

BEST PRACTICES IN PAIN MANAGEMENT IN
PRIMARY CARE: A TEACHING PROJECT

by

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DEDICATION

I dedicate this project to my wonderful family. My husband Tom, son Tommy, and daughter Tanya. Thank you for your support, encouragement, and love throughout this journey.

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ABSTRACT

Pain is common and affects approximately 9 in 10 Americans and is the most common reason people seek health care. One of the first stops to receiving care is in a primary-care setting. Considering the high prevalence of patients with pain, it's important to have knowledge of pain and the management of pain conditions, as well as the psychosocial factors involved with a chronic-pain condition. Research has also shown that many healthcare professionals receive little education in their training programs. The purpose of this project was to improve chronic-pain management in a community health care center (CHCC). The specific aim was to increase knowledge about best practices in pain management by 10% in CHCC staff. A comprehensive assessment of a CHCC was conducted to assess the quality of pain management in the CHCC. Education was developed to address the knowledge needs about pain management that were revealed in the assessment. A review of the literature was conducted after the assessment to identify best practices in pain management. In-services that included information about current best practice guidelines for chronic-pain management were provided to the staff. A pre-test was administered prior to each presentation to assess current knowledge, and a post-test immediately followed each presentation to evaluate the effectiveness of the presentation. Qualitative feedback about the presentation was also elicited on the post test. The assessment revealed that 8.5% of the patient visits were for a diagnosis of chronic pain, and the staff requested more information about best practices in pain management. The pre/post test results showed that the specific aim was achieved. Qualitative feedback indicated that the staff appreciated the in-service and wanted more information on a regular basis. The nursing staff also indicated that they would like to play a larger role in helping to manage this population in the clinic. Given the growing number of persons living with chronic pain, continuing education about pain management best practices is needed by staff working in community health care centers to ensure adequate assessment and management of chronic pain. Clinical implications and recommendations for future research are also discussed in this paper.

CHAPTER 1

INTRODUCTION

Background & Significance

According to the Institute of Medicine (2011), nearly 100 million adults in the United States report having a chronic-pain condition; more than the total number affected by heart disease, cancer, and diabetes combined. Chronic pain is also the most common cause of long-term disability, accounting for more than 50 million lost work days in the United States per year (Stewart, Ricci, & Chee, 2003). The treatment of pain and lost productivity costs approximately \$625 billion per year—a significant cost to patients, their families, and the nation as a whole (Institute of Medicine, 2011). The “most common, chronic, disabling pain condition in the United States is persistent low back pain (LBP), which was considered to be a medical disaster in the twentieth century” (McCance, Huether, Brashers, & Rote, 2010, p. 492). Low back pain is also the most common cause for chronic or permanent impairment in persons under age 65 (Childs, Flynn, & Wainner, 2012).

Ideally, chronic pain is best managed in a primary-care setting by a primary-care provider who has the expertise needed to comprehensively assess and manage chronic conditions (McCarberg, 2009). Because chronic pain can affect a person’s day-to-day life, the burden of controlling pain falls most heavily on the people with pain and their families (Institute of Medicine, 2011). The clinician’s role in providing chronic-pain care is often a matter of assessing the pain, prescribing pharmacologic and non-pharmacologic

treatments, evaluating the response to the treatments, and also teaching patients and their families skills in self-management (Institute of Medicine, 2011; Gatchel, Peng, Peters, Fuchs, and Turk, 2007).

Problem Statement and Project Aim

Local Setting

The primary-care setting that is the focus of this project is a community health center located in the Pacific Northwest. Community Health Care Centers (CHCC) were created in 1964, when Congress passed the Title VI *Economic Opportunity Act* that allowed communities to partner with the federal government to establish neighborhood health centers (Shin, Rosenbaum, & Paradise, 2012).

What started out as a demonstration project more than 45 years ago (The Affordable Care Act and Health Centers), grew into several programs authorized separately, and is now a single program funded at approximately \$2 billion. There are more than 1,250 health centers now serving more than 20 million persons in over 9,200 locations throughout the country (Byrnes & Zakheim, 2012).

All health centers must serve a medically underserved area (MUA) and provide comprehensive primary and preventative healthcare services along with essential ancillary and enabling services (i.e., transportation, translation services) regardless of ability to pay and across all life stages (Byrnes & Zakheim, 2012). Medically underserved areas/populations are areas or populations designated by the Health Resources and Services Administration (HRSA) as having too few primary-care

providers, high infant mortality, high poverty, and/or high elderly populations (Shin et al., 2012).

The CHCC has a community-based governing Board of Directors that includes active consumers of the CHCC services (51%) and representatives of the community with expertise in finance, banking, and legal affairs (49%) (Governing Board Handbook, 2000). The CHCC’s goal in healthcare is to keep people healthy as opposed to treating them when they are ill (“What is a health care center?” 2014). This CHCC opened its doors in 1997, in the heart of downtown in an MUA within walking distance of the local Mission and bus station. Also within walking distance is the local Center for Mental Health.

As noted in Figure 1, the majority of the patients are uninsured. The remainders are covered by Medicare (20%), Medicaid (16%), private insurance (14%), and other (6%). (Vitera Practice Management, 2013).

Figure 1. Payor Mix

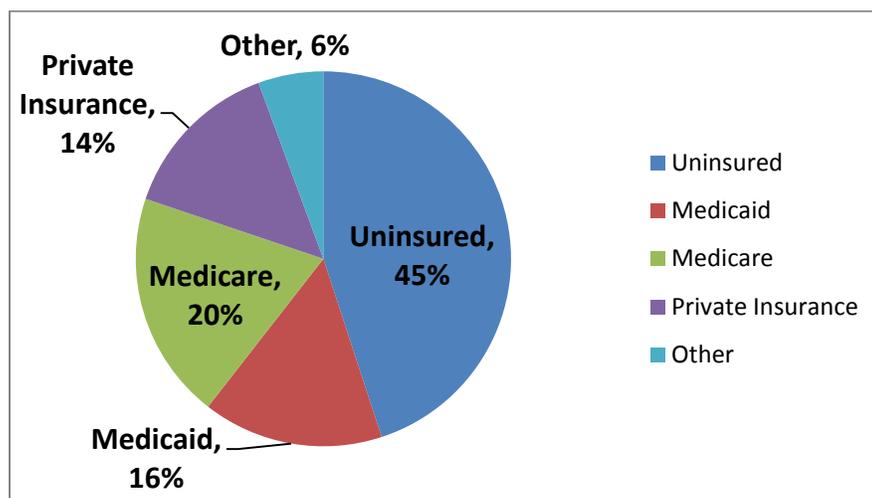
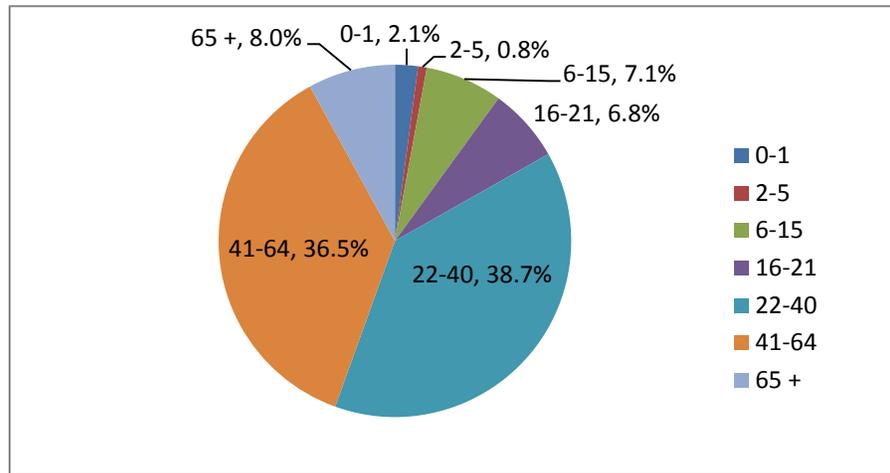


Figure 2 displays the age distribution of the patient caseload. The largest age group is between the ages of 22-64 (Vitera Practice Management, 2013).

Figure 2. CHCC Patient Age Distribution



There is a low population of pediatrics and adolescents who are seen in this clinic. In 2013, the Uniform Data System (UDS) Report showed the CHCC had 10,336 total visits for medical, dental, or behavioral care. The majority of these visits (7,005) were for medical care. A review of the medical codes (Appendix A) revealed that nearly 8.5% of the medical visits focused on assessment and/or treatment of chronic pain. The perception among providers is that chronic pain is a frequent comorbidity in persons being treated for other chronic illnesses, like diabetes and hypertension (J. Wood, personal communication, November 2014).

Community Health Care Centers are clinics typically staffed by a group of general providers and support staff. The core staff carry out required primary, preventative,

dental, and behavioral health services, and additional health services such as referrals to specialists in the community.

The core staff in this CHCC include five licensed practical nurses (LPNs), one physician, three nurse practitioners, four medical assistants (MAs), a triage/case manager registered nurse (RN), and one licensed clinical social worker (LCSW). None of the staff have received additional training in pain management, and several have expressed concerns about the lack of orientation/education regarding pain management, given the number of patients who present with needs for pain management.

Pain-management specialists are available for referral in the community and some of the pain patients are referred to them. However there have been some significant changes in specialty management of chronic pain. Most of the specialists no longer prescribe opioid medications and, if a person is currently taking opioids with no evidence supporting this treatment plan, withdrawal is initiated. The specialists are also reluctant to provide long-term management of chronic pain patients, preferring to send the patient back to primary care for long-term management once the treatment plan has been developed. Two of these specialists are no longer taking new patients (M. Williamson, personal communication, November 14, 2014).

The process for delivering care at the CHCC is guided by the Patient-Centered Medical Home (PCMH) model of care (“The Affordable Care Act and Health Centers,” 2014) that strives to provide care that is patient-centered, comprehensive, team-based, coordinated, accessible, and focused on quality and safety (Heitkamp, 2013). The PCMH

is characterized by the following seven principles adapted from the American College of Physicians (2007):

1. *Each patient has an ongoing relationship with a personal physician/APRN trained to provide first contact, continuous, and comprehensive care* (American College of Physicians, 2007). Each of the CHCC providers has their own “team” of staff and “panel” of patients. The patients know who to call to set up follow-up appointments. The patients also know that, when they call to leave a message, their messages will be relayed to their respective providers.
2. *The personal physician/APRN leads a team of individuals at the practice level who collectively take responsibility for the ongoing care of patients* (American College of Physicians, 2007). The teams for the CHCC include front-line staff members who are assigned a provider. They maintain the schedules, process phone messages, and assess eligibility/insurance. Other team members include the provider, nurse, and medical assistants (MA).
3. *The personal physician is responsible for providing for all of the patient’s healthcare needs or taking responsibility for appropriately arranging care with other qualified professionals* (American College of Physicians, 2007). This includes care for all stages of life: acute care, chronic care, preventative services, end of life care.

4. *Care is coordinated and/or integrated across all levels of the healthcare system* (e.g., subspecialty care, hospitals, home-health agencies, and the patient's community) (American College of Physicians, 2007). Healthcare specialties utilized by the CHCC include, but are not limited to, such specialty offices as: Physical Therapy, Dermatology, Psychiatry, Pain Specialty Clinic, Sleep Specialists, Diabetic Education, and Home-Health agencies.

5. *Quality and safety are hallmarks of the medical home* (American College of Physicians, 2007). Care planning is driven by a compassionate, robust partnership between the physicians/APRNs, patients, and their families. Pain contracts and medication compliance are one safety measure for the patients and the providers.

6. *Access to care* (American College of Physicians, 2007) is enhanced in a variety of ways like same-day appointments and extended hours.

7. *Payment recognizes case-mix differences in the patient population being treated* (American College of Physicians, 2007). Patients may elect to use a "sliding-fee schedule," which enables them to access affordable, quality, healthcare services (Shin et al., 2012)

The CHCC is open Monday through Friday, 7:00 a.m. to 5:00 p.m. Appointment times range from 30 to 60 minutes, depending on the appointment type. The process for chronic-pain management begins when the patient checks in at the front desk (H. Hill, personal communication, September 10, 2014). After checking in with the receptionist,

the patient then meets with the nurse or the medical assistant (MA) who gathers information for the provider. The MA or nurse will use the “faces” scale to assess the level of pain for patients who arrive with a chief complaint of pain. The patient is asked to rate the pain on an 11-point scale (0-10) with 0 being “no pain” and 10 being the “worst pain possible.” The provider then arrives to review the information, assess, diagnose, and develop a treatment plan for the patient. Treatment with opioids includes the development/review of a pain contract/agreement during the visit. The purpose of this agreement is to monitor medications regulated by the drug enforcement agency (DEA) due to high risk of abuse, dependence, and death. Per the contract/agreement, the patient will agree to participate in therapeutic activities such as physical therapy or counseling. They also agree to use only one pharmacy and must agree not to drink alcohol or use illicit drugs. The patients also agree to random urine drug monitoring (UDM), which is used to ensure that patients are, indeed, taking the prescribed medication and also as a means to check for diversion of drugs or abuse (Webster, 2013). These screenings are then sent to a lab and usually take five to seven days to get the results back to the clinic. Patients must be seen in the clinic every three months unless otherwise indicated by their providers. The MA/nurse will explain the pain contract to the patient and, if the patient agrees to the terms of the contract, the patient will sign and date. These must be done annually and be put in the patient’s file with a copy given to the patients to reference. The process ends when the patient returns to the front desk to schedule a follow-up appointment and checks out.

Several of the clinic staff has expressed concerns about the pain-management process, noting that risk assessment is not conducted prior to initiating opioid treatment and there is not enough time to manage pain effectively in the current schedule of appointments (J. Wood, personal communication, November 14, 2014). Referrals to pain specialists occur when complex pain issues arise, if pain is identified as a significant comorbidity, or if a patient has a history of “substance abuse” (J. Wood, personal communication, November 14, 2014). A review of pain referrals that occurred within a three-month period revealed that, on average, three patients per week were referred to a pain specialist.

Despite the perception that the number of chronic-pain patients is increasing, there are no standards guiding the practice of pain management in the clinic. What was found in this assessment was that a pain-management policy was developed and revised in 2011, but has not yet been reviewed by the Board of Directors, nor has it been reviewed by the medical staff. The policy mentions the importance of using best-practice recommendations, but specific standards or clinical guidelines were not described within the policy.

Two years ago, team “huddles” were implemented in the clinic. The huddles enhance the communication process within each team. The purpose of the team huddles is to check in with your team about the upcoming day or week and improve communication amongst team members (Heitkamp, 2013). The goal of the huddle is to share information with the rest of the team and to discuss the care of the scheduled patients (Heitkamp, 2013) such as: whether the patients will need a pain contract or

medication compliance on file or whether labs or vaccinations need to be updated.

Huddles are the “game plan” for the day. Some “ground rules” for the morning huddle include: keep meetings under 15 minutes (Heitkamp, 2013); standing only; all team members get a chance to speak.

Several of the employees have expressed concerns about the quality of pain management at the clinic. One nurse commented that “when providers leave, their patients with pain are absorbed by the remaining providers who already have a high panel of pain patients” (D. Snipes, personal communication, November 14, 2014). She went on to say that “these patients tend to be quite demanding, need to be seen frequently, generate lots of phone messages, or just stop into the clinic demanding their prescriptions, and this, in turn, takes a lot of the providers time.” She also added that “this makes it difficult to address other patient problems/health issues” (D. Snipes, personal communication, November 14, 2014). She is concerned that “not all providers are doing the same thing. They aren’t using contracts and med compliances.” She noticed the providers will still give “early refills on pain medications and continue to give refills even when they have a negative medication compliance.” (D. Snipes, personal communication, November 14, 2014).

Another nurse stated that her provider “has the most pain patients in the clinic and we give out scripts all the time” (S. Jensen, personal communication, November 14, 2014). One particular provider said “80% of my patients are being managed for pain” (K. Pellett, personal communication, November 14, 2014). Another issue arose when the DEA made changes to a commonly prescribed pain medication. The medical director

stated that “because of the number of pain patients we see, a large percentage of provider time and staff time is spent managing these patients; this has been magnified by the change of hydrocodone to a schedule 2 and tramadol now being a controlled substance” (J. Wood, personal communication, November 14, 2014). “This generates several written prescriptions that the providers must print off, and requires the patients to physically come to the CHCC to pick up the prescription” (J, Wood, personal communication, November 14, 2014).

CHCC has an ongoing quality-management program comprised of the Medical Director, CHCC board chair, board secretary and treasurer, the COO, and the clinic manager. This group meets monthly to discuss quality-management and quality-improvement projects related to CHCC. Minutes taken at these meetings are discussed at the monthly board meetings. One of the quality-improvement projects brought to the CHCC quality team is updating and implementing the 2011 pain policy, implementing in-house medication compliance, and education on pain and pain management.

Local Problem

In order to meet the expectations of the medical home, it is important for the staff to know how to manage chronic pain effectively. The microsystem assessment revealed that many of the patients live with chronic pain and the staff feels poorly prepared to care for these patients in the primary-care setting. This assessment is consistent with published reports of inadequate medical and nursing preparation (Mezie & Murinson, 2011) to effectively manage chronic pain in our country that negatively impacts the care provided in all healthcare settings, including primary care (Institute of Medicine, 2011). The

assessment of the CHCC microsystem also revealed several barriers to effective chronic-pain management in the clinic. While there have been significant improvements in teamwork due to the adoption of a medical-home model of care, the process for assessing, treating, and managing patients with chronic pain in the clinic is not clear to the staff. There is significant variance in pain-management practices due to low levels of provider knowledge about pain management, lack of time needed to coordinate the care of these patients with pain specialists, and lack of standards guiding pain-management practice in this clinic. The providers and support staff feel there are a large number of patients within the clinic that have been diagnosed with chronic pain and recognize the need for continuing education. They have asked for education and support to effectively manage the chronic-care needs of these patients. There has been some administrative movement towards standardizing the pain-management process—a pain-management policy that was drafted in 2011 by the administrative team—but it has not been reviewed by the board, and the staff did not play a role in developing this document. Awareness of the scope of the pain-management problem is growing and this is an opportune time to provide the staff with information about chronic pain, how it is diagnosed and treated, and how treatments are evaluated. Armed with this information, they will be able to participate more fully in the development of clinic policy and procedures guiding pain management that will ensure best practices.

Aim

The purpose of the project was to improve the quality (or effectiveness) of chronic-pain management in the CHCC. The process begins when the patient checks in to the CHCC and ends when he/she checks out after seeing the provider. The specific aim was to improve provider knowledge about pain management by 10%.

CHAPTER 2

REVIEW OF LITERATURE

Barriers

Although primary-care centers are the ideal place to manage this care, they are not organized in a way that allows clinician's time to provide comprehensive management of pain (Institute of Medicine, 2011). Primary-care providers often have difficulty finding enough time to adequately address the needs of persons with complex conditions like diabetes, heart disease, and mental health issues, in addition to chronic pain (Anderson, Wang, & Zlateva, 2012).

Additionally, most healthcare professionals do not have the necessary competencies to manage pain effectively in primary care (Institute of Medicine, 2011). A recent study exploring the knowledge, attitudes, and beliefs about chronic, non-cancer pain in primary-care providers revealed low scores in all aspects of pain management and difficulty applying pain-management guidelines in specific clinical situations (Anderson et al., 2012; Lalonde, et al., 2014). Inadequate knowledge, skill, and/or negative attitudes about pain and its management dramatically increase the risk of not recognizing or adequately assessing and treating pain in patients (Institute of Medicine, 2011; Lalonde et al., 2014). If pain is not assessed correctly, treatment will fail. "Managing chronic pain effectively can be difficult and lead to provider frustration and a sense of guilt (Institute of Medicine, 2011, p.3-34) especially in those who value curative care more than palliative care." Clinicians who become frustrated "when they cannot curb or

substantially relieve someone's pain lose sight of the fact that even limited relief from the burden of pain may enable a person to revive skills, renew social interactions, and meet additional requirements of daily living" (Institute of Medicine, 2011, p. 3-35).

Sadly, many of the persons experiencing pain who receive inadequate preventive and treatment services are cared for by primary-care physicians who likely receive little initial training or experience in best practices in pain management (Institute of Medicine, 2011; Mezei & Murinson, 2011). Given the high prevalence of pain, it is imperative that gaps in pain-management education be addressed to ensure provider competence in pain assessment and management (Institute of Medicine, 2011; Lalonde et al., 2014).

Mechanisms and Duration of Pain

"Pain is one of the most common and debilitating patient complaints, affecting individual patients, their friends and families, the work force, and society in general" (Rosenquist, 2014, para. 1). Pain conditions are described clinically by mechanisms (nociceptive or neuropathic) and by duration (acute or chronic) (McCance et al., 2010). Nociception refers to the process by which information about tissue damage is conveyed to the central nervous system (CNS) which occurs in four stages. The first, *transduction*, "describes the conversion of the energy from the noxious stimulus into electrical energy (nerve impulses) by sensory receptors called nociceptors" (Pain: Current Understanding of Assessment, Management, and Treatments, 2001, p. 5). The sensory stimulation is then transmitted "to the spinal cord (*transmission*) where it then travels to the brain" (p. 5). The third stage is *perception*, which occurs when the brain interprets the sensory

stimulation as pain. The fourth and last stage, *modulation*, describes the phase when the brain responds to the stimulation and attempts to modulate the input by releasing neurotransmitters and endogenous opioids that travel down the spinal cord in an attempt to modulate the sensory input (Pain: Current Understanding of Assessment, Management, and Treatments, 2001; McCance et al., 2010). Neuropathic pain refers to pain that is generated by damage to nerve cells, not tissue. The character of neuropathic pain is usually described as “burning, shooting/stabbing pain (McCance, et al., 2010, p. 493). Examples of neuropathic pain include “sciatica from nerve root compression, diabetic neuropathy, and post-herpetic neuralgia” (Assessment and Management of Chronic Pain, 2014, p. 8).

The temporal aspect of pain is also an important way to differentiate types of pain. Acute pain is a “protective mechanism that alerts the individual to a condition or experience that is immediately harmful to the body” (McCance, et al., 2010, p. 490). Rosenquist describes acute pain as pain that alerts a person to dangerous conditions that should be “avoided to prevent tissue injury” (Gruener & Lande, 2005; and Rosenquist, 2014, para. 3). The “onset of acute pain is sudden” and usually resolves after the stimulus is removed and the tissues have healed” (McCance, et al., 2010, p. 490). Anxiety is commonly experienced, accompanied by alterations of vital signs. “Tachycardia, hypertension, fever, diaphoresis, dilated pupils, and outward pain behavior such as moaning, touching, or rocking motions are often discernable to an observer” (p. 490). Early intervention and aggressive treatment of acute pain “can prevent or reduce complications such as progression to a chronic-pain state” (Gruener & Lande, 2005, p.3).

Rosenquist (2014) defined chronic pain as pain which “lasts beyond the time an insult or injury to the body needs to heal commonly accepted as three months” (para. 3). The cause of chronic pain is not clearly understood, but the following peripheral and central nervous system mechanisms have been implicated in the initiation and entrenchment of chronic-pain states: “increased sensitivity of neurons, spontaneous impulses from regenerating peripheral nerves, alterations in the dorsal root ganglion in response to peripheral nerve injury and neurotransmitters, loss of pain inhibition in the spinal cord, and up-regulation of chemokines and their receptors” (McCance, et al., 2010, p. 492). Persistent chronic pain is very different from acute pain in that the “physiologic responses associated with acute pain are absent” (p. 492). A person with chronic pain “may have a normal heart rate and respiratory rate and normal blood pressure” in the presence of moderate to severe pain (p. 492). This has led many to “mistakenly assume that people in chronic pain are malingering” (p. 492) because they do not exhibit the physiological changes associated with acute pain.

Psychological Aspects of Pain

In addition to the duration, there are also physical and emotional aspects of chronic pain that accompany this condition (Institute of Medicine, 2011; Turk & Okifuji, 2002). Chronic pain is “often associated with a sense of hopelessness and helplessness as relief becomes more elusive and the timeframe more protracted” (McCance, et al., p. 492). This can produce significant behavioral and psychological changes. Strong “correlations between depression and pain” have been documented (Higgin’s & George,

2013, p. 133). Unrelieved pain can contribute to increased anxiety and depression, which, in turn, can amplify pain (Pfizer Medical Education Group, 2013; Lalonde et al., 2014). Those with chronic pain and depression “have difficulty sleeping and eating, and may become preoccupied with their pain” (McCance, et al., p. 492). In order to deal with it effectively, we need to address the physical, cognitive, and emotional aspects all at the same time (Carmody, 2014; Turk & Okifuji, 2002). Chronic pain is challenging to manage and “complete relief is usually never obtained” (McCance, et al., p. 492).

Assessment

Because chronic pain is a complex, subjective experience, treatment needs to address not only the physical aspects of pain, but also the psychological, social, and spiritual aspects that contribute to the experience. The first step of effective pain management is a “comprehensive assessment” (Gruener & Lande, 2005, p. 2). It is important to assess not only the qualities of the pain (location, intensity, quality, onset/duration/variation, factors that relieve or exacerbate the pain, and response to previous treatments) and physical condition of the patient, but also his/her previous experiences with pain, beliefs, cognitions, and behaviors associated with the pain (Hooten et al., 2013; Institute of Medicine, 2011; Turk & Okifuji, 2002). It is also important to assess the person’s ability to manage their pain (self-management skills) (Gruener & Lande, 2005; Institute of Medicine, 2011).

The patient’s self-report is the primary source of information in the pain assessment (Pain: Current Understanding of Assessment, Management, and Treatment,

2001; Assessment and Management of Chronic Pain, 2014; Hooten et al., 2013) and there are several standardized tools that can be used to ensure all the pertinent information is gathered in the assessment (Hooten et al., 2013). The health history should gather information about allergies, other health conditions, medications, social history, self-management skills, and psychiatric comorbidities (American Association of Nurse Anesthetists, 2014; Hooten et al., 2013). In addition, “unmanaged mental or physical disorders may interfere with the patient’s ability to meaningfully participate in a collaborative plan of care, diminish treatment effectiveness, and/or increase suicide risk” (Hooten et al., 2013, p. 19). Lastly, measures of the impact of the pain on functional status should be gathered as a baseline measure that can be used to monitor the effectiveness of any treatments (Gruener & Lande, 2005).

Diagnosis

After the assessment and complete history and physical, the biological mechanism of pain should be determined. Nociceptive pain can be classified as “muscular/myofascial, inflammatory, or mechanical/compressive.” It is “important to determine the mechanisms because that guides the treatment” (Hooten et al., 2013, p. 15). Muscular pain or myofascial pain is “regional, soft-tissue pain commonly involving the neck, shoulders, trunk, arms, low back, hips, and lower extremities.” It’s characterized by “painful muscle dysfunction, loss of range of motion, and tenderness at the muscle site” (p. 16). This type of pain usually presents “after an injury or with occupational, repetitive activity.” The “treatment focuses more on restoring muscle balance and function through

physical therapy techniques than in medication management” (Hooten et al., 2013, p.17).

It’s important to note that, sometimes, “persistent myofascial pain may be a muscle response to an underlying structural, spine, or visceral problem” (p.17).

Inflammatory pain is seen in “arthritis, infection, tissue injury, and after surgery” (Hooten et al., 2013, p. 17). Inflammatory pain is characterized by “heat, redness, and swelling at the pain site, and there is usually a history of injury or known inflammation.” The treatment involves “managing the inflammatory process with antibiotics or immunomodulating agents and using anti-inflammatory agents such as NSAIDs or corticosteroids to manage symptoms and control inflammation” (p. 17).

Mechanical and/or compression pain is pain that is “aggravated by activity and temporarily relieved by rest. Neck and back pain are commonly related to muscle/ligament strain/sprain, degenerative disks or facets, or osteoporosis with compression fractures.” Examples include “fracture, obstruction, dislocation, or compression of tissue by tumor, cyst, or bony structure. Treatment may require some sort of decompression or stabilization” (Hooten et al., 2013, p. 17). The “history and radiological findings usually tell the story” (p. 17).

Neuropathic pain is associated with peripheral nervous system or central nervous system sensitization (McCance et al., 2010) and treatment can be challenging. “Nerve damage can produce excitatory neurotransmitters and chemicals. These nerve injuries may also cause damage to descending pain control pathways that inhibit pain. There are medications that can increase the activity of the inhibitory neurotransmitters to help decrease pain perception” (Lynne, 2006, para. 16).

It's important to know that “there is no diagnostic imaging” or laboratory test for chronic pain. Nevertheless, “diagnostic testing is useful in patients with chronic pain for helping direct treatment and referral” (Hooten et al., 2013, p. 13). Clinicians should “perform diagnostic imaging and tests for patients when severe or progressive neurological deficits are present or when serious underlying conditions are suspected on the basis of history and physical examination” (Chou, Qaseem, Snow, Casey, Cross, Shekelle, & Owens, 2007, p. 478). If there is diagnostic uncertainty the clinician may refer to or consult a pain specialist (Gruener & Lande, 2005).

Management

Once the diagnosis has been made, the provider and the patient develop an individualized treatment plan that includes multiple treatment modalities, such as pharmacology (opioid and non-opioid), exercise, cognitive behavioral therapy, and complementary therapies. The goal of any treatment is to improve functional status (including self-management of the pain) and reduce the risk of disability. Hooten et al. (2013) indicates “medications should be used in conjunction with other treatment modalities” (p. 35) such as psychotherapy, physical therapy, CBT, yoga, and/or relaxation techniques (King, 2013; Institute of Medicine, 2011). Clinicians should also provide the patients with information about self-care options (Chou, et al., 2007). Some self-management techniques to help manage pain can be used, such as the use of ice, heat, and massage techniques (Institute of Medicine, 2011). “Exercise therapy is commonly recommended because most patients with chronic pain are physically

deconditioned from inactivity” (Hooten et al., 2013, p. 25). One study found no significant difference in outcome comparing “relatively inexpensive group aerobics/stretching to more traditional physical therapy and muscle conditioning, suggesting low-cost alternatives may be effective” (p. 25). A “patient-centered approach encourages the patient to be an active participant in the treatment program” (p. 26). If the patient does not improve with these treatments, then referral to an interdisciplinary pain specialty clinic is recommended where more invasive types of treatment can be obtained. This level is “expensive and requires a significant investment on the part of the patient to be effective” (p. 25).

The patient’s “functional status needs to be monitored regularly during treatment (Assessment and Management of Chronic Pain, 2014, p. 18) to determine the effectiveness of the treatment,” and regular visits with the primary provider should be scheduled into the treatment plan. If opioids are being considered for treatment, the provider also needs to assess the risk for abuse or addiction prior to prescribing the medications and develop a prescription monitoring plan/contract with the patient (Gruener & Lande, 2005).

At each patient visit, clear documentation of the “four A’s” (Analgesia, Adverse drug effects, Activity, and Adherence) is recommended (Assessment and Management of Chronic Pain, 2014, p. 18) which includes “patient comfort, opioid-related side-effects, functional status (physical and psychosocial), and existence of aberrant drug-related behaviors” (p. 18).

Summary

In summary, there are millions of people living with a chronic-pain condition and there are many factors to take into consideration in assessing, diagnosing, and managing pain. Because education has not been provided in healthcare professionals' training programs there is a wide variation in primary-care practice making it difficult for patients to receive effective chronic-pain management (Childs, Flynn, & Wainner, 2012). The "majority of patients with chronic pain access healthcare through a primary-care provider" (Childs et al., 2012), which explains why the "prevalence of chronic pain in a primary-care setting ranges from 5% to 33%" (Hooten et al., 2013, p. 6). It is imperative that primary-care clinicians use evidence-based guidelines to ensure providers base their practice on evidence-based guidelines that ensure the patient gets the timely, individualized treatment that addresses not only the physical, but also the psychosocial aspects of pain (Childs et al., 2012).

A cultural transformation is necessary to improve prevention, assessment, treatment, and understanding of all types of pain (Institute of Medicine, 2011). This transformation can begin by bringing education into the work place which in turn will help in developing a standardized process for healthcare professionals to practice evidence-based pain management. The purpose of this project is to raise awareness and improve the effectiveness of chronic-pain management in a community health center.

CHAPTER 3

METHODS

Setting and Sample

This was a teaching project for clinic staff providing direct patient care at a Community Health Care Center. The presentation was held in a small conference room located at the Community Health Care Center (CHCC). The sample included providers (MD and NP), nurses (LPN and RN), and medical assistants (N=14).

Ethical Issues

The procedure for presenting the teaching project to the clinic staff was approved by the Montana State University Institutional Review Board (IRB). Information about the purpose of the study along with any risks and benefits to participants was provided at the beginning of the educational presentation, noting that they were free to stop participation at any time. No identifiable patient or staff data were collected for this project. Consent to participate was indicated by attending the presentation and completing the pre/post-test.

Procedures

Participants were notified about the presentation via email and announcements in the clinic setting. A one-hour session was scheduled to occur from 12:00 to 1:00 p.m. in the facility's small conference room. The conference room has enough seating to hold 15

people comfortably. This room holds a large TV screen placed on the wall that is connected to a laptop that was used for presenting the PowerPoint slides.

Participants at the educational session were asked to review information about the project and complete a pre-test upon arriving (Appendix B). Instructions were given to the staff to maintain confidentiality and not write any identifying information on the pre-test or post-test. The pre-test was composed of 15 items that were presented in multiple-choice or true/false format. The items tested knowledge about pain pathophysiology, assessment, diagnosis, and treatment. The post-test (Appendix C) was the same test and was administered at the end of the presentation.

After the participants completed the pre-test, the tests were placed in a folder and the slideshow presentation began. The presentation began with an introduction to pain and pain management. The following is an outline of the content in the educational presentation.

1. Epidemiology of chronic pain
 - a. Cost
2. Definitions of pain
 - a. As defined by the International Association for the Study of Pain (IASP)
 - b. As defined by McCaffery
3. Comparison of pain conditions
 - a. Acute
 - b. Chronic
4. Most common chronic-pain condition
 - a. Low-back pain
5. Psychosocial issues associated with chronic pain
 - a. Depression
 - b. Difficulty eating/sleeping
 - c. Preoccupation with pain
6. Mechanisms of pain
 - a. Nociception
 - i. Transduction

- ii. Transmission
 - iii. Perception
 - iv. Modulation
 - b. Neuropathic
- 7. Introductory on types of pain and first-line treatment
 - a. Inflammatory
 - b. Muscular
 - c. Neuropathic
 - d. Mechanical/Compression
- 8. Information from research
 - a. Many Americans receive inadequate pain care
 - b. Primary-care settings are usually the first stop for care
 - c. Primary-care time restrictions
 - d. Need for education
- 9. Uniform data system (UDS) collected on visits in 2013 from CHCC
 - a. Medical visits = 7,005
 - b. Chronic-pain codes for 338.29 were 339 visits
 - c. Chronic-pain visits for low-back pain were 257
 - d. 8.5 % of visits for 2013 were related to chronic pain
- 10. Clinical practice guidelines
 - a. Assessment
 - b. Diagnosis
 - c. Treatment
 - i. Pharmacologic management
 - ii. Non-pharmacologic management
 - iii. Self-management
 - iv. Risk assessment
 - v. Documentation

The presentation slides lasted 25 minutes, which allowed time for questions and administration of the post-test. The post-test (Appendix C) was administered after the question period to assess the effectiveness of the presentation and gather additional feedback.

It is important to note that the providers who had been invited did not attend this presentation due to a recent implementation of a new electronic medical record in the clinic. Modifications in the protocol were made for the providers by providing them with

a printed copy of the presentation after completing the pre-test. They completed the post-test after reviewing the printout of the slideshow presentation.

Data Analysis

A tally sheet was used to collate the answers to the pre/post-tests. Frequencies were calculated for each of the pre- and post-test items along with a total score of correct items for each test and an average score for the pre-test and an average score for the post-test. Improvement was determined if the percentage of persons who answered the item correctly on the post test was higher than the percentage of correct responses on the pre-test. A summary of the pre- and post-test scores for the sample was also calculated to determine aggregate improvement in pain knowledge after the presentation.

Comments from the audience after the presentation and responses to the two qualitative feedback items on the post-test were also reviewed and analyzed for themes.

CHAPTER 4

RESULTS

A total of 14 staff members were invited to participate in the teaching project (N=14). Nine of the 14 staff members who were invited to attend the presentation actually came to the presentation. All of these persons were either nurses or medical assistants. The remaining five, licensed providers who did not attend the presentation chose to review a printout of the presentation. They also took the pre-test and post-test before and after viewing the printed presentation. All of the participants were eager to learn about pain and pain management. The presentation was received very positively by those who attended. Those who attended the presentation were very engaged in the process, and everyone who participated (providers, nurses, medical assistants) acknowledged the lack of pain-management education in their training programs. They listened closely to the presentation, asked questions, and provided feedback on the process during the presentation. One of the nurses commented that the pre-test was a good test, another asked for clarification of the term “malingering,” and another noted that “this makes me want to go back to school.”

Overall, we saw an expected improvement in total test scores. The specific aim of the project was to improve knowledge scores about pain management by 10% and the aim was achieved. It is important to note, though, that the average pre-test score of 86% indicated that the staff had a moderate level of knowledge of pain management before the presentation, making it more challenging to improve an already acceptable level of

knowledge. However, the average post-test score increased to 95%, a 10% improvement in knowledge, which is even more impressive knowing the baseline level of knowledge was higher than average.

A review of the individual items revealed more information about the particular areas that improved, and those that did not. There were improvements in 7 of the 15 items, with the most dramatic improvement in item #7, which assessed whether or not participants knew that there is no diagnostic test for chronic pain. That was a surprise to several of the participants. There was no change in knowledge for 10 of the items, which explains why the baseline scores were so high. Participants scored 100% in 5 of these pre-test items, indicating they already knew this information. The remaining 5 that showed no change were problematic, however, in that this indicates there was no change in knowledge in the following areas: chronic pain can be persistent and intermittent (#3), acute pain is protective (#4), absence of VS changes does not indicate malingering (#9), how to define muscle pain (#11c), or how to define mechanical/compressive pain (#11d). This information was covered in the presentation, but the participants did not demonstrate any changes in knowledge about these items.

Table 1: Pre/Post Test Results (N=14)

Item	Pre-test (%)	Post-test (%)	Change
1. Dimensions of pain assessment	92	100	Improved
2. Definition of chronic pain > 3 mos	78	100	Improved
3. Chronic pain is persistent & intermittent	86	86	No change

Table 1: Pre/Post Test Results (N=14) Cont.

Item	Pre-test (%)	Post-test (%)	Change
4. Acute pain is protective	86	86	No change
5. Chronic pain associated with depression, sleep, preoccupation with pain	100	100	No change
6. LBP is most common type of chronic pain	78	100	Improved
7. No diagnostic test for chronic pain	57	100	Improved
8. Self-report is most reliable indicator of pain	57	92	Improved
9. Absence of VS change does not indicate malingering	71	71	No change
10. Focus treatment on biopsychosocial factors	100	100	No change
11. A. Neuropathic pain description	100	100	No change
B. Inflammatory pain description	100	100	No change
C. Muscle pain description	86	86	No change
D. Mechanical/compressive pain description	86	86	No change
12. Chronic pain and depression symptoms co-occur	100	92	Decreased
13. Medications are sole focus of treatment of pain	92	100	Improved
14. Multiple effects of Acetaminophen	86	100	Improved
15. Information needed to prescribe opioids	100	100	No change
TOTAL Score	86%	95%	Improved

Two additional questions were asked at the end of the post-test that provided important qualitative data about pain-management knowledge. Eight of the participants (n=8) responded to these questions. When asked about the most important thing that was

learned in the presentation, several noted that they valued learning about pain assessment, noting that it is subjective and the importance of being objective, asking the right questions, and looking at the whole situation and how it affects a person's life. When asked about what they would like to know more about, a long list of potential topics was generated for future work that focused on all aspects of pain management (assessment, diagnosis, and treatments that include pharmacologic and non-pharmacologic interventions). Table 2 provides a list of the requested information. The last item in the table raised an important question about the role of the MA in pain management.

Table 2. List of Education Requests (n=8)

1. Identifying behaviors, treatments.
2. Pain meds for various impairments and if they need to be changed every so often to be effective.
3. Diagnosis; how to get the best, most accurate diagnosis.
4. Treatment-outcomes other than medications.
5. Brain neuroplasticity and chronic-pain management.
6. Pain vs. drug seeking.
7. Tolerance vs. addiction.
8. Weekly knowledge email sent by Annette that will be informative about pain and the meds that we give our patients.
9. Things that we can utilize in our daily work days at the clinic.
10. Better pain modalities such as TENS and neurostimulators.
11. We need more time to go over things and be able to ask questions. Are we (MA-not providers) allowed to do some of the questioning on the background of the patients for likelihood of future abuse? Things like this?

CHAPTER 5

DISCUSSION

The aim of this project was to improve clinic staff knowledge about pain management by 10%. Despite moderately high levels of baseline knowledge about pain management, the aim was achieved. In general, the findings suggest that the staff was open to learning about pain/pain management. The staff has some general knowledge of pain and pain management and their feedback suggests that they are interested in learning more about this topic. The area where there was the most improvement centered around the knowledge that there is no specific diagnostic test for chronic pain—that the assessment focuses primarily on a physical exam and evaluation of the pain and its impact through self-report. Diagnostic testing does play an important role in directing treatment and referrals, and this was noted during the presentation, citing the guidelines that it is important to review results from previous diagnostic studies rather than repeat them routinely when conducting a comprehensive assessment (Gruener & Lande, 2005; Hooten et al., 2013).

It was disappointing to see no improvement in five of the items on the pre/post-tests, particularly because these items address important things everyone should know about pain. It is important to know that chronic pain can be both intermittent and persistent, acute pain is a protective mechanism, the absence of vital-sign change does not indicate malingering, and what is meant by muscle pain or mechanical/compression pain. This may demonstrate that they did not learn from the presentation or did not have

an understanding of the questions as presented. In future presentations, it will be important to present more examples of intermittent and persistent pain to reinforce the fact that chronic pain can be either intermittent or persistent. It is unsettling to see that some healthcare staff continue to believe, after the presentation, that chronic-pain patients should display an increase in heart rate, higher blood pressure, or physical signs of acute pain. This is not true for persons living with chronic pain, as persons living with persistent, chronic pain may have a normal heart rate and blood pressure (McCance, et al., 2010). Lack of an increase in vital signs does not mean a patient is malingering. In the future, this part of the presentation needs to be emphasized to ensure awareness of the differences between acute and chronic pain. It would also be beneficial to include more information about the physiological-adaptation process of a patient who has chronic pain. Low scores were noted on the pre-test regarding muscle and mechanical/compression pain and showed no change on the post-test. There may have been too much information on the presentation slides for the staff to fully comprehend the material on muscle and mechanical/compression pain. This information needs to be presented more carefully in future presentations.

It was good to see an improvement in the item testing awareness that a patient's self-report is the most reliable indicator of pain, but disappointing to see that one person still does not believe this to be true. The staff also learned that low-back pain is the most common chronic, disabling pain condition in the U.S. as reflected by an increase in score from 78% to 100%.

Five of the items revealed that the staff had good baseline knowledge of chronic pain, particularly in the areas of neuropathic and inflammatory pain. No one incorrectly answered these items on the pre-test or post-test. They also knew about the psychosocial factors that are associated with chronic pain, such as depression, difficulty sleeping, and patients becoming preoccupied with their pain.

Based on the feedback, we believe that the clinic staff learned a variety of things about pain and pain management from the presentation. When asked what the most important thing was that they learned from this presentation, there were no discernable themes in the responses. However, the presentation triggered significant interest in the topic of pain management and several are interested in learning more about this topic. They also provided some good ideas for continuing education, such as having the presenter send out weekly emails with updates on pain management.

It is important to note that, although all of the clinic staff supported the idea of getting more pain-management education, the nurses and medical assistants demonstrated the most interest in this topic, suggesting that it might be a good idea to explore ways to integrate them more fully into the pain-management process that is to be developed at the clinic. For example, it is possible that they could help patients complete pre-appointment questionnaires that would provide valuable information to the providers when they meet with the patient in the clinic. They could also work with providers to develop algorithms they could follow when receiving calls from patients to help triage the cases for the providers. Lastly, they may be interested in helping to follow up with patients by phone to gather information needed to assess effectiveness of treatments. As frontline care

providers, they set the tone for the quality of communication that occurs in the clinic and the visit with the provider. They are integral members of the healthcare team and play an important role in pain management. This presentation has significantly raised their awareness and interest in the topic.

Another key finding of this project was the perception that many of the patients being seen by the providers also have chronic pain. This perception was not supported by the data that is coded for each visit, and this deserves further attention. The documentation of visits needs to reflect the true nature of the visit, so future work might include an audit of visits and phone calls over a specific time to determine what percentage of the visits/calls are related to pain management. There is anecdotal data that the clinic is seeing more chronic pain patients that will need to be validated with objective measures. If indeed there is an increase in this patient population, it will be important for administrators to review the adequacy of existing resources and staff in meeting this increased demand. Given that chronic pain is a biopsychosocial experience that requires multimodal treatment, it may make sense to add behavior-health specialists to the staff who can manage a growing population of chronic-pain patients. They could also develop group self-management education that might also involve the nurses and medical assistants. Accurate documentation of pain-related visits would be very valuable to the planning process.

Lastly, this project has highlighted the need to standardize the care of chronic-pain patients by developing a policy and procedures that incorporate best practices. This would also require that staff learn the policy/procedures through continuing education

and orientation of new staff. Once the policy is approved, there would also need to be a mechanism for monitoring compliance with the policy, along with a plan for updating it as needed. This would significantly enhance the quality of pain management provided at the clinic and would be an excellent way to continue raising awareness about pain that was initiated by this project.

Limitations

This project has limitations, particularly due to the small sample size (N=14) and the fact that this was a convenience sample, which may not represent all community health-center clinic staff. The findings are not generalizable to other healthcare facilities. Also, the instruments used to evaluate the project were not standardized, but rather created by the student. The content for the evaluation measures and the presentation was drawn from the review of literature about pain management and current evidence-based clinical guidelines, but these items have no evidence of reliability and limited face validity that was obtained from the supervising faculty. In spite of these limitations, there is evidence that learning occurred (10% increase in pain-management knowledge) and feedback from several staff members showed an interest in learning more about pain and pain management.

Clinical Implications

One of the most important implications of this project is the need and the desire for continuing education about pain management that includes information about how to

incorporate evidence-based guidelines into the clinic processes. In addition to the need for continuing education, there is also a need to standardize the pain-management process in the clinic. Staff report there is inadequate time to address pain management, which often arises as a significant comorbidity. It is important to monitor not only the quality of pain management, but also the demand for it in the clinic. These indicators can be used to plan improvements that could improve patient, as well as staff, satisfaction.

Future Research Recommendations

Research that informs the development of strategies that enhance patient and provider satisfaction with pain management is needed. Because pain is a biopsychosocial phenomenon, it is also important to find more effective ways to manage all aspects of the pain experience, particularly the psychosocial aspects. Research exploring methods that successfully integrate behavioral pain-management methods like cognitive-behavioral therapy, mindfulness meditation, and other complementary therapies into the skillset of the primary-care clinic staff is also needed. Lastly, it is important to continue to refine methods used to assess the effectiveness of pain management, including the measurement of functional status, an important indicator of treatment effectiveness.

Conclusion

Pain is one of the most common and debilitating patient complaints affecting not only the individual patient, but also the patient's family, friends, the work force, and society in general (Institute of Medicine, 2011). Primary-care settings "are usually the

first stop for many patients with pain” (Hooten et al., 2013, p. 6; McCarberg, 2009). Pain-management education is severely lacking in both medical-student training and nurse-education programs (Mezei & Murinson, 2011). Addressing pain is a primary-nursing responsibility and it is important for nurses to learn as much as possible about best practice guidelines (Carmody, 2014). Although there have been dramatic changes in healthcare in the past 25 years, inadequate treatment of pain has persisted and there is a significant need for effective, educational programs for clinicians (Mezei & Murinson, 2011).

The purpose of this project was to begin the journey of improving pain management at a community health care center. Based on a comprehensive, microsystem assessment, the decision was made to begin by addressing knowledge deficits in pain management by presenting educational material from a literature review of best practices in pain management. Hopefully this project will lead to the development of a more organized process for pain management that incorporates best-practice guidelines. This project highlighted the need for addressing these concerns, the need for education regarding pain and pain management, and also the need to develop a policy on pain using best-practice guideline recommendations.

Although education alone “does not change practice, it is still an essential part of institutional change” (Berry & Dahl, 2000). The educational project raised staff awareness about best practices in pain management and supports the development of new processes that can be implemented in the CHCC using best-practice recommendations.

As a leader in a healthcare facility and future APRN, it is my role to develop and provide education to the staff about current evidence-based practice guidelines. As a clinical leader, the APRN provides the research and evidence needed to support practice changes. The presence of an APRN in a community health care center can benefit both patients and staff by ensuring that high-quality care is provided (Johansson, Fogelberg-Dahm, & Wadensten, 2010).

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APPENDICES

APPENDIX A

CHRONIC PAIN CONDITION TALLY SHEET

Provider One			
<u>Diagnosis</u>	<u>Description</u>	<u>Patients</u>	<u>Visits</u>
720.2	Sacroilitis	6	6
722.0	Cervical Disc Displacement	1	1
722.51	Thoracic disc degen	2	2
722.52	Lumb/Lumbosac Disc Degen	3	3
722.6	Disc Degen NOS	2	2
722.93	Disc Degen Nec/NOS-Lumbar	1	1
724.00	Spinal Stenosis	1	2
724.1	Pain in Thoracic Spine	2	2
724.2	Lumbago	20	24
724.3	Sciatica	5	7
Provider Two			
720.1	Spinal Enthesopathy	2	2
722.10	Lumbar Disc Displacem	2	2
722.4	Cervical Disc Degen	1	1
722.52	Lumb/Lumbosac Disc Degen	4	4
722.6	Disc Degen NOS	3	4
722.93	Disc Nec/NOS Lumbar	4	4
724.1	Pain in thoracic spine	1	1
724.2	Lumbago	31	47
724.3	Sciatica	3	3
Provider Three			
722.0	Cervical Disc Displacem	2	2
722.10	Lumbar Disc Displacem	15	21
722.52	Lumb/Lumbosac Disc Degen	12	17

722.6	Disc Degen NOS	6	9
724.09	Spinal Stenosis	1	1
724.1	Pain in Thoracic Spine	1	1
724.2	Lumbago	35	40
724.3	Sciatica	3	3
Provider Four			
720.0	Ankylosing Spondylitis	1	2
724.00	Spinal Stenosis NOS	1	1
724.2	Lumbago	11	11
724.3	Sciatica	1	2
Provider Five			
720.0	Ankylosing Spondylitis	1	3
722.10	Lumbar Disc Displacem	1	1
722.6	Disc Degen NOS	1	1
724.2	Lumbago	18	20
724.3	Sciatica	1	1
		Patients: 207	Visits: 257

Pain Code Tally Sheet. (EMR: Vitera Practice Analytics Data Collection System, CHCC 2013)

Pain Code	Tally/Number of visits with each code
338.29 Chronic pain	339 visits
All codes for back pain	257 visits
Total Visits 2013:	596 Total Visits for 2013 for chronic pain/back pain
7,003 total visits per UDS Report	596/7,003=8.5% patient visits for chronic pain.

APPENDIX B

CHRONIC PAIN MANAGEMENT PRE-TEST

Chronic Pain Management Pre-test

This pre-test is part of a study being done by Annette Griffin, a graduate student at Montana State University-Bozeman. She is a registered nurse attempting to complete her master's project, with a focus on best practices on pain management at a Community Health Care Center (Primary Care Clinic).

The information and your responses contained in this questionnaire are completely anonymous.

There is minimal risk associated with participating in this study. It is possible that you may experience some fatigue during the pre-test. You are free to stop participating at any time. There is no risk to employment status if you refuse to participate. All responses will be confidential and only aggregate data will be reported.

There is no benefit for participating, but participants may learn more about the pain management process by participating.

Consent to participate is assumed if you return the completed pre-test. If you wish to participate in this study, please answer the questions below and return to Annette Griffin.

Please complete the pre-test. Circle the response that you think is the best answer.

- 1) Chronic pain assessment should include determining the mechanisms of pain through documentation of:
 - a) Pain location
 - b) Intensity
 - c) Quality and onset/duration
 - d) Functional ability and goals
 - e) Psychological/social factors
 - f) A, B, and C
 - g) All of the above

- 2) Chronic pain is most often defined as lasting at least 3 months.
 - a) True
 - b) False

- 3) Chronic pain may be persistent as in chronic low back pain or occur as intermittently as seen in migraine or muscle tension-migraine variant headache syndrome.
 - a) True
 - b) False

- 4) Acute pain is a protective mechanism that alerts the individual to a condition or experience that is immediately harmful to the body.
 - a) True
 - b) False

- 5) Chronic pain produces significant behavioral and psychological changes. Individuals with chronic pain often are:
 - a) Depressed
 - b) Preoccupied with pain
 - c) Have difficulty sleeping and eating
 - d) A and C
 - e) A and B
 - f) All of the above

- 6) Which is the most common chronic, disabling pain condition in the United States?
 - a) Fibromyalgia
 - b) Low back pain
 - c) Migraine
 - d) Cancer pain

- 7) There is NO diagnostic test for pain.
 - a) True
 - b) False

- 8) A patient's self-report of pain is the most reliable indicator of the existence and intensity of pain.
 - a) True
 - b) False

- 9) The absence of acute physiologic responses such as tachycardia, diaphoresis, elevated blood pressure in the assessment of a patient with chronic pain, is an indication that the patient is malingering.
 - a) True
 - b) False

- 10) A comprehensive approach to treatment of a patient with chronic pain should include:
 - a) Physical and biological factors
 - b) Psychological state and beliefs
 - c) Family, social, and work environment
 - d) A and B
 - e) All of the above

11) There are many ways to classify types of pain. Four types are listed below. Match these four types to the examples below.

- a) Neuropathic pain_____
- b) Inflammatory pain_____
- c) Muscle pain _____
- d) Mechanical compression pain _____

Examples:

- 1) Arthritis, infection, tissue injury, and postoperative pain. Clinical features include redness, heat, and swelling at the site and/or a history of injury at the site. Treatment usually involves antibiotic or immune modulating agents or agents like NSAIDS or corticosteroids.
- 2) Sciatica, diabetic peripheral neuropathy; post-herpetic neuralgia. This pain is usually described as a burning or shooting/stabbing pain. Look for numbness in the pain territory or coolness of the skin. Gabapentin and pregabalin have growing acceptance among pain specialists as first choice treatments.
- 3) Soft tissue pain commonly involving the neck, shoulders, trunk, arms, low back, hips, and lower extremities. Often characterized by loss of range of motion and tenderness. Sometimes in response to underlying structural spine or visceral problem.
- 4) This is aggravated by activity and temporarily relieved by rest. Neck and back are commonly affected, degeneration of disks or facets, or osteoporosis. Other examples are dislocations, instabilities and fractures. Effective treatment may include stabilization, splinting, and assistive devices. Medications play a less prominent role.

- 12) Chronic pain is frequently associated with psychological problems and even comorbid psychiatric diagnoses. A high percentage of patients with chronic pain have co-existing depression. Which of the following statements are true?
- a) When co-morbid major depression disorder is present in a patient with chronic pain, it is important to note that such patients are at increased risk of suicide.
 - b) Suicide risk is higher in individuals who are struggling with substance use/abuse.
 - c) Past suicide attempts increase risk of future attempts.
 - d) All of the above

- 13) Medications are the sole focus of treatment in managing pain.
- a) True
 - b) False

- 14) Acetaminophen is an analgesic that may be used initially for the treatment of mild to chronic pain or to supplement other agents in treating mild to moderate pain. Which is true about the effects of acetaminophen?

- a) It lacks anti-inflammatory effects
 - b) It does not damage the gastric mucosa
 - c) May have chronic renal or hepatic adverse effects
 - d) Dose should be restricted to a maximum of 3 grams per 24 hours
 - e) B and E
 - f) All of the above
- 15) Before prescribing an opioid and other potentially addictive medications, or medications of potential abuse or misuse, some recommendations are:
- a) Complete a comprehensive biopsychosocial assessment
 - b) Administer an opioid assessment tool to recognize potential risks of addiction, abuse or misuse
 - c) Obtain prior medical records
 - d) All of the above

APPENDIX C

CHRONIC PAIN MANAGEMENT POST-TEST

Chronic Pain Management Post-test

This post-test is part of a study being done by Annette Griffin, a graduate student at Montana State University-Bozeman. She is a registered nurse attempting to complete her master's project, with a focus on best practices on pain management at a Community Health Care Center (Primary Care Clinic).

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There is no benefit for participating, but participants may learn more about the pain management process by participating.

Consent to participate is assumed if you return the completed post-test. If you wish to participate in this study, please answer the questions below and return to Annette Griffin.

Please complete the pre-test. Circle the response that you think is the best answer.

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 - d) All of the above
- 16) What is the most important thing I learned in today's presentation?
- 17) What else would you like to know about chronic pain management?