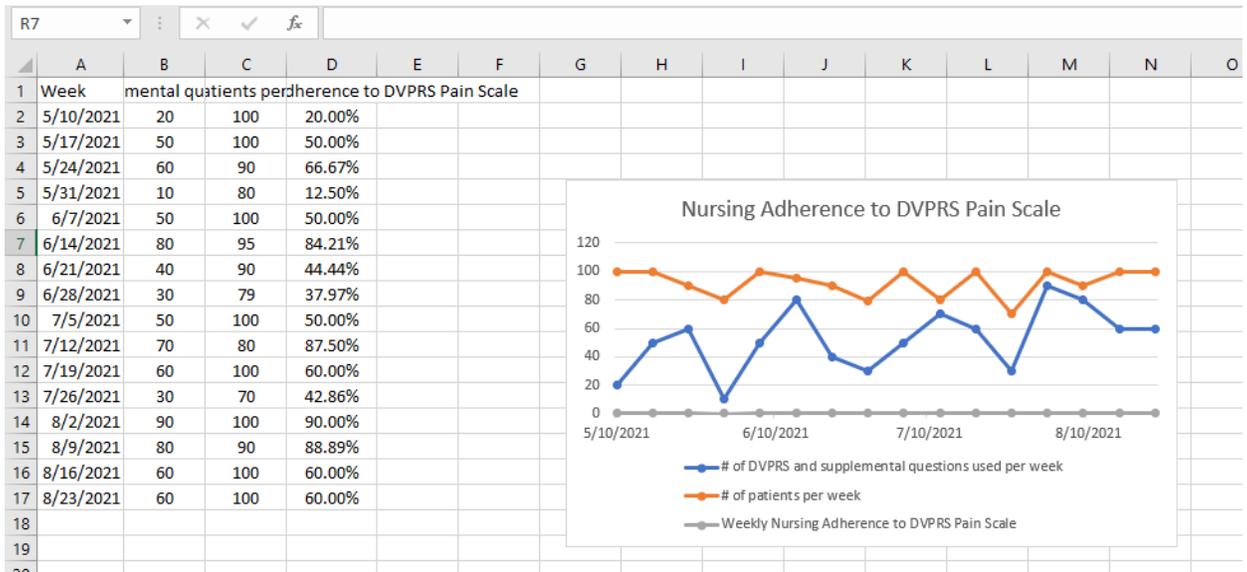
Figure G2. DVPRS Pocket Guide Back Process Map 5 x7”



## Appendix H

### Sample Run Charts

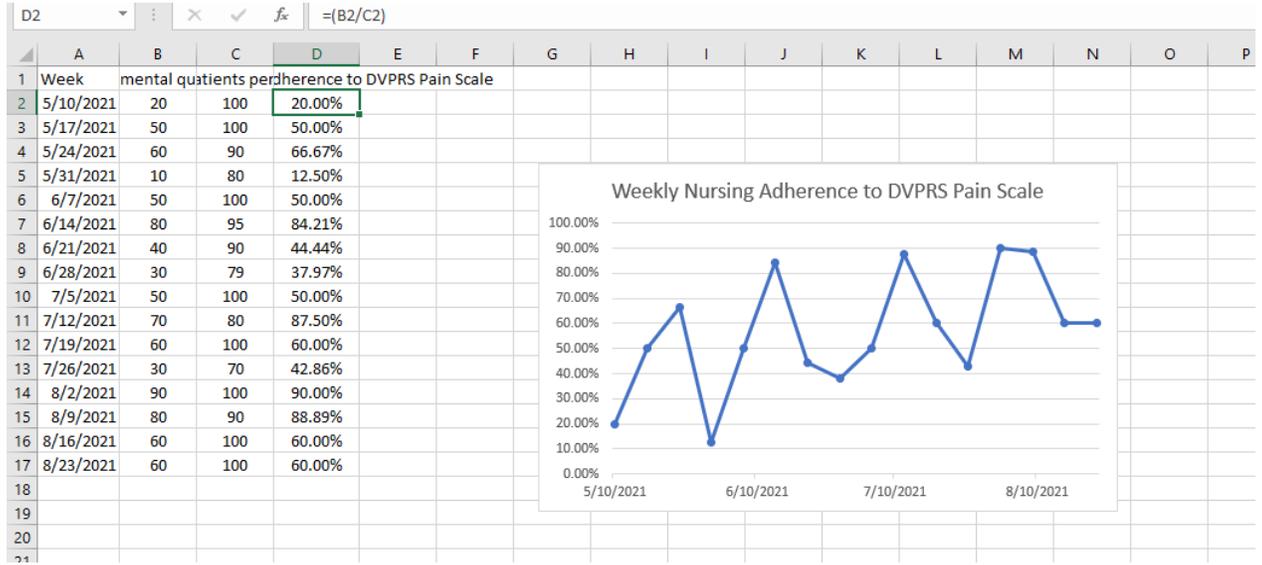
Figure H1. Sample Run Chart 1



## Appendix H

### Sample Run Charts

Figure H2. Sample Run Chart 2



## Appendix I

### Project Timeline

Table II. *Project Timeline*

January 26, 2021 <ul style="list-style-type: none"><li>• Project Proposal to Nurse Leader</li></ul>	July 2021 <ul style="list-style-type: none"><li>• Nursing and Provider Education on pain assessment policy, new pain scale, process flow, and EMR documentation</li></ul>
February 27, 2021 <ul style="list-style-type: none"><li>• Meet with CMO to discuss 1st policy draft and EMR documentation</li></ul>	August 24, 2021 <ul style="list-style-type: none"><li>• Implementation of new pain scale</li></ul>
March 7, 2021 <ul style="list-style-type: none"><li>• Meet with CMO to discuss 2nd policy draft</li></ul>	November 12, 2021 <ul style="list-style-type: none"><li>• Complete pilot of new pain scale, EMR audit</li></ul>
April 7, 2021 <ul style="list-style-type: none"><li>• DNP project oral presentation</li></ul>	December 2021 – January 2022 <ul style="list-style-type: none"><li>• EMR chart reviews and post intervention feedback survey</li></ul>

## Appendix I

### Project Timeline

Table I2. *Pre-Implementation Timeline for DNP Project: Pain Assessment Policy Update and Nursing Education on Pain Assessment: QI Project*

PICOT Question: In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
Team Leader: Jennifer Zhang				
Team Members: CMO, CNO, NL, Project Liaison, QI Director, Data Analyst, Project Faculty: Kerry Milner, Project Expert and Liaison: Susan DeNisco				
Pilot site: FQHC IM unit, Bridgeport, CT				
Pre-Implementation	Topic	Notes	Actions	Outcome/Status
<b>A</b>	Finalize Pain Assessment Policy	Reviewed by NL reviewed it CNO	Get final approval from CMO	Met with CMO, draft Approved 4/20/21 for implementation of project but do not distribute
<b>B</b>	Permission review charts for data collection			4/20/21 Approved by CMO
<b>C</b>	Draft Survey for nurses <ul style="list-style-type: none"> <li>○ Knowledge</li> <li>○ Skills</li> <li>○ Attitudes</li> <li>○ Beliefs</li> </ul>	Review with NL on 4/27  Ask nurses on where they currently document pain assessment	Review with NL prior to sending draft  Send draft to project advisor, CMO, NL, CNO	4/30 Meeting with Dr. Milner to review  Awaiting final version of survey  Distribute at end of project pilot - TBD
<b>D</b>	DNP Project Presentation	Virtual PPT presentation	PPT presentation to ALTOP team members and stakeholders	Completed on April 7, 2021
<b>E</b>	Poster and Pocket Guides	Confirm size of pocket cards SHU Pad dept Color posters \$0.33 x10 = \$3.30  Double size 5x7 cards \$0.33 x 15 = \$4.95  SHU to laminate 8x11 sheets \$1.00 x 10 = \$10	Emailed Liz 4/11  Follow-up with Paul and estimate time for production  Paul from SHU PAD provided estimates  Cost provided by ALTOP grant	4/30- Picked up sample poster and pocket guides  Turn-around time is one day  TBD- Date for implementation

<b>PICOT Question:</b> In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
<b>Team Leader:</b> Jennifer Zhang				
<b>Team Members:</b> CMO, CNO, NL, Project Liaison, QI Director, Data Analyst, Project Faculty: Kerry Milner, Project Expert and Liaison: Susan DeNisco				
<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
<b>Pre-Implementation</b>	<b>Topic</b>	<b>Notes</b>	<b>Actions</b>	<b>Outcome/Status</b>
		5x7 card lamination (not available by SHU)		
<b>F</b>	Process Map <ul style="list-style-type: none"> <li>Swimlane flow map</li> </ul>	For POC use, printed on back of DVPRS pocket guide	5/3 sent Dr. Milner draft  Send CMO a copy	
<b>G</b>	Nursing Education <ul style="list-style-type: none"> <li>20mins In-service with Power Point presentations</li> </ul>	Let NL know which dates Inservice will be held  Monday or Wednesday 8:10-8:30 AM	Send Draft to <ol style="list-style-type: none"> <li>Dr. Milner</li> <li>CMO</li> </ol> 4/30- Ask NL best time to do in-service with evening nurses	TBD- Date for Inservice
<b>H</b>	Data collection idea <ul style="list-style-type: none"> <li>How many charts/ which charts</li> <li>Weekly data?</li> <li>Run charts from Health Promotion Plan for words "method" "pain score" "pain scale"</li> <li>Run report on anything written in box where supplemental questions will be documented</li> <li>Test run to see if we can capture a report with ztest charts</li> </ul>	Data collection idea provided by CMO  Run test on after one week of implementation?	Emailed data analyst on 4/11/21  NL said he will email data analyst  Ask NL about running a ztest chart	4/24 no response  Ongoing and continue into implementation phase

<b>PICOT Question:</b> In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
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<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
<b>Pre-Implementation</b>	<b>Topic</b>	<b>Notes</b>	<b>Actions</b>	<b>Outcome/Status</b>
<b>I</b>	Nurses and Provider Education on DVPRS Scale and Supplemental Questions	Have in-site nurse education instead of virtual  Monday or Wednesday 8:10-8:30 AM	7/8/21 In-person education using PPT, and pocket guide, flow map  Dr. Milner and CMO made aware of nursing education date and time- unable to attend	Feedback – Provide POC reference with steps for EMR documentation  multiple pain location- how to document  Due to limit time for providers and morning and evening nurses which required multiple 1:1 or 1:2 in-service lasting from 10mins to 30mins  All expressed interest in supporting project and expressed better pain scale to use than NRS  Did not do role play due to time constraints of staff, but did offer if they wished to practice for the nurses and presented case examples
<b>J</b>	Send Reminders	Communicate via email to all parties prior to go-live date	Email all parties with overview prior to implementation of project – including instructions, nurses' responsibility – documentation, provider responsibility, DVPRS video, go-live date	8/13/2021 Email sent to pilot site Providers, Nurses, all Buy-in leaderships
<b>K</b>	FQHC IM pilot site In-person check-in before implementation	Ensure all nurses added Supplemental Questions content into their "my phrase" for POC documentation in EMR	Assist with adding My Phrases in to EMR (NextGen) with nurses 4-4:30pm	8/16/2021 Only 1 nurse available (K.G.)- added My Phrases  NL have emailed nurses with instructions-  NL off day
<b>L</b>	Touch base meeting with Dr. Milner before implementation		Clarify when to use Supplemental Questions  Reviewed Pain Policy-reference for process of	8/19/2021 1. Clarify Email and Resend to all parties DVPRS Scale

<b>PICOT Question:</b> In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
<b>Team Leader:</b> Jennifer Zhang				
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<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
<b>Pre-Implementation</b>	<b>Topic</b>	<b>Notes</b>	<b>Actions</b>	<b>Outcome/Status</b>
			<p>assessment of acute and chronic pain w/wo supplemental questions</p> <p>Clarify when to use Supplemental Questions</p> <p>NL to be point person/ resource for nurses since he is there daily and to report to me with questions or issues</p> <p>NL collect daily feedback and daily patient log</p> <p>Produce table for "Data to run" for records and for data analyst</p>	<ul style="list-style-type: none"> <li>used for Acute (&lt;3 mon) and Chronic Pain (&gt;3mon)</li> </ul> <p>Supplemental Questions</p> <ul style="list-style-type: none"> <li>Chronic pain AND pain intensity of 4 or greater</li> <li>Chronic pain AND pain intensity of 1-3 IF patient want the pain addressed at visit</li> <li>See flow map for guidance</li> </ul> <ol style="list-style-type: none"> <li>Email Dr. Milner with draft emails</li> <li>Email Dr. Milner, data analyst, CMO, FQHC project liaison, NL on data collection</li> <li>Email Dr. Milner on daily feedback and daily patient log sheet</li> </ol>
<b>M</b>	Staff readiness	<p>Ensure nurses has "my phrases" set up in EMR, POC documentation reference sheet, and DVPRS pocket guide, patient log and feedback sheet</p> <p>Review process with nurses and providers</p> <p>Bring Breakfast</p>	<p>1:1 with nurses and provider</p> <p>Add My Phrases</p> <p>Review EMR documentation steps</p> <p>Clarified and Review of when to ask Supplemental Questions (Acute vs Chronic)</p> <ul style="list-style-type: none"> <li>Acute (&lt; 3months)- No Supplemental Questions</li> </ul>	<p>8/23/2021 8:30-10am Brugger's Bagels</p> <p><b>Absent:</b> M. A., LPN (not on site) I. F., LPN (evening nurse- not on site) G. A., MD (vacation) S. D., APRN (off) P. W., APRN (off) M. M., APRN (off)</p> <p><b>Present:</b> NL Y. C., LPN E. P., LPN G. P., LPN S.R., MD</p>

**PICOT Question:** In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?

**Team Leader:** Jennifer Zhang

**Team Members:** CMO, CNO, NL, Project Liaison, QI Director, Data Analyst, Project Faculty: Kerry Milner, Project Expert and Liaison: Susan DeNisco

**Pilot site:** FQHC IM unit, Bridgeport, CT

Pre-Implementation	Topic	Notes	Actions	Outcome/Status
			<ul style="list-style-type: none"> <li>Chronic (&gt; 3 months) AND pain 4 or greater → Ask Supplemental Questions</li> <li>Chronic (&gt; 3 months) AND pain 1-3 – patient want their pain addressed at visit → Ask Supplemental Questions</li> </ul>	<p>No one read the email sent one week ago about implementation, brief review, documentation steps, adding my phrases</p> <p>Added My Phrases</p> <ol style="list-style-type: none"> <li>Pain Supplemental Questions</li> <li>Pain Assessment Provider Handoff for HPI</li> </ol> <p>“Pain Supplemental Questions addressed for chronic pain”</p> <p>Nurses do not remember where pocket guide is placed (given at in-service) with one nurse stated she never received it.</p> <ul style="list-style-type: none"> <li>Distributed 7 pocket guide, gave NL 3 (extras)</li> <li>2 nurses found theirs</li> <li>1 nurse at in-service but is not clinical</li> <li>NL gave 1 to E.W- nurse (2 remaining)</li> </ul> <p>NL is resource person/champion- confirmed he will assist evening nurse (Iris) with adding my phrases</p> <p>NL will collect patient log and feedback paper</p> <p>Sent updated/revised email with clarification on when to use Supplemental Questions</p> <p>Y. C., LPN– trialed one real patient with pain using DVPRS scale and Supplemental Questions</p> <ul style="list-style-type: none"> <li>Edit made on My Phrases due to limited characters for text box</li> </ul>

**PICOT Question:** In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?

**Team Leader:** Jennifer Zhang

**Team Members:** CMO, CNO, NL, Project Liaison, QI Director, Data Analyst, Project Faculty: Kerry Milner, Project Expert and Liaison: Susan DeNisco

**Pilot site:** FQHC IM unit, Bridgeport, CT

Pre-Implementation	Topic	Notes	Actions	Outcome/Status
				<ul style="list-style-type: none"><li>Added pain assessment provider handoff phrase</li></ul> S.R., MD- educated on what to do with pain assessment information handoff → go into section for pain management and review Supplemental Questions (all domain was rated 7) → pt was referred to PT

## Appendix I

Table I3. *Implementation Timeline for DNP Project: Pain Assessment Policy Update and Nursing Education on Pain Assessment: QI Project*

<b>PICOT Question:</b> In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
<b>Team Leader:</b> Jennifer Zhang				
<b>Team Members:</b> CMO, CNO, NL, Project Liaison, QI Director, Data Analyst, Project Faculty: Kerry Milner, Project Expert and Liaison: Susan DeNisco				
<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
Implementation	Topic	Notes	Actions	Outcome/Status
A	Implementation Day	<p>Be present to ensure nurses have resources for implementation and provide guidance</p> <p>Make sure Large 8x 11 DVPRS scale in patient rooms</p> <p>Bring Breakfast</p>	<p>Add My Phrases for nurses</p> <p>Review with 1:1 with nurses and providers</p> <p>Review and observe process with real patients and documentation</p> <p>Provide patient log and feedback paper</p>	<p>8/24/2021 8-10am Brugger's Bagels BF</p> <p>S. D., APRN – not working G. A., MD- vacation P. W., APRN – too busy</p> <p>Staff Present: Educated on documentation and process:</p> <p>M. M., APRN</p> <ul style="list-style-type: none"> <li>• Reviewed documentation</li> </ul> <p>M. A., LPN</p> <ul style="list-style-type: none"> <li>• My Phrases added</li> </ul> <p>NL – busy with organization responsibilities</p> <p>Made folders for nurses to keep all project related materials together</p> <p>Reinforced process and daily documentation of pt log and feedback</p> <p>Large 8x11" DVPRS scale in room draws due to Joint Commission regulation with no</p>

<b>PICOT Question:</b> In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
<b>Team Leader:</b> Jennifer Zhang				
<b>Team Members:</b> CMO, CNO, NL, Project Liaison, QI Director, Data Analyst, Project Faculty: Kerry Milner, Project Expert and Liaison: Susan DeNisco				
<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
Implementation	Topic	Notes	Actions	Outcome/Status
				posters on walls—Not effective if located in draw as a reminder at POC  Some nurses do not keep pocket guide, reference materials in a designated place results in loss of material- nurses should always have pocket guide with them
<b>B</b>	Follow-Up (1-week)	Plans- site visit, 1-2 days per week to evaluate nurse adherence to implementation, answer questions, and provide guidance	Emailed NL the night before with plan to be present on site in the morning to provide support  Recommend location/bin to drop daily logs/feedback	8/30/2021 Received text from NL at 7am – not a good day to visit site due to several things going on – stated staff have not processed or documented any patient as of Friday  Will Email NL ahead of time with dates to visit and provide support  Send weekly email of pertinent steps of the process and reminders
<b>C</b>	Communicate with NL for staff availability for quick refresher on nurse and provider responsibilities  Test data fields on real test patient from 8/23	Find opportunities to review provider responsibilities and process for staff who have not been educated or reviewed during implementation phase	Text NL If P.W, APRN on-site and if she is available for 5-10mins prior lunch at 12 pm  Send data analyst with patient (8/23) info for testing data field collection	8/31/2021  Text response- P. W., APRN has patients up until lunch- not a good day to stop by  Sent Data Analyst info  While looking into chart in NextGen- NRS was selected for method; I remember DVPRS was selected but final

<b>PICOT Question:</b> In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
<b>Team Leader:</b> Jennifer Zhang				
<b>Team Members:</b> CMO, CNO, NL, Project Liaison, QI Director, Data Analyst, Project Faculty: Kerry Milner, Project Expert and Liaison: Susan DeNisco				
<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
Implementation	Topic	Notes	Actions	Outcome/Status
				documentation with NRS selected <ul style="list-style-type: none"> <li>- Possible Glitch in NextGen- must select 1. Method → 2. Pain scale (type in number for intensity of pain)</li> <li>- Email nurse (Y.C., LPN) of glitch and change steps in documentation</li> </ul> <p>Email NL with dates to review implementation process and documentation with G. A., MD, I.F., LPN, and P.W., APRN – tentative 9/13 Monday 4-5pm</p>
<b>D</b>	Implementation follow-up		Text NL for updates on pt logs, and if he is reminding nurses to use scale during morning huddles	9/1/2021 No response from NL  Emailed FQHC Project Liaison and S. D., APRN for suggestions/strategies on routine use of DVPRS  9/2/2021 S.D., APRN chatted with NL- Email returned- Stated best strategy now is to let NL get DVPRS project off ground, NL stated he will handle the implementation and data collection. Recommend to lay back for now and f/u with him after two weeks

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<b>Team Leader:</b> Jennifer Zhang				
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<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
<b>Implementation</b>	<b>Topic</b>	<b>Notes</b>	<b>Actions</b>	<b>Outcome/Status</b>
<b>E</b>	Organization site visit from HRSA and Joint Commission	<p>9/22/2021 HRSA and Joint Commission visit, hindering process- NO updates from NL regarding any patients processed with the DVPRS x 5 weeks.</p> <p>Plan to meet with NL to answer questions he could not answer for the nurse and providers on week 5. However, JACHO visit did not happen on Week 4 of implementation, and therefore NL does not want me on premises.</p>	Will continue to meet with S.D., APRN to review DVPRS with her. Unable to conduct in-person review of process with I.F., LPN, P. W. (APRN), and G. A., MD	
<b>F</b>	Nurse and provider expressed questions for NL	<p>9/13 Received email from NL to schedule a meet next week to review the process with him so he can answer questions providers and staff may have.</p> <p>I did not review the provider process with NL because I was going to show the providers 1:1.</p> <p>The plan was to implement with 1:1 education by me to not burden NL since he is very busy, however, did not think I would not be able to return to unit when needed or to provide support</p>	<p>9/20 Emailed NL for meeting date and time. Response stated it was not a good week to visit because of possible JACHO visit, who did not visit last week as expected</p> <p>Emailed S.D., APRN to confirm visit with her on 9/23 Thursday. Agreed to meet at 12pm and may also have NL join</p> <p>Emailed data analyst with updates on data collection. – having trouble collecting from data fields.</p>	<p>9/23/21 NL said he reminded nurses about the pain scale; nurses were resistant to using scale.</p> <p>NL and S.D., APRN suggested I use a different field for documentation that is on the same page of the nurse intake information. However, I explained to them it does not have a field to add Supplemental Questions and will defeat the purpose of the project. Their idea was to have one less page to navigate to.</p> <p>Reviewed nursing process and provider process and responsibilities to NL. He stated he will review with providers and evening nurse (Iris). Also stated we should not count on</p>

<b>PICOT Question:</b> In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
<b>Team Leader:</b> Jennifer Zhang				
<b>Team Members:</b> CMO, CNO, NL, Project Liaison, QI Director, Data Analyst, Project Faculty: Kerry Milner, Project Expert and Liaison: Susan DeNisco				
<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
Implementation	Topic	Notes	Actions	Outcome/Status
				<p>M. M., APRN; M. A., APRN; P. W, APRN or S. R., MD because they are too busy.</p> <p>On Thursdays, S.D., APRN will have her nurse do the pain scale.</p> <p>While onsite- processed one patient with Y. C., LPN. She agreed she will try with S. D., APRN's patients.</p>
<b>G</b>	Follow-up on progress	<p>9/30 -follow-up with no progress</p> <p>10/3 follow-up</p>	<p>Emailed NL and cc'd Faculty advisor and S. D., APRN</p> <p>Suggested nurse incentives and/or achievable goal of 1-2 patients per nurse per day to get minimum 5 pts per week</p>	<p>10/8/21 NL replied stated he had morning huddle meeting, training was reinforced, and nurses said they do not have the time to use the new pain assessment scale.</p> <p>"I reinforced your training and they said that with all of the required documentation that is being expected from us, this added documentation is not feasible."</p> <p>10/8/21 Received email with names of patient processed in September from NL</p> <p>NL said he will continue to encourage nurse to use the scale.</p>
<b>H</b>	EMR system outage	<p>10/6-31 NextGen Down</p> <p>NextGen Access available for on-site only when server was back online</p>	Continue to send weekly emails with reminders for DVPRS implementation process and steps for EMR documentation	Team leader regained remote access on 12/3/2021

<b>PICOT Question:</b> In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patient's health-related quality of life (O)?				
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<b>Pilot site:</b> FQHC IM unit, Bridgeport, CT				
<b>Implementation</b>	<b>Topic</b>	<b>Notes</b>	<b>Actions</b>	<b>Outcome/Status</b>
<b>I</b>	Data Collection	12/9/2021- f/u with data analyst for additional data- stated she will gather data next week for me. Informed her that I will need data before last week of December	Communicated with data analyst on progress with data collection	Excel spreadsheet of data collection received 11/19/21 and 1/3/2022.
<b>J</b>	Post-Implementation Feedback Survey	Generated logic survey on Qualtrics with Dr. Milner  Plan for site visit to increase survey participation	12/6/2021 Emailed Post-feedback survey to nurses and providers  12/9/2021 Site visit with S.D., APRN to gain provider participation for survey	G.A., MD and M.M., APRN agreed to complete survey on their own time – email sent as requested  P.W., APRN did not have time to speak with me  Did not ask nurse to participate while on-site- per NL, it was not a good day to solicit survey with nurses- suggested to return on 12/14 8:15 am for nurses

**Appendix J**  
**Ethical Review**

Table J1. *Differentiating Quality Improvement and Research Activities Tool*

Question	Yes	No
1. Is the project designed to bring about immediate improvement in patient care?	X	
2. Is the purpose of the project to bring new knowledge to daily practice?	X	
3. Is the project designed to sustain the improvement?	X	
4. Is the purpose to measure the effect of a process change on delivery of care?	X	
5. Are findings specific to this hospital?	X	
6. Are all patients who participate in the project expected to benefit?	X	
7. Is the intervention at least as safe as routine care?	X	
8. Will all participants receive at least usual care?	X	
9. Do you intend to gather just enough data to learn and complete the cycle?	X	
10. Do you intend to limit the time for data collection in order to accelerate the rate of improvement?	X	
11. Is the project intended to test a novel hypothesis or replicate one?		X
12. Does the project involve withholding any usual care?		X
13. Does the project involve testing interventions/practices that are not usual or standard of care?		X
14. Will any of the 18 identifiers according to the HIPAA Privacy Rule be included?		X

Adapted from Foster, J. (2013). Differentiating quality improvement and research activities. *Clinical Nurse Specialist*, 27(1), 10–3. <https://doi.org/10.1097/NUR.0b013e3182776db5>



## Appendix L

Table L1. *DVPRS Scale and Supplemental Questions Data Collection Fields*

**Data to run:**

DATA FIELD	NOTES FOR DATA ANALYST	Screenshots
Age	18 years and older	
Date of In-office visit	Not used for telehealth visits	
In Pain Management Field  Pain Scale (number)  Note: Pain Scale (language in NextGen) is the same as Pain Intensity Rating	<p>In Pain Management Field</p> <ul style="list-style-type: none"> <li>● <b>Need Number for pain scale</b></li> <li>➤ <b>If pain scale of 4 or greater</b></li> <li>➤ Were Supplemental Questions in the Follow up/Plan of Care fields documented</li>   <li>➤ <b>If pain scale of 1-3</b></li> <li>➤ Were Supplemental Questions in the Follow up/Plan of Care fields Documented</li> </ul>	See below #1 and 2
Method	Was the “Defense Veterans Pain Rating Scale” selected	See below #1
Location	To include in data collection for pain location prevalence in this population	See below #1
Onset	<p>Need Date of visit to determine acute (&lt; 3months) versus chronic pain (&gt;3 months)</p> <p>If Chronic pain – were Supplemental Questions documented</p> <p>If Acute pain – were supplemental Questions documented</p>	See below #1 and 2
Follow up/ Plan of Care Fields documented  (This is the free text the nurses will add in My Phrases)	<ul style="list-style-type: none"> <li>➤ <b>If pain scale of 4 or greater</b></li> <li>➤ Were Supplemental Questions documented</li>   <li>➤ <b>If pain scale of 1-3</b></li> <li>➤ Were Supplemental Questions documented</li>   <li>➤ Additional pain location (free text)</li> </ul>	See Below #2
Reason for visit and History of present illness	<p>If Supplemental Questions were asked</p> <ul style="list-style-type: none"> <li>➤ Was it documented for provider handoff?</li> </ul>	See below #3 Provider Hand off

<b>DATA FIELD</b>	<b>NOTES FOR DATA ANALYST</b>	<b>Screenshots</b>
<p>Referral(s)</p> <p>Under SOAP note</p> <ul style="list-style-type: none"> <li>➤ Assessment</li> <li>Plan section</li> <li>➤ Referral</li> </ul> <p>There may be other locations in NextGen the referrals can be found</p>	<p>Can we track referrals- for example</p> <ul style="list-style-type: none"> <li>• Chiropractor</li> <li>• Physical Therapy</li> <li>• Acupuncture</li> <li>• Yoga</li> </ul>	<p>See below #4 and 5</p>
<p>Medication(s)</p>	<p>Medication ordered for day of visit for pain</p>	<p>See below #6</p>

## Appendix L

Figure L1. Screen shot of EMR Fields to Run for Data Collection

Run these fields below in NextGen:

1. Pain Management (Page)
  - Pain Scale
  - Method
  - Location
  - Onset (note need date of visit with this field)

NextGen® Enterprise EHR: Boy Ztest DOB: 12/25/2015 AGE: 5 years 3 months (Female) MRN: 00000213268 - 04/15/2021 07:54 AM: ""SOAP""

File Edit Default View Tools Admin Utilities Window Help

Health Promotion Plan

Boy Z

Panel Control: Toggle Cycle

Health Promotion Plan

Pain Management

Pain Assessment/Plan of Care

Pain scale: 6

Method: Defense and Veterans Pain Rating Scale

Location: back

Onset: 04/06/2021

Duration: 5 Minutes

Quality: aching, sharp

Follow-up plan of care:

Pain Method

Defense and Veterans Pain Rating Scale  
Neonatal/Infant Pain Scale (NIPS)  
Numeric Pain Intensity Scale  
Visual Analog Scale  
Wong-Baker FACES Pain Rating Scale

Close

Sort By: Summary Phrase My Phrases Manage My Phrases

Fall Risk

Screening Tools/Follow-Up Plans of Care

Functional and Cognitive Assessment Status

OK Cancel

## 2. Pain Supplemental Questions

- Follow-up plan of care Field
- Supplemental Questions (free text)

File Edit Default View Tools Admin Utilities Window Help

Health Promotion Plan

Boy Z

Panel Control: Toggle Cycle

Health Promotion Plan

Pain Management

Pain Assessment/Plan of Care

Pain scale: 6

Method: Defense and Veterans Pain Rating Scale

Location: lower back

Onset: 01/28/2021

Duration: 30 Minutes

Quality: aching

Follow-up plan of care:

Pain Supplemental Questions

During the past 7 days, can you rate from 0-10

1. How has pain interfered with your usual ACTIVITY?

2. How has pain interfered with your SLEEP?

3. How has pain affected your MOOD?

4. How has pain contributed to your STRESS?

Characters left: 44

Sort By: Summary Phrase My Phrases Manage My Phrases

Fall Risk

Screening Tools/Follow-Up Plans of Care

Functional and Cognitive Assessment Status

OK Cancel

## Appendix L

### 3. Provider Handoff

- Reason for visit/ History of present illness
- Pain Supplemental Questions addressed for chronic pain (free txt)

NextGen® Enterprise EHR: Boy Ztest DOB: 12/25/2015 AGE: 5 years 3 months (female) MRN: 00000213268

File Edit Default View Tools Admin Utilities Window Help

Save Clear Delete [Icons] [Icons] [Icons] [Icons] [Icons] [Icons] [Icons] [Icons] [Icons] [Icons]

Boy Ztest (F) DOB: 12/25/2015 (5 years) Weight: 200.00 lb (90.72 Kg) Alerts 30 Allergies 4 Problems 19 Diagnose 541 Medications 14 Appointments 5

Address: [Redacted] Pref. Language: American Sign Language Population Health Sync

Contact: [Redacted] Patient Portal: [Redacted] Referring: [Redacted]

Enc. Insurance: [Redacted]

Birth History PHI Log Outstanding Order Medfusion Portal Sticky Note Referring Provider HIPAA Advance Directives Screening Summary

04/15/2021 07:54 AM: "Intake" x

Established patient New patient Historian: self

Reason for Visit

Do not launch HPI

The Associated Symptoms/Problem/Negative documentation phases to HPI and HOC entered in this encounter. Intake Comments

Reason for Visit	History of Present Illness
Pain assessment	Pain Supplemental Questions addressed for chronic pain

back pain chest pain chronic conditions coronary atherosclerosis diabetes fatigue GERD hyperlipidemia hypertension long term use of anticoag Nutritional Therapy palpitations Telemedicine thyroid problems

Other: [Dropdown] Add

Additional / Manage

Chronic Conditions Diagnostics View All

### 4. Referral(s)

- Under SOAP note
  - Assessment Plan section
    - Referral

NextGen® Enterprise EHR: Bob Ztest DOB: 12/16/1959 AGE: 61 years 8 months (Male) MRN: 00000269190 - 08/19/2021 07:00 AM: "SOAP"

File Edit Default View Tools Admin Utilities Window Help

Save Clear Delete [Icons] [Icons] [Icons] [Icons] [Icons] [Icons] [Icons] [Icons] [Icons] [Icons]

Bob Ztest (M) DOB: 12/16/1959 (61 years) Weight: 200.00 lb (90.72 Kg) Alerts 10 Allergies 1 Problems 5 Diagnoses 44 Medications 2 Appointments 5 Lab Results

Address: 000 [Redacted] Pref. Language: English [Redacted] Population Health Sync

Contact: [Redacted] Patient Portal: [Redacted] Referring: [Redacted]

Enc. Insurance: [Redacted]

PHI Log Outstanding Order Medfusion Portal Sticky Note Referring Provider HIPAA Advance Directives Screening Summary

08/19/2021 07:00 AM: "SOAP" x

Assessment/Plan

Image Office Diagnostics Patient History Patient Demogr... Categories

Dx/AP History

Assessments	Plan Orders	Assessment
My Plan A/P Details Labs Diagnostics Referrals Office Procedures Review/Co-sign Orders View Immunizations Office Diagnostics Physical Therapy Orders Health Promotion Plan Community Resources		1. Assessment Hypothyroidism, unspecified (E03.9). Further diagnostic evaluations ordered today include(s) MRI/JNT of LWR EXTRE W/O DYE to be performed. SAUNDERS, SARA -Physician Assistants & Advanced Practice Nursing Providers : Nurse Practitioner. Clinical information/comments: RPM referral for BP monitoring. ** 08/19/2021 07:03 AM EDT: Message delivered to the recipient. ** 08/19/2021 07:03 AM EDT: CCD sent. ** 08/19/2021 07:04 AM EDT: Message delivered to the recipient.
		2. Assessment Type 2 diabetes mellitus with diabetic chronic kidney disease (E11.22).
		3. Assessment Chronic kidney disease, stage 3 unspecified (N18.30).
		4. Assessment Long term (current) use of insulin (Z79.4).
		5. Assessment Encounter for screening for other disorder (Z13.89). Plan Orders Today's instructions / counseling include(s) Mental health care assessment.

08/19/2021 07:00 AM

\*Finalize  
\*Histories  
\*Intake  
\*SOAP  
Departmental TDL  
Order Management

08/18/2021 09:59 AM  
08/17/2021 08:44 AM  
08/16/2021 01:19 PM  
08/06/2021 12:32 PM  
08/03/2021 09:39 AM  
07/30/2021 12:10 PM  
07/28/2021 04:23 PM  
07/27/2021 11:67 AM

Templates

Ready [Redacted] jzhang [CAP]NUM|SCR|08/21/2021

# Appendix L

## 5. Referral's page:

Referrals Order

Insurance name: Medicaid Policy #: 002715368

To: Specialty: [ ]

Diagnosis:

Description:	Code:	Description:	Code:
1. Acquired hypothyroidism	E03.9	3. Chronic kidney disease, stage 3 unspecified	N18.50
2. Type 2 diabetes mellitus with stage 3 chronic kidney disease	E11.22		

Services requested:  Consult  Evaluate and treat  Follow-up and treat  Assume care  Surgery  Diagnostic testing

Clinical information/Comments:

Instructions:

Referrals ordered:

Status	Ordered Date	Done	Code	Diagnosis	Order	Referral	Reason
ordered	08/19/2021		E03.9	Acquired hypothyroidism	Referrals: Physician Assistants & Advanced Practice Nursing Providers : Nurse Practitioner, SAUNDERS, SARA. Consult	processed	

## 6. Medication page with start date

NextGen Enterprise EHR: Bob Ztest DOB: 12/16/1959 AGE: 61 years 8 months (Male) HRI: 000000269190 - Medications Module

Bob Ztest (M) DOB: 12/16/1959 (61 years) Weight: 200.00 lb (90.72 Kg)

Medications Module

Status	Medication Name	Generic Name	Original Start	Start Date
Active (2 Items)	ALPRAZolam 2 mg tablet	alprazolam	07/06/2021	07/06/2021
Active	ergocalciferol (vitamin D2) 1,250 mcg ... ergocalciferol (vitamin D2)	ergocalciferol (vitamin D2)	02/17/2021	02/17/2021
Inactive (1 Item)	Adderall 5 mg tablet	dextroamphetamine/amphetamine	03/10/2021	03/10/2021

ALPRAZolam 2 mg tablet

Sig: take 1 tablet by oral route 3 times eve... Edit Sig... Remove Sig

Quantity: 20 Units: Tablet Refills: 0

Start: 07/06/2021 Stop: 07/06/2021 Duration: [ ]

## Appendix M

Table M1. *Plan-Do-Study-Act Implementation*

<b>Topic: Implementation of DVPRS and Supplemental Questions pain assessment tool for patients with chronic pain</b>				
<b>Steps</b>	<b>Pilot Implementation go-live date</b>	<b>During Implementation phase</b>	<b>During Implementation phase</b>	<b>Post Implementation phase</b>
<b>Date</b>	8/24/2021	9/13/21	10/8/21	12/5/21
<b>Cycles</b>	1	2	3	4
<b>PLAN</b>	<b>The PI team plans to: Test a process for pain assessment using the DVPRS and Supplemental Questions and documentation in the EMR</b>			<b>Obtain feedback from nurses and providers on DVPRS and Data collection</b>
	<p>Steps in the process:</p> <ol style="list-style-type: none"> <li>1. The nurse will be educated on how to use the DVPRS and Supplemental Questions and where to document in the EMR</li> <li>2. The nurse will screen all in-clinic patients with pain using the DVPRS pain intensity scale</li> <li>3. The nurse will screen all in-clinic patients with pain of 4 or greater with the Supplemental Questions for level of biopsychosocial impacts of chronic pain</li> <li>4. The nurse will document pain assessment in appropriate fields and hand-off in EMR for provider</li> <li>5. The nurse will document patient processed on patient log sheet and collected by unit nurse leader (NL)</li> <li>6. The provider will use the DVPRS and Supplemental Questions to inform care</li> <li>7. We will pilot this process for 12 weeks</li> <li>8. Project leader will be onsite day before pilot, day of pilot initiation, and 1-2 days per week to provide staff support and evaluate nurse process with real patients and review process with providers.</li> </ol>	<p>Steps in the process:</p> <ol style="list-style-type: none"> <li>1. Project leader will engage staff on-site when opportunities are available</li> <li>2. Project leader will send emails with nurse and provider responsibilities, including process for documentation with EMR screen shots, with weekly email reminders</li> <li>3. The nurse will be reeducated on how to use the DVPRS and Supplemental Questions and where to document on EMR</li> <li>4. The nurse will screen all in-clinic patients with pain using the DVPRS pain intensity scale</li> <li>5. The nurse will screen all in-clinic patients with pain of 4 or greater with the Supplemental Questions for biopsychosocial impacts of chronic pain</li> <li>6. The nurse will document pain assessment in appropriate fields and hand-off in EMR for provider</li> <li>7. The nurse will document patient processed on patient log sheet and collected by unit nurse leader (NL)</li> <li>8. The provider will use the DVPRS and Supplemental Questions to inform care</li> <li>9. We will pilot this process for 12 weeks</li> </ol>	<p>Steps in the process:</p> <ol style="list-style-type: none"> <li>1. Project leader will follow up with NL on number of patients processed and feedback</li> <li>2. Project leader will engage staff on-site when opportunities are available</li> <li>3. Project leader will send emails with nurse and provider responsibilities, including process for documentation with EMR screen shots, with weekly email reminders</li> <li>4. The nurse will screen all in-clinic patients with pain using the DVPRS pain intensity scale</li> <li>5. The nurse will screen all in-clinic patients with pain of 4 or greater with the Supplemental Questions for biopsychosocial impacts of chronic pain</li> <li>6. The nurse will document pain assessment in appropriate fields and hand-off in EMR for provider</li> <li>7. The nurse will document patient processed on patient log sheet and collected by unit nurse leader (NL)</li> <li>8. The provider will use the DVPRS and Supplemental Questions to inform care</li> <li>9. We will pilot this process for 12 weeks</li> <li>10. Communication with data analyst for patients processed to run data</li> </ol>	<p>Steps in the process:</p> <ol style="list-style-type: none"> <li>1. Project leader will generate and email an online survey with logic questions for nurses and providers</li> <li>2. Project leader will obtain permission to be on-site to increase survey participation to 100%</li> <li>3. Communication with data analyst for final spread sheet of data collected with additional data requested</li> <li>4. Review data and charts</li> </ol>

Topic: Implementation of DVPRS and Supplemental Questions pain assessment tool for patients with chronic pain				
Steps	Pilot Implementation go-live date	During Implementation phase	During Implementation phase	Post Implementation phase
Date	8/24/2021	9/13/21	10/8/21	12/5/21
Cycles	1	2	3	4
<b>DO</b>	<b>What did the team members observe?</b>			
	<ul style="list-style-type: none"> <li>NL agreed for pilot go-live date, but did not approve project leaders' presence to support staff during implementation <ul style="list-style-type: none"> <li>Project leader provided days to be on-site 1-2 days per week, unit nurse leader replied, "not a good day"</li> </ul> </li> <li>Pilot implementation was during organizational Joint Commission preparation</li> <li>Nurses were not processing patients with DVPRS as planned</li> <li>Nurses and providers had questions during implementation and directed questions to NL and not the project leader</li> <li>NL did not communicate to project leader weekly as planned</li> </ul>	<ul style="list-style-type: none"> <li>NL agreed for pilot go-live date, but did not approve project leaders' presence to support staff during implementation</li> <li>Project leader provided days to be on-site 1-2 days per week, unit nurse leader replied, "not a good day"</li> <li>Pilot implementation was during organizational Joint Commission preparation</li> <li>Nurses were not processing patients with DVPRS as planned</li> <li>Nurses and providers had questions during implementation and directed questions to NL and not the project leader</li> <li>NL did not communicate to project leader weekly as planned</li> </ul>	<ul style="list-style-type: none"> <li>At 6<sup>th</sup> week of implementation, the unit nurse leader provided three patients processed by nurses on 9/9/21 and 9/24/21</li> <li>NL did not communicate to project leader weekly as planned</li> <li>Patient processed was one month ago, real time feedback was not completed</li> </ul>	<ul style="list-style-type: none"> <li>Emailed unit NL and requested for permission to be on site to solicit 100% participation for survey</li> <li>Emailed each staff weekly with reminders and link to survey</li> <li>Need more data from data analyst</li> </ul>
<b>STUDY</b>	<b>What did the team members learn, and was the measurement goal met?</b>			
	<ul style="list-style-type: none"> <li>Organizational Joint Commission preparation was the priority and NL did not want outside project leader's presence during the first two weeks of implementation, requested project leader to allow him to get the project off the ground himself. This hindered opportunities to complete step 7 of plan</li> <li>No patient was processed during the first three weeks of implementation per NL</li> <li>NL communicated to project leader via email that providers and nurses had questions after initiation of implementation. Opportunity to meet NL and engage staff was determined by NL's limited availability.</li> </ul>	<ul style="list-style-type: none"> <li>Organizational Joint Commission preparation was on-going during implementation phase.</li> <li>Meeting requested by NL was never confirmed. Alternatively, meeting with a provider (Dr. DeNisco), who is also a project team member was arranged and included NL in meeting to discuss project progress and questions</li> <li>No patient was processed during the first three weeks of implementation per NL</li> </ul>	<ul style="list-style-type: none"> <li>Organizational Joint Commission preparation was on-going during implementation phase.</li> <li>Better communication between NL and project leader was necessary for constructive feedback to nurses</li> <li>Nurse information was not available with each patient that was processed, therefore unable to provide feedback to specific nurse</li> </ul>	<ul style="list-style-type: none"> <li>No response from NL</li> <li>Alternatively, emailed Dr. DeNisco (provider and project team member) for support</li> <li>Need more data to capture chronic pain versus acute pain</li> <li>Realized we need to capture patient encounter instead of patient visit because one patient may have more than one visit with pain.</li> </ul>

**Topic: Implementation of DVPRS and Supplemental Questions pain assessment tool for patients with chronic pain**

Steps	Pilot Implementation go-live date	During Implementation phase	During Implementation phase	Post Implementation phase
Date	8/24/2021	9/13/21	10/8/21	12/5/21
Cycles	1	2	3	4
ACT	<b>What are the conclusions from this cycle?</b>			
	<ul style="list-style-type: none"> <li>Because project leader on-site support was limited to staff, it prevented progress, evaluation process including staff adherence and competency with implementation and documentation</li> <li>Patients were not processed as planned, weekly emails were sent to nurses and providers as reminders which included outlined process steps for implementation and documentation of the DVPRS</li> </ul>	<ul style="list-style-type: none"> <li>Project leader on-site support was limited, unable to evaluate process, staff adherence, and competency with implementation.</li> <li>Patients were not processed as planned, weekly emails were sent to nurses and providers as reminders included outlined steps for implementation and documentation of the DVPRS</li> <li>Opportunity to engage staff on-site was made with a provider who was also a project team member, meeting arranged to review provider process and include NL for reeducation of project goals and process for staff on 9/23/2021                             <ul style="list-style-type: none"> <li>NL communicated nurses lack of time, resistance, questions with the process, and provider responsibilities. Project leader reviewed process and documentation with the NL. He stated he will review with staff during morning huddle and answer providers questions after having been reeducated.</li> <li>NL suggested a different field for documentation that may increase nurse adherence (vital signs field where nurse commonly document pain intensity), however, EMR was limited to customization with only one field to include supplemental questions. Therefore, suggestion to change documentation process was not made.</li> <li>Took opportunity to engage staff after meeting for reeducation or support</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Because weekly communication of patient processed was not available, real time constructive feedback was not completed.</li> <li>Nurse information was not documented with patient's data when collecting patient logs at point of care.</li> <li>Only 3 patients processed at week 6. Weekly emails were sent to nurses and providers as reminders included outlined steps for implementation and documentation of the DVPRS</li> <li>NL feedback when asked about progress, "I have asked the staff during the week and this morning in the Morning Huddle and they said that they do not have the time to review that. I reinforced your training and they said that with all the required documentation that is being expected from us, this added documentation is not feasible."</li> <li>Ask NL and Dr. DeNisco (provider): How can we increase nursing adherence? Incentives with GC, can nurse process a minimum of 1 patient per day – No response/recommendation provided</li> <li>NOTE: EMR system wide went down for almost 3 weeks (10/6 to 10/31). Access to EMR was only available on-site, remote access was regained on 12/3/21 after completion of 12 weeks implementation on 11/12/21. However, I was able to regain email access but not to EMR to review patient charts during this period.</li> <li>At end of implementation, data analyst provided excel spreadsheets on 11/19 of all in clinic patients with pain, and found 7 patients processed with DVPRS</li> </ul>	<ul style="list-style-type: none"> <li>Communication was made between NL and Dr. DeNisco for best time slot for project leader to solicit online survey participation</li> <li>Dr. DeNisco relayed message to project leader via email for best time for site visit</li> <li>Project leader was on site twice for 15 mins during initial two weeks of implementation with 8 out of 11 survey participants</li> <li>Survey completed at 3<sup>rd</sup> week with a total of 9 out of 11 participants</li> <li>12/20- Request data analyst for more data and to remove duplicate encounters to have accurate count for encounters versus number of patients</li> <li>Excel spreadsheet of data received 11/19/21 and 1/3/2022.</li> <li>Final spreadsheet of data analyzed with about 400 in-clinic patients with pain.</li> <li>1/10/21 completed chart review, found patients who were not captured on data analyst's list with a total of 16 patients who were processed with DVPRS/NRS with supplemental questions</li> </ul>

## Appendix N

### Executive Summary

Chronic pain assessment should focus on patients' functional status, quality of life, and pain control. A tool to assess pain intensity and biopsychosocial impacts of pain for patients with chronic pain was needed in a Federally Qualified Health Center (FQHC). The Defense and Veterans Pain Rating Scale (DVPRS) incorporates a numeric rating scale with four functional questions on pain interference on ADLs. The DVPRS design stimulates communication between patients and providers about their pain, its impact on function, and state of mind. Treatments are focused on making the pain tolerable and optimizing patient function while avoiding unwanted side effects from medications. Convincing evidence supports the use of the DVPRS in primary care settings.

For this project, the Plan-Do-Study-Act method was used to provide nursing and provider education on best practices for pain assessment and to implement the DVPRS in a FQHC. In the *Plan* phase, the DVPRS was added to the pain policy at the FQHC. In the *Do* phase, the DVPRS was presented to five providers and six nurses, and they practiced using the DVPRS and documenting their findings in the electronic health record. For the *Study* phase, data on the DVPRS use in patients presenting with pain and their treatment plans were evaluated. In the *Act* phase, these data were presented to the key stakeholders at the FQHC, and recommendations were made for subsequent PDSA cycles.

There were 292 in-clinic, adult patient encounters with pain including chronic (46%), acute (21%), both (3%), and unknown (31%). Only 16 (5%) of patients were assessed for pain using the DVPRS. Nurse adherence to DVPRS documentation was poor and inconsistent with 14

(87.5%) patient encounters having at least one inconsistency in their documentation. When the DVPRS was used in patients with a pain diagnosis (n=13), 77% (n=10) received either referrals and/or new non-opioid medication prescriptions. There were several barriers during implementation including the project leader not being able to be on-site to give support and feedback and this may explain the low use of the DVPRS and documentation errors.

Despite the low use of the DVPRS, post-implementation surveys of nurses and providers showed that they wanted to continue using the DVPRS with some adjustments. These adjustments included a customizable EMR system to streamline the process, make it more accessible and user-friendly, and share the DVPRS assessment with the provider e.g., nurses assess pain intensity and if it is 4 or greater the provider assesses functional status.

In summary, adopting the DVPRS, a brief comprehensive pain assessment tool in this primary care setting was valued by the nurses and providers and did impact patient pain management with non-opioid medications and alternative modalities ordered for treatment of chronic pain.

# Appendix O

## Annual Connecticut Advanced Practice Registered Nurse Society



### CTAPRNS Annual Conference Schedule of Events (tentative)

#### Thursday, April 7, 2022

- 8:00 AM – 8:30 AM Registration and Grab & Go Breakfast  
 8:30 AM – 8:45 AM Welcome to Conference  
 8:00 AM – 11:30 AM Exhibit Set Up
- Session 1 – 9 AM-10 AM**  
 9 AM – 10 AM Asthma Update: Current Guidelines and the Use of Biologics. Nanette Alexander  
 9 AM – 10 AM Opiate Use Disorder (OUD) Screening Tool Brian Pervis  
 CT DPH Mandatories Session: substance abuse  
 9 AM – 10 AM Dermatology Session TBA  
 9 AM – 10 AM Accountability in the Workplace: How to Care for Your Colleagues in a Culture of Isolation. Belmont and Taylor
- Session 2 – 10:15 AM- 11:15 AM**  
 10:15 AM- 11:15 AM Update: COVID-19 outpatient treatments. Ines Zernaltis  
 10:15 AM- 11:15 AM Parallel Lessons Learned from Aviation: A Current Review of Safety, Accidents, and Incidents and Their Implications on Advanced Nursing Practice. Belmont and Taylor  
 CT DPH Mandatories Session: risk management  
 10:15 AM- 11:15 AM Dermatology Session TBA  
 10:15 AM- 11:15 AM Charles Bonnet Syndrome: how to distinguish between medical or psychiatric illness
- 11:30 AM – 1:00 PM Exhibit Hall opening, Product Theater #1, Lunch in Hall**
- Session 3 – 1:15 PM – 2:15 PM**  
 1:15 PM – 2:15 PM Pharmacology Session TBA  
 1:15 PM – 2:15 PM Making the HARD patients easier: Integrating care of medically complex patients with behavioral issues. Daughinis, Resinger, and Treloar  
 CT DPH Mandatories Session: mental health  
 1:15 PM – 2:15 PM Dermatology Session TBA  
 1:15 PM – 2:15 PM Sleep Over 65 Nascette Alexander



- Session 4 – 2:30 PM – 3:30 PM**  
 2:30 PM – 3:30 PM The knee, what we need to know! Jill Arcari-Couture  
 2:30 PM – 3:30 PM Demystifying the sexually abused child. Moller and Murphy  
 CT DPH Mandatories Session: abuse  
 Stigmatizing Language  
 2:30 PM – 3:30 PM Implementation of Brief Pain Intensity and Functional Assessment for Chronic Pain in a Federally Qualified Health Center (FQHC): An EBP-QI Project. Zhang, Milner, and DeNisco
- 3:30 PM – 4:15 PM Exhibit Hall**
- Session 5 – 4:30 PM – 5:30 PM**  
 4:30 PM – 5:30 PM Insomnia and its impact on physical and mental health  
 4:30 PM – 5:30 PM Primary Hyperparathyroidism - Diagnosis, Indications for Surgery, Perioperative management. Qian Zeng  
 CT DPH Mandatories Session: disease management  
 Cannabis Use Disorder: Three Keys for Hope Sheri Peabody  
 4:30 PM – 5:30 PM  
 5:30 PM – 6:30 PM Exhibit Hall, Product Theater #2 and attended posters  
 6:30 PM – 7:30 PM Opening Reception, Awards and Silent Auction in Exhibit Hall

#### Friday, April 8, 2022

- 7:30 AM – 8:20 AM Legislative Breakfast: state and national update. Montesi and Morrissey  
**8:30 AM – 10:00 AM Keynote Dr. Cynda Rushton RESILIENCE**
- Session 1 – 10:15 AM – 11:15 AM**  
 10:15 AM – 11:15 AM Ethical dilemmas in the pandemic. Dr. Cynda Rushton  
 10:15 AM – 11:15 AM Neurological Examination Pearls Donna Avanecean  
 10:15 AM – 11:15 AM Shoulder Pain Initial Evaluation and Management for Primary Care Angela Planka  
 10:15 AM – 11:15 AM I Went to Cancer Land Without a Road Map. Elizabeth Visone
- 11:30 AM – 1:00 PM Business Meeting (11:45 AM – 12:15 PM), Exhibit Hall, Lunch**
- Session 2 – 1:15 PM – 2:15 PM**



- 1:15 PM – 2:15 PM Hip and Knee Osteoarthritis, When Surgery is not an Option Jill Arcari-Couture  
 1:15 PM – 2:15 PM Sleep Strategies to Enhance your Toolbox. Joanne Iannaco  
 1:15 PM – 2:15 PM Resiliency and Residency Nicole Seagriff  
 1:15 PM – 2:15 PM Lyme Disease and Co-Infections – A Case Study Pamela Cipriano
- 2:15 PM – 3:15 PM Exhibit Hall, Product Theater #3**
- 3:30 PM – 4:45 PM Dean's panel**
- 4:00 PM – 6:00 PM Exhibit Tear Down
- 5:00 PM – 7:00 PM Students, Alumni, Preceptors, Schools' Reception**
- Saturday, April 9, 2022 (\$100 for workshops)**
- 7:30 AM – 8:00 AM Grab & Go Breakfast
- Workshops – 8:00 AM – 11:00 AM**  
 8:00 AM – 11:00 AM Suturing Workshop Jill Arcari-Couture, FNP-BC, APRN, Kristi Maynard, MSN, APRN, FNP-BC  
 8:00 AM – 11:00 AM Ortho Skills Workshop TBA  
 8:00 AM – 11:00 AM Professional Development Workshop  
 Building Career Resilience in Uncertain Times: A World of Opportunity Berte and Halloran  
 NP Understanding of their Value Proposition Lynn Rapsilber

Approx 30 CE pending approval



#### CTAPRNS Board 2021-22

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 Susan D'Agostino, Treasurer  
 Cheryl Doll, Secretary  
 Patricia Garrett, Retiree  
 Kristin Guida, President
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 Emily Garber MSN, APRN  
 Lalma Karosas PhD, APRN, FAANP  
 Kristi Maynard  
 Patricia Giannelli
- Health Policy Committee**  
 Christina Morrissey
- Communications Committee**  
 Cheryl Doll

# Appendix P

## DNP Poster



DR. SUSAN L. DAVIS, R.N.,  
& RICHARD J. HENLEY  
COLLEGE OF NURSING  
Sacred Heart University

### Pain Assessment Policy Update and Nursing Education on Best Practices for Pain Assessment: A Quality Improvement Project

Jennifer Zhang, BSN, RN; Kerry A. Milner, DNSC, RN, EBP-CH; Susan DeNisco, DNP, APRN FNP-BC, FAANP

#### Background

Assessing pain and its impact on functionality can help bridge the gap between effective pain management and safe prescribing practices with alternative non-opioid therapies. The Defense and Veterans Pain Rating Scale (DVPRS) incorporates a numeric rating scale with four functional questions on pain interference in daily activities making it an effective tool for monitoring chronic pain. DVPRS design stimulates communication between patients and providers about their pain, its impact on function and state of mind. A tool to assess pain intensity and interference with general activity, sleep, mood, and stress in patients with chronic pain was needed in the Federally Qualified Health Center (FQHC).

#### PICO Question/Evidence

In chronic pain patients (P), how does the use of comprehensive DVPRS pain scale (I) compared to numerical pain rating scale (C) affect patients' health-related quality of life (O)?

#### Internal Evidence

A Numerical Pain Rating Scale was used to assess pain at a FQHC. Preliminary data from nurses suggest the need for best practices for assessment of chronic pain and EHR documentation.

#### External Evidence

Convincing evidence supported the use of DVPRS (three level II: randomized control trial (RCT) and one level IV: EBP implementation). The use of a functional pain assessment was superior to using pain intensity measurements to manage chronic pain (one level V: cohort study, one level VI: observational, and two level VII: expert opinion) The outcome synthesis table shows seven of the eight articles support the use of a pain intensity scale plus functional assessment.

#### Project Goals

1. To identify best practices for assessing chronic pain in primary care setting.
2. To update pain assessment policy at FQHC using best available evidence.
3. To implement the updated pain assessment policy at FQHC and track staff adherence to policy.

#### Methods/ Implementation Plan

**Aim:** To implement the DVPRS in a FQHC. To track nurse adherence to using a new pain scale and providers pharmacologic and non-pharmacologic treatments for chronic pain.

**Setting/Population:** FQHC, Internal Medicine, Southern CT

**Participants:** 6 LPNs, 5 Providers (3 APRNs, 2 MDs)

**Design:** EBP-QI project: Plan-Do-Study-Act Framework

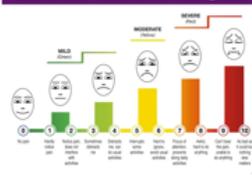
**PLAN:** Update pain assessment policy to include DVPRS

**DO:** Educate the staff (e.g., nurses and providers) on DVPRS, guidance on the use of DVPRS and supplemental questions, and EHR documentation

**STUDY:** Nurse adherence to implementation of DVPRS and/or Supplemental Questions and Provider's plan of care from August 24 to November 12, 2021

**ACT:** Revise policy or process based upon what was learned in the first PDSA cycle

#### Defense and Veterans Pain Rating Scale



#### DoD/VA Pain Supplemental Questions

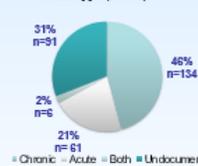


#### Outcomes

##### Process Measurements

- 1,093 adult patient encounters were seen in-clinic and/or with telehealth.
- Total of 408 patient encounters with pain were reviewed. There were 292 in-clinic, adult patient encounters with pain: chronic (46%), acute (21%), both (2%), and not documented (31%) duration.
- Majority of patients with chronic pain were assessed with the NRS (n = 123, 92%).
- Nurse adherence for the implementation of the DVPRS was extremely low (n=7, 5%) for patients with chronic pain

##### Pain Type (n=292)



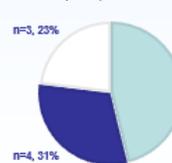
##### Method to Assess Chronic Pain (n=134)



##### Outcome Measurements

##### PROVIDER PLAN FOR PATIENT WITH PAIN DIAGNOSIS CODE (N=13)

- Either Referrals or Medication
- Both Referral or Medication
- None



- New referrals: chiropractic medicine, physical therapy, physiatrist, cardiology.
- New medication Rx: Voltaren Arthritis Pain 1% gel, Cyclobenzaprine, Naproxyn, Sumatriptan, Gabapentin, and Diclofenac 1% topical gel. Tramadol was increased from twice a day to three times a day for one patient.

#### Highlights of EHR Documentation Using the DVPRS

- Nurses documented the use of the DVPRS on 7 patients and an additional 9 patients were found through chart review for a total of 16 patients.
- When the DVPRS was used, the follow through with the supplemental questions was inconsistent.
- Adherence to documentation based on EHR field of pain management section, pain scale, method, onset date, text field for Supplemental Questions, handoff to providers
  - 14 (87.5%) patients who had at least one inconsistency in their documentation

#### Nurses and Providers Post-Implementation Feedback

	Nurse (n=6)	Providers (n=3)
Used DVPRS and/or Supplemental Questions at least once	100%	"nurse sometimes used DVPRS"
Length of time to assess each patient and document was less than 15 minutes	50%	"made us more aware of the functional limitations and did more [patient] education"
Reasons for not using DVPRS:	lack of time Too busy Forgot	"it opened other more nuanced conversations about modalities and patient goals."

#### Summary

- Despite low nurse adherence, the DVPRS education, use, and purpose informs providers' plans of care
- Providers explained the DVPRS increased awareness of functional limitations that led to additional patient education
- Provider and patient conversations around modalities and goals for pain management increased and were openly communicated.
- Adopting a brief comprehensive pain assessment tool (e.g., DVPRS) in a primary care setting will improve provider and patient communication surrounding pain, assess the impacts of pain on function and QOL, while eliminating opioid prescriptions with alternative therapies.

#### Lessons Learned and Sustainability Plan

- Post-implementation survey showed that education was impactful to providers to inform care.
- Strong organizational leadership and frontline support for all phases of the project, especially during the implementation phase where success of QI is dependent on frontline nursing and provider engagement.
- Identifying nurse champions to provide support and education for the practice change, promote continuous monitoring, and feedback to prevent process errors.
- Promote a culture of change by organizing a QI committee to support nurse involvement with unit projects.
- Staff incentives to recognize their commitment and hard-work, especially when frontline staff buy-in is key for change to happen along with leadership support

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