An Opioid Education Toolkit about Prescription Opiates

By
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Abstract

This quality improvement project was implemented for a pain clinic, Southwest Spine & Pain Center in St. George, UT. Patients who met criteria were given an opioid education toolkit then anonymously surveyed about the effectiveness of the written materials. The opioid education was developed by request and input of Southwest clinicians, who desired written opioid education to supplement the verbal opioid teaching they were currently giving their patients on opioids. The toolkit sought to impact those using opioids and those patients who were considering opioid use. The written opioid toolkit includes information about: what are opioids, effects on the brain and body, increased pain, drug tolerance, benefits of opioid discontinuation or dose reduction, difficulty stopping opioid use, tapering opioid doses, non-opioid pain relief treatment options, naloxone, medication safety, and community resources. Most patients and family members surveyed indicated that the opioid education was useful and that they would share it with others. However, most of those did not feel that the toolkit affected their decision to taper, discontinue, or not to begin prescription opioid use.

Keywords: prescription opioids, opioid use disorder, written opioid education, patient education, opioid crisis, theoretical framework of Dr. Katharine Kolcaba, Comfort Theory, opioid prescribing, Project Lazarus, patient electronic health record, pain management, multimodal education

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Chapter I

The opioid crisis is currently at the forefront as one of the nation's most critical issues. Opioid misuse and addiction cause detrimental health effects as well as serious economic and social burdens. However, the extent of how this affects states, communities, and individuals was not fully realized until the DNP student shadowed clinicians in the Southwest Spine and Pain clinics in St. George and Provo, Utah. During clinical experiences the student witnessed several patients struggling with opioid dependence to manage their pain. This project proposed an effort to curb the opiate epidemic by teaching patients about opiates and non-opioid alternatives for pain management with an opioid education toolkit to help optimize healthy economic and social outcomes for the patient and the community. Additionally, the toolkit provided written material as an adjunct to clinicians' verbal instruction to patients about opioids.

Background and Significance

In the 1990's pharmaceutical manufacturers and distributors convinced physicians that prescription opioids for pain were not addictive. Reassured with this, physicians continued to prescribe, and nurses administered them liberally for pain management (U.S. Department of Health and Human Services, 2019). This notion proved to be false. Prescription opioids have since increasingly been used and abused to the point of becoming a national crisis.

Blame for the opioid crisis has also been assigned to aggressive marketing of opiates by pharmaceutical companies (Volkow, 2014). Prescriptions written for opioids in the U.S. was 76 million in 1991 (Volkow, 2014, para. 5). The number of opioid prescriptions has grown to over 190 million dispensed in 2017 (CDC, 2017, table 1). The U.S. is the largest prescription opiate

consumer in the world; nearly 100% of the hydrocodone and 81% of the oxycodone is sold to the United States (Volkow, 2014, para. 5).

Emergency room (ER) visits due to prescription opioid overdose increased from 144,600 patients in 2004 to 305,900 in 2008 (Volkow, 2014). Opiate abuse and deaths due to overdose have become a widespread problem in the nation and globally. In the United States, prescription opioid overdose is four-times what it was in 1999; 115 people die each day from opioid overdose (Centers for Disease Control and Prevention [CDC], 2017). In their prescribing guidelines, the Utah Medical Association stated, "the majority of overdose deaths in Utah involve opioids. Since 2007, more deaths have resulted from prescription opioids than motor vehicle traffic crashes in our state" (Miner, J. et al., 2018, introduction letter).

The population most prevalent for prescription opioid deaths in 2016 were ages 25 to 54; more white and American Indians compared to blacks and Hispanics, and higher in men than women (CDC, 2017). In 2014 young adults (18 to 25-years old) were the largest population of prescription opioid abusers (NIH, 2018). They used them for a variety of reasons, including many non-medical purposes; to help them study or concentrate better, increase alertness, relieve pain, just to experiment, deal with problems, relax, get high, and get sleep (Lipari, Williams, & Van Horn, 2017). More than 1700 in this age group died from prescription opioid overdose in 2014 (National Institute on Drug Abuse [NIH], 2016). However, in 2016 the average age for prescription opioid overdose-related deaths shifted to an older population. This is based on information of when prescription opioid users began, e.g., some in their 20's (CDC, 2017). Additionally, for every opioid-related death there were 119 ER visits and 22 patients were admitted for treatment (NIH, 2016, p. 1).

Though the numbers are small compared to the deaths, there are those who do reach out for help. A study of over 30,000 patients, average age of 28 years and diagnosed with opioid use disorder (see Appendix A). Those with opioid use disorder (OUD) found that it took almost four years from first opioid use to seeking treatment. Having psychiatric issues delayed the individual seeking treatment, and 42% of those with OUD sought medical help (Blanco et al., 2013). The percentages of those who sought treatment are as follows: white 30%, female 35% (vs. male 26%), born in the U.S. 30% (vs. 22% other nationalities), graduated high school 32% (vs. 23% never graduated, and 30% of college educated), and marital status of 33% of widowed/separated/divorced (vs. 27% married and 31% never married; Blanco et al., 2013).

Since this project was carried out in Utah, it is important to examine Utah's opioid-related statistics. In the state of Utah, the opioid epidemic has increased in recent years. Utah has been ranked the 7th highest in America for overdose deaths. For example, 24 people died from overdose in Utah every month in 2015 (Utah Department of Health, 2017, p. 1). Another source ranked Utah higher on the list: 4th in the U.S. for prescription opioid deaths (Nichols, Reisig, & Woodruff, 2015, p. 1).

These statistics can also be drilled down to reflect individual communities. A more populated area in Utah struggles with opioid abuse; Ogden has a death rate of 31.6 per 100,000 adults (Utah Department of Health, 2017, paragraph 5). However, two small communities were significantly higher in prescription opiate-related deaths than the rest of Utah. Carbon and Emery Counties had 47 prescription opioid deaths per 100,000 adults, and 55% of these were from OxyContin and Percocet (Utah Department of Health, 2017, p. 3).

These statistics were personally concerning, since opioid misuse has affected the student's family, providing impetus for this project. Her in-laws who previously resided in

Emery County, UT prior to moving into her home so she could oversee their care, mismanaged their opioid prescription use. Due to Alzheimer's disease, her mother-in-law would take too many doses of the opioid, forgetting when she last took a dose. This was investigated by the family when she started falling frequently and noticeably lost weight. This prompted the change of residence to live with the student.

Opioids for chronic pain is not a sustainable model; alternative treatments must be explored by patients for long-term control. Patients of all ages, young to elderly, can be affected with opioid dependence. As a nurse the student has witnessed patients struggle with addiction. In the behavioral health setting, patients enter the hospital unit to withdraw from opioids. Some who could not relieve their chronic pain with increasingly higher doses of prescription opioids turned to illegal sources, including heroin. Ultimately unable to relieve their discomfort, a few were driven to desire suicide death rather than continue to suffer pain; fortunate are those who have sought help before they reached that point.

Although not all patients who use opioids have Opioid Use Disorder (OUD), this problem is an important component of understanding the opioid epidemic as it relates to prescription opiates and merits discussion here. Patients with chronic pain who have developed OUD have a diagnosis with specific key points. Since 2013 the American Psychiatric Association has listed criteria for practitioners to determine if their patients have OUD (American Psychiatric Association [APA], 2013). The specific elements are listed in the supplemental material provided (see Appendix A). It is estimated that 21 to 29 percent of chronic pain patients misuse their opioids, and 8 to 12 percent have developed OUD (NIH, 2018, para. 3).

In addition to the health consequences and related opioid deaths, the social and financial burden of the opiate epidemic is staggering. The United States has spent $1 trillion since 2001 on

the opioid crisis (Altarum, 2018, p. 1). This same report projects that in the next three years the nation will add $500 billion to that number. This includes health care, criminal justice, social services, and other costs related to the opioid epidemic. The effects of the opioid epidemic are far reaching and solutions to address this crisis are significant to the future health of individuals, families, communities, and the country.

Needs Assessment

Using medications for all purposes has become more socially acceptable. Opioids have previously been easy to obtain, which is why government mandates have limited accessibility. For example, in Utah the statutory limit in which a physician can write a prescription for opiates is seven days (National Conference of State Legislatures [NCSL], 2018). "An exception is made for pain clinics, where the prescribers are monitoring use, have patient/provider use contracts in place, drug screening procedures, and so forth" (Dr. B. Christensen, personal conversation, October 2017).

In recent years, Southwest Spine & Pain clinicians recognized they could help fight the battle on the pain/opioid cycle; they have been opening more pain clinics. This project was implemented at Southwest Spine & Pain clinic (SWS&P, or Southwest) in St. George, Washington County, Utah. In Washington County the hospital ER treated 2171 patients with opioid overdoses in 2017 (St. George News, 2018). In Washington County the prescribing rate is 89 per 100 persons (Centers for Disease Control and Prevention [CDC], 2016). This project was therefore largely tailored to this population.

In discussions with stakeholders at SWS&P clinic they identified that there was a need to enhance verbal opioid education by providing written resources. The observations made and needs stakeholders identified for multimodal opioid education (written in addition to traditional

verbal teaching by the physician) were as follows: (1) patients do not retain everything they hear during their appointment, (2) physicians have limited time with the patient, usually around 10 minutes each, and (3) a need for patients to self-educate as well.

The student project filled the gap between verbal information and written opioid educational materials. Additionally, as mentioned above, several residents of Washington County are older and therefore may have memory challenges and need the reinforcement such written information provides. Primary learning styles for adult learners are visual (what they see or read), auditory (what they hear), and kinesthetic, or hands-on learning (University of Arkansas Fort Smith [UAFS], 2017). If two learning styles are combined, such as verbal and written instructions, patients have a higher rate of retention and thereby compliance.

A sub-population the education sought to influence, besides those already using prescription opiates, are those who consider starting or continuation of opiates. For example, giving the toolkit information to a young adult who has had orthopedic surgery in the past two months and seeks to renew opiate prescriptions: hopefully after reviewing the educational materials he or she would decide to seek alternative, non-opioid pain relief instead.

Problem Statement

Prescription opiate misuse and addiction are a significant public health challenge that has grown to a nationwide epidemic. If this trend continues the economic, social, and health consequences will be devastating for individuals, families, and communities. Lack of knowledge concerning the specific health risks of opioid use and the side effects can negatively impact the health of many individuals. Therefore, finding safe alternatives to decrease or eliminate dependence are vital. The opioid education toolkit was created to be one of the resources to help patients with this issue.

Project Aim

This project involved providing patients who use prescription opioids or are considering use the knowledge and resources needed to achieve pain control in an opioid education toolkit. The three objectives for this project were as follows:

- Prescription-opioid use patients treated at Southwest Spine and Pain Center who receive an opioid education toolkit state decreased or elimination of prescription-opioid use within three months.
- Patients treated at Southwest Spine and Pain Center that are considering opioids for pain management and receive and opioid education toolkit state they are not considering prescription-opioid use within three months.
- Patients treated at Southwest Spine and Pain Center who receive the opioid education toolkit will find the information helpful and/or recommend the information to others within three months.

Clinical Question/PICOT

Clinical questions are formulated in PICOT format (i.e., patient population, intervention, comparison intervention, outcome, and time frame; Lansing Community College Library, 2018). PICO or PICOT is used to formulate a well-phrased question to obtain evidence-based answers (PICO, 2019). The PICOT written to guide this DNP project was as follows:

In individuals who use or who are considering use of prescription opiates (P) how does an opioid education tool kit (I) compared with current practice (C) affect their decision to decrease, eliminate, or avoid opioid use (O) within three months (T) as shown by surveys returned?

Congruence with Organizational Strategic Plan

Practitioners at Southwest Spine and Pain Center regularly impart verbal information about opioids to their patients whom they manage for pain medication prescriptions. The opioid education toolkit has helped them to reinforce this teaching to their patients by giving them written material, which in turn generates physician-patient discussion and further questions. For example, patients reading the toolkit information may ask about how the physician can help with non-opioid pain relief measures and/or tapering of opiates. A major goal of the practitioners at Southwest is "to find the right balance of pain relief methods for each patient so that they can live active, fulfilling lives, get around, and do what they need to. That's why we do what we do" (E. Freeman, M.D., personal communication, November 2017).

The project was congruent with Southwest's mission. "Whether you are suffering from acute or chronic pain, the pain management doctors at Southwest Spine & Pain Center are dedicated to helping you live life to the fullest" (Southwest Spine & Pain Center, 2017, para. 6). Implementation of an opioid education toolkit aligned with Southwest's organizational vision and directs patients to seek additional expert help through the clinic resources.

Synthesis of Evidence

The search strategy included using healthcare and nursing databases CINAHL, PubMed, and Cochrane for years of publication 2010-2020. Keywords used in the search included *prescription opioid education, opioid use disorder, patient education, written and verbal patient education, brochure or pamphlet opioid patient education,* and *pain management education.* Inclusion criteria was for adults 18 years or older. Exclusions were those references which focused on heroin or narcotics, as these are not part of the prescription opioid toolkit project. Over forty studies were reviewed; twenty-four were relevant and used for the project.

Bozimowski (2012) states that patient satisfaction with their pain management has correlation to receiving adequate teaching, and Frank et al. (2016) wrote that practitioners can influence patients' decisions to taper or discontinue opioid therapy. As a foundation, physicians and nursing staff being educated about opioids improves quality and reception of opioid education (Costello, Thomson, Aurelien, and Luc, 2016). Alford et al. (2016) found that extension of the U.S. Food and Drug Administration's mandated continuing education on opioid prescribing to clinicians resulted in implementation of practice changes; their confidence in appropriate prescribing of opioids improved.

In conveying opioid education to patients, alternative methods have been employed by clinicians with varying results. A computer brief to guide patients to eliminate opioid use (Ondersma, Svikis, Thacker, Beatty, & Lockhart, 2014; Gryczynski et al., 2015) as compared to verbal teaching had modest success. Albert et al. (2011) said that Project Lazarus, aimed at reduction of opioid overdose, had patients watch a video about responsibilities of opioid use, and Brason et al. (2015) reported a decrease in overdose death rate from Project Lazarus. Alexandridis et al. (2017) reported in a follow-up study on Project Lazarus that physician education to patients about opioids was additionally associated with lower mortality from overdose.

Written education in the past to teach patients about opioids has taken several forms. Pamphlets, brochures, or cards about opioid use increased patients' knowledge retention more than verbal teaching (Rose, Sakai, Argue, Froehlich, & Tang, 2015; Martin, Tamblyn, Ahmed, & Tannenbaum, 2013; Yajnik et al., 2018). Written medication sheets were given to patients (Tannenbaum, Martin, Tamblyn, Benedetti, & Ahmed, 2014; Webb et al., 2010) with some success in eliminating use, and increased patients' understanding of medication.

However, Alsaffar et al. (2016) concluded that written information alone is not enough to educate patients, as there was no difference in knowledge recall between verbal and written opioid teaching. A multimodal approach or using more than one type of education simultaneously appears to be the most successful. McCarthy et al. (2015), De La Cruz et al. (2016), and Smith et al. (2018) used both verbal and written opioid education with greater knowledge retention compared to verbal teaching only. Chakravarthy et al. (2018) combined verbal and a video tool to teach about opioids, and Ho et al. (2015) taught verbally with a flip chart; both reported patients had a greater understanding of opioids than with verbal teaching alone. Griffey et al. (2015) noted low success of patient knowledge retention with verbal instructions combined with patient teach-back. However, Waszak, Mitchell, Ren, & Fennimore (2018) found that combining verbal, teach-back, and written opioid information gave patients improved understanding.

The conclusion from this literature search was that Southwest's combination of verbal teaching from the clinicians combined with written opioid education would be the most successful in patients' retention of knowledge about them. This project addressed a gap in knowledge in teaching this knowledge; i.e., educating patients both verbally and in written form concerning specific health risks of opioid use. The opioid education toolkit was the written information developed to combine with clinicians' verbal opioid teaching for optimal learning in their patients.

Theoretical Framework

The theoretical framework "helps guide and inform the project" (Moran, Burson, & Conrad, 2017, p. 259). The nursing theoretical framework chosen to do so was taken from the work of Dr. Katharine Kolcaba, entitled Comfort Theory (CT). Her principles helped provide

underpinnings of the project to support change and provide a framework for the project. Overview of her CT assumptions are: "(1) the need for comfort is basic, (2) persons experience comfort holistically, (3) self-comforting measures can be healthy or unhealthy, and (4) enhanced comfort (when achieved in healthy ways) leads to greater productivity" (Kolcaba, 2015, p. 382).

Relevance to the PICOT was how comfort, or in this case, ease of pain, were met holistically by educating patients on opioids with the opioid toolkit resource. By seeking help to eliminate opioids and replace them with non-opioid interventions, patients' comfort may be increased so that they can conceivably have better pain control than they did with opiates. In this way patients can achieve greater comfort with holistic, healthy alternatives to opioids, allowing healthy comfort actions to lead them to greater productivity.

According to CT, patients experience comfort in four ways: physical, psychospiritual, sociocultural, and environmental (Kolcaba, 2015). The opioid toolkit project affected patients physically by assisting them to gain or maintain homeostasis through elimination or avoidance of opioid use. Patients' psychospiritual aspect was strengthened; internal awareness, self-esteem, identity, and their relationship with a higher power are negatively impacted by extreme pain and/or opioid use. When freed from the bondage of opioids or pain, the patient can experience transcendence, or rising above their previous difficulties (Kolcaba, 2015, p. 382). Additionally, as individuals achieve goals to decrease opioid use, they can feel emotionally and spiritually empowered. Sociocultural needs are met as interpersonal relationships are nurtured or restored when patients are no longer in pain or their senses dulled by opioid use. Upon reflection, patients will find that environmental changes from opioid discontinuance are profound. For example, as a prescription opioid user, one's life revolves around obtaining prescriptions for and taking the medication at regular intervals to avoid pain and withdrawal symptoms. Physicians cannot write

an opioid prescription refill for more than a month ahead, and then the prescription must be filled when the patient is able to get to a pharmacy during hours of operation. Patients must have the opioids available to be taken while they work, travel, or during any other activities. Limitations are therefore set on what may be done and for how long. When opioids are eliminated there is no longer the pressure of a time factor involved.

The opioid toolkit addressed each of the four areas above for those who had not begun regular opioid therapy as well, as the education aimed to inform these patients beforehand. These patients could then avoid the difficulties described above. Additionally, they can realize that their acute pain needs may be satisfied with alternative treatments and/or non-opioid medications their clinician at Southwest can recommend and perform, instead of beginning long-term opioid use.

Additionally, CT shows that "increased engagement in health seeking behaviors (HSBs) results in institutional integrity (which) strengthens the institution and its ability to gather evidence for best practices and best policies" (Kolcaba, 2015, p. 383). This was compatible with the student providing education to clinicians to give patients about opioid use and other interventions or alternative resources offered at SWS&P. The clinic additionally will be able to gather valuable feedback from the student's project survey data to help them improve quality and patient outcomes; thus, strengthening their structure of comfort for their patients.

Kolcaba's Comfort Theory indicates "increased comfort of recipients results in their being strengthened for their tasks ahead" (Kolcaba, 2015, p. 283). The main goal of this project was that patients would be helped to become resilient and self-reliant despite their past experiences with opiate dependence. Kolcaba describes this phenomenon as follows: "Comfort interventions (which) are defined as intentional actions designed to address specific comfort needs of recipients, including physiological, social, cultural, financial, psychological, spiritual,

environmental, and physical interventions" (Kolcaba, 2015, p. 384). The opiate education toolkit assisted patients by informing them, further opening dialog with physicians and other clinicians as they seek answers to questions the material introduced.

Chapter II: Methodology

Project Design

This project was a non-experimental, quality improvement project design, with "systematic data-guided activities to monitor, evaluate, and improve quality and safety outcomes of health services and care processes" (Moran, Burson, & Conrad, 2017, p. 349-350). The project fit into this design, as data was collected for the purpose of establishing effectiveness of the opioid education toolkit. If SWS&P feels that data shows validity and usefulness, the toolkit will continue to be an integral part of the clinics' resources, expanding to their other clinics beyond the St. George location. Surveys attempted to capture progress and improvement in patients' awareness of opioid usage and perceived usefulness of this information.

Setting

The setting for this project was at Southwest Spine and Pain Center's primary office located in St. George, Utah. There are over 82,000 people residing in St. George, with a median age of 30 years, and over 160,000 in the surrounding areas, mainly Washington County (St. George Area Chamber of Commerce, 2018). Southwest clinicians see approximately 100 patients per day with acute or chronic pain. Services include injections, procedures, and medication management for pain control. Therefore, the stakeholders felt this would be the ideal location for project implementation; at their busiest clinic in St. George.

The St. George Southwest Spine and Pain clinic location has four full-time physicians trained and specialized in minimally invasive procedures to alleviate pain. Additionally, two

physician assistants (PA's) and two advanced-practice registered nurses (APRN's) manage patients and refer them to the physicians for procedures. Patient care pre- and post- work is completed by the several medical assistants (MA's) and each physician or APRN works with specific MA's during each shift.

Population and Sample

Patients aged 18 years or older who use prescription opiates for pain or were considering opioids for pain management and would be treated at Southwest in St. George were the primary population for this project. St. George has a large population of older, active, retired adults who are treated at the clinic. The pain center physicians indicated that about 50% of their patients are senior citizens (B. A. Christensen, M.D., personal communication, February 2018).

The estimated sample size over a three-month period was estimated at approximately 150 patients who would meet specified criteria. The sample included patients who were taking prescription opioids for pain, or who were considering this method of pain management. The sample was comprised of patients who returned their survey within three months after distribution of the toolkit began. During the three-month survey period 52 surveys were collected from patients there.

There were no exclusions for those who received the opioid education toolkit. It was designed for those who met criteria; those who were taking prescription opiates and needed to decrease or eliminate use, and for patients who were considering beginning long-term opiate treatment (e.g., those who have had surgery and want to continue pain medications). They were given the education pages at their clinic visits. Southwest located the toolkit education in the electronic health record (EHR) of the patients for ease of use.

Tools

The opioid education toolkit and survey were developed with input from mentor, team advisor, physicians, and information from pertinent studies. Thus, the educational information was adapted to include several topics on predicted patient needs which Dr. Christensen had anticipated. Changes and clarifications were made by Dr. Christensen as the project progressed. Final version was approved by Dr. Christensen and the other stakeholders at Southwest. He also indicated that the clinicians desired an electronic form of the toolkit rather than printed material, so it could be distributed to patients with their other instructions at the end of their appointment. Dr. Christensen worked with the clinic's electronic technology department to embed the opioid education, instructions, and survey in Southwest's EHR system before project implementation.

Patients who received the opioid education toolkit pages were given a survey for feedback. The survey questions were developed according to the needs of the clinic, input from stakeholders, and in congruence with the project aim goals (see Appendix B). This survey supported the project objectives by asking patients whether the opioid education toolkit helped them to decrease, eliminate, or not to begin/continue prescription opioid treatment. They were also asked if they felt the opioid education was helpful and if they would share it with others.

The patients who met criteria received the survey along with the opioid education toolkit at their clinic visit. Instructions were included on the survey, directing the patient to complete only one form of the survey (i.e., online or on paper). The survey contained five questions utilizing an 8-point Likert scale with eight choices (ranging from "strongly disagree to "strongly agree"), one question about their age group category, and the last question was gender related with three possible answers (male, female, or prefer not to answer). If patients left an item blank it was assumed that they did not wish to answer the question.

Age groups and gender questions were included on the survey so that group comparisons could be made. This information will be helpful to SWS&P in deciding which demographic will be impacted by introduction of the toolkit at their other clinics in the future.

The survey questions are as follows:

- I found the opioid education toolkit helpful.
- The opioid education toolkit influenced my decision to not begin use of prescription opiates.
- The opioid education toolkit information influenced my decision to decrease usage of prescription opiates.
- The opioid education toolkit information influenced my decision to eliminate use of prescription opiates.
- I will share the opioid education toolkit with others.
- What is your age group?
- What is your gender?

This survey met the project objectives of the survey, which were to ascertain whether the opioid education toolkit was influential in the patient's decision to decrease, eliminate, or never to begin long-term prescription opioid use for pain and whether they would recommend the information to others (see Appendix B).

Project Plan

Before implementation of the opioid education toolkit, there was a training meeting for the staff at SWS&P clinic in St. George. The DNP student introduced the toolkit with a demonstration of how to locate it in the electronic patient resources. The discussion revolved

around benefits of use, strategies, and how to integrate project implementation into daily workflow. Time was given to answer questions.

The opioid information contained sections about various aspects of opioid use. The opioid education toolkit topics were:

- benefits of appropriate opioid education
- what are opioids
- effects of prescription opioids on the brain and body
- increased pain
- drug tolerance
- benefits of opioid discontinuation or dose reduction
- difficulty stopping opioid use
- tapering opioid doses
- non-opioid pain relief treatment options
- naloxone
- other points for medication safety with prescription opioids
- community resources in St. George and surrounding area
- references and sites for further information (see Appendix B)

The alternative treatments offered by the clinic are discussed individually with patients, rather than listed on the education. The clinicians indicated that they prefer to assess the unique needs of each case and recommend treatments accordingly. Therefore, there was not a list of therapies and procedures, although many of these can be viewed on their website (southwestspineandpain.com).

Workflow. The patient was brought into the clinic visit office and the medical assistant (MA) went through their normal routine of collecting information about the patient's pain, progress since last visit, and any other data or new issues. At that point the MA became aware of whether the patient was refilling or requesting prescription opioids and could print off the opioid education pages, survey, and instructions about how to return the survey. The patient then had time to read over the material while waiting for the clinician to arrive and thus prepare to ask questions.

Survey collection. Surveys were dropped into a locked box located at the clinicians' station by the MA's. This procedure was explained in a previous training meeting as well. Dr. Christensen was the only clinician with access to the locked box; the office manager also had a key in case the box became too full. Patient confidentiality was maintained; e.g., if a patient happened to add identifying information to their survey page, the MA marked it out before submitting the survey into the locked box. The on-line surveys were designed to be anonymous as well. When surveys were returned, the student entered the data into an Excel spreadsheet in a password-protected computer. The timeframe for collecting surveys was determined to be three months.

The project outcomes that were measured included:

- Prescription-opioid use patients treated at Southwest Spine and Pain Center who receive an opioid education toolkit state decreased or elimination of prescription-opioid use within three months.
- Patients treated at Southwest Spine and Pain Center who are considering opioids for pain management and receive an opioid education toolkit state they are not considering prescription-opioid use within three months.

- Patients treated at Southwest Spine and Pain Center who receive the opioid education toolkit will find the information helpful and/or recommend the information to others within three months.

Sustainability. The project is sustainable due to dissemination of the information; the toolkit has already been integrated within the EHR at Southwest. Dr. Christensen can determine if revisions need to be made before utilizing the toolkit further. Chart audits will be able to show that toolkit education is being included in patient care. Graphs and charts have been designed to display the data for dissemination and final project completion. Results have been shared with Dr. Christensen and Southwest Spine and Pain Center for their use as well. Discussions around sustainability will be included in medical staff meetings as results from patient feedback are shared. Additionally, clinicians can give input as to whether they notice that their patients are more engaged and asking appropriate questions in response to use of this toolkit.

Timeline. The timeline for this project was altered and adjusted as needed. The initial projected timeline in the DNP project proposal, for example, was utilized to implement the project. The completion timeline now shows the progression of major milestones throughout the project (see Appendix C).

This project plan was linked to the project aim, which was to help patients using or considering use of prescription opioids to decrease, eliminate, or not to begin use of prescription opioids. This was measured by a survey during patient visits. One third of the amount of surveys expected were collected during implementation of the project; 52 surveys versus 150.

Data Analysis

The student entered the data onto a Microsoft Excel spreadsheet, and numbers were cross-checked for accuracy. A statistical consultant analyzed the data. Data was utilized to

compare answers to questions within age group categories and gender. The results were communicated in quantitative data form; however, three patients wrote qualitative comments on their paper survey sheets. These have been included in the result for QI interest of the clinic. Of note, no patients utilized the electronic form of the survey available on Survey Monkey. All responses were in written, paper form.

Completion of this project included evaluation of impact at the clinic. These results will be shared with Dr. Christensen and the physicians at Southwest within their medical staff meetings. If they feel that this project was worthwhile, the opioid education toolkit can continue to be utilized and integrated into their other clinics and continued as a written educational resource for their patients.

Institutional Review Board/Ethical Issues

IRB application was sent to Bradley University's Committee on the Use of Human Subjects in Research (CUHSR). There were no ethical issues expected, as results are obtained through an anonymous and voluntary survey process. CUHSR required a HIPAA statement to be addressed, although the information given on the survey is non-identifiable. This was included in the survey instructions. Opioid Education Toolkit Survey Instructions with the privacy statement were as follows.

- You are invited to participate in a process improvement project. The purpose of this project is to evaluate whether this opioid education is helpful and/or impacts your decisions concerning opioids. Your part consists of reading the opioid material then answering questions on a survey and submitting it in either electronic (computer survey) or in written form. The written survey may be

placed in a designated box at the clinic or mailed. Please submit only one survey per individual.

- The process will take approximately 5 minutes and taking part is voluntary. You may choose not to take part or may skip specific questions. Questions about this survey may be directed to Bonnie Jensen at BRJensen@mail.Bradley.edu or the faculty in charge of this project, Dr. Judith Wolloch, email: jwalloch@fsmail.bradley.edu
- You are voluntarily making a decision to participate in this project. Your submission of the survey means that you have read and understood the information presented and have decided to participate. Your submission also means that all of your questions have been answered to your satisfaction. If you think of any additional questions or concerns, you should contact Bonnie Jensen or Judith Wolloch. Thank you.

After application and consideration, CUHSR concluded that the project did not need IRB approval, since it was a quality improvement project for the clinic (see Appendix D). The stakeholders also determined that the project was to be used for quality improvement. The letter they wrote for the IRB is included with CUHSR's (see Appendix D). The team agreement form submitted with this project was signed by the current team advisor, Dr. Sarah Silvest Guerrero, as Dr. Walloch oversaw completion of the project implementation process then Dr. Guerrero was the advisor who finished the project details before final submission.

Ethical aspects. Ultimately, the patients' privacy was preserved during the survey process. The MA's and clinicians who submitted surveys in the locked box checked to ensure no identifying markings were contained on them. Any information patients may have added, such as

a name, was marked out or cut off by staff before compiling data as well. Patient rights were maintained, as they had a choice whether to participate in the survey, as outlined in the survey instructions.

Chapter III: Organizational Assessment and Cost Effectiveness Analysis

Organizational Assessment

Readiness for change. Prior to project planning and implementation, SWS&P stakeholders indicated that they needed the opioid education toolkit to be developed for their patients. They stated it would increase awareness of risks of opiates for their patients and direct them to alternative treatment resources. They were supportive of this change, as they did not previously have written information of this type for their patients. The stakeholders are the owners, physicians, nurse-practitioners, nurses, and medical assistants at Southwest Spine and Pain Center located at St. George, Utah.

Anticipated barriers to implementation. During prior planning, participation of medical assistants in the process was perceived to be vital. The MA's had first contact with the patients and would be mainly responsible to print out and give the patients the information, allowing patients to read it and ask questions when the physician joined them. Lack of buy-in from the MA's or clinicians, or lack of time to present the toolkit to patients, were also considered as possible barriers to implementation.

Facilitators to implementation. Facilitators to implementation included the agreeability of SWS&P practitioners to utilize this written educational toolkit in their clinic. Another benefit was that Dr. Christensen practices there and has gained approval for the project from his physician partners/owners of the clinic. Dr. Christensen had reviewed the opioid education toolkit material, made changes, and approved the content with the stakeholders. He suggested

introducing the information to one clinic first, the largest one, since a high-volume of prescription opiate patients there allowed broader distribution during this project.

Risks or unintended consequences. There was a possibility that patients would decide not to participate in the project, might not read the information, or possibly not understand the education. This could not be anticipated or controlled, as patients have the right to decline, and patients have varied levels of interest or comprehension. However, the opioid toolkit was written on a level of comprehension for grades 6 to 8 to help mitigate this. Another anticipated risk was that the busy MA's could forget to distribute the toolkits, since this was a new process. Another risk was breach of confidentiality. Every effort was made by staff and student to keep patient information confidential. This could not be guaranteed completely, however, as patients interact with others independently. Another potential worry was that patients would view the toolkit as a means for clinicians to avoid prescribing opioids, which could lead to resentment and other high emotions. The clinicians re-wrote the toolkit introduction to provide their explanation for this education. Regardless, the student believed the benefits of educating patients about the effects of opioids were greater than potential risks.

Role of interprofessional collaboration. The stakeholders of varying disciplines affected the development of the toolkit both directly and indirectly. The clinicians gave input as to the content of the opioid education toolkit. However, experiences from interacting with and shadowing others at the clinic provided additional, valuable insight to the needs the toolkit could meet. For example, the MA's exemplified professionalism and efficiency, lending vision to how the toolkit can be implemented. The office front line staff offered encouragement, patience, and generosity. Most importantly, the patients at the clinic indirectly showed the student patterns of pain relief from opioids and alternatives throughout their clinical appointments. Over time they

showed progress, leading to confidence in implementation of the principles contained in the opioid education toolkit. The toolkit was a reiteration of what the clinicians had been teaching the patients verbally.

Cost Factors

The cost for the toolkits was minimal; Dr. Christensen estimated approximately five cents per patient, since they are being printed out with the patient's follow up appointment and other information at regular clinic visits. An estimated 50 patients per month were to receive the opioid education toolkit; therefore, the sample could have been as many as 150 patients over the three-month period of the project (see Appendix E)**.** This budget was not exceeded during project implementation.

Cost avoidance or savings. Previously the physicians at Southwest spent time giving verbal information about opioids to their patients (usual care). Extra time for this written education was not anticipated, and proved to be minimal. Additionally, this toolkit possibly saved time, as having a second source of education that patients and clinicians could refer to was more effective than verbal teaching alone.

Another financial benefit to SWS&P possibly occurred as patients realized that there are many non-opioid treatments for pain available which they could discuss with their physician, thus increasing revenue along with better patient outcomes. These interventions were originally listed on the toolkit pages; however, the physicians felt that there are so many it could have caused confusion. They preferred to discuss best options individually with consideration to each patient's needs.

Ultimately, if this education causes patients to discontinue opioid use and rely on alternative therapies and healthy options, the cost avoidance could be immense. Actual cost

savings is immeasurable, although some financial analysts have attempted it. A non-profit health research and consulting firm discussed previously in this paper "estimates the cost of opioid misuse, substance use disorders, and premature mortality" to continue to rise billions of dollars each year (Altarum, 2018, p. 1). As patients become aware of their options in this fight against opioids, their cost savings can be multiplied out to affect the national cost burden. And no monetary value can be placed on health, which is irreplaceable.

Chapter IV: Results

Analysis of the implementation process

Initial steps of interventions. Prior to project implementation, training was held with the MA's and office management team. Explanation was made about the opioid toolkit project and goals, and staff were shown how to access the toolkit electronically to print out for their patients who met criteria. Questions were answered and discussed. Training with clinicians (APRNs, PA's, and physicians) was done through previous emails from Dr. Christensen and by the student individually before rounding with each of them. The original plan for distribution of the opioid toolkit was for the MA's to give the opioid education to patients who met criteria. Criteria included those who were already using prescription opioids for treatment, as well as patients who were considering beginning to use them.

Evolution of interventions. New clinicians were hired during the time of project implementation and data collection. Therefore, new personnel were trained by the DNP student as required. The clinicians were cooperative and helpful with the process.

Since the clinic staff were already busy and adding the intervention became somewhat burdensome, adjustments had to be made. The MA's supervisor printed out copies of the opioid toolkit and survey, bound them in two folder covers, and had them available at the clinic staff

station. The MA then handed one of these booklets to the patient so they could read the information while waiting for the clinician to see them.

When time permitted, patients could also choose to fill out the survey while still at the clinic. The MA would then place the completed anonymous survey into the locked survey drop box. The MA supervisor, who is also the office manager, additionally made a contest of how many MA's could get surveys. She gave the winner a gift card. Since the surveys are anonymous, the MA's self-reported the number they achieved. The staff's support and kindness during this process was appreciated. However, the quick-paced office flow still did not allow for a sufficient number of surveys to be deposited into the locked box on site during the beginning weeks of project implementation.

Most important lessons learned. A modification to implementation was for the DNP student to be present on site to answer questions, teach patients with challenges, and to ensure the opioid education was given to individuals. If the student was not present, the staff appeared to forget to hand out the opioid education and collect surveys. Their other duties were too pressing. Having the student on site satisfied implementation requirements and added someone extra to assist with the process.

Analysis of project outcome data

Qualitative findings. Although the survey was not designed for comments, three patients wrote them on the paper survey. These qualitative results will be added to this section as available. Otherwise, qualitative results are not applicable, but simply of interest since this is a QI project for the clinic.

Question 1, "I found the opioid education toolkit helpful." Question 1, qualitative, from a male, age 85-94: "My answers are influenced by my prior knowledge of

opioids and my determination to keep their use to a minimum, i.e., one every couple of days. Opioids only when necessary. I believe every opioid user should read this information."

Question 2, "The opioid education toolkit influenced my decision to not begin use of prescription opiates." Question 2, qualitative comments from a female age, 55-64: "#2, I read after I started. I think I still would have taken them."

Question 3, "The opioid education toolkit information influenced my decision to decrease usage of prescription opiates." Qualitative comment from a male, age 65-74: "#3, already cut use by 50%." There are no further comments written on the surveys.

Quantitative findings. There were 52 surveys collected from patients at Southwest at the St. George clinic. The results are detailed here for each question.

Question 1, "I found the opioid education toolkit helpful." Results are organized on two charts and graphs per question, comparing age groups and gender. The following breaks down questions 1-5. Questions 6 and 7 reflect age groups and gender, so are incorporated within individual question results (see Appendix F).

Question 1, comparison between age groups. 69% of those patients surveyed agreed that the opioid education was helpful. 10% disagreed, 13% were neutral, and 8% said not applicable to them.

Question 1, comparison between genders. 40% of those surveyed were female, 52% male, and 8% preferred not to answer a question about their gender.

Question 2, "The opioid education toolkit influenced my decision to not begin use of prescription opiates."

Question 2, comparison between age groups. 12% of patients surveyed agreed that the opioid education influenced them not to begin prescription opioid use. 27%

disagreed with this, 29% were neutral, and 42% indicated that this education was not applicable to them.

Question 2, comparison between genders. 40% of those surveyed were female, 52% male, and 8% preferred not to answer a question about their gender.

Question 3, "The opioid education toolkit information influenced my decision to decrease usage of prescription opiates."

Question 3, comparison between age groups. 15% of those surveyed agreed that the opioid education helped them decide to decrease their opioid use. 54% disagreed, 23% were neutral, and 8% said not applicable to them.

Question 3, comparison between genders. 40% of those surveyed were female, 52% male, and 8% preferred not to answer a question about their gender.

Question 4, "The opioid education toolkit information influenced my decision to eliminate use of prescription opiates."

Question 4, comparison between age groups. 12% agreed that this education helped them decide to eliminate their opioid use. 60% disagreed with this, 12% were neutral, and 17% marked not applicable or left the answer blank.

Question 4, comparison between genders. 40% of those surveyed were female, 52% male, and 8% preferred not to answer a question about their gender.

Question 5, "I will share the opioid education toolkit with others."

Question 5, comparison between age groups. 56% of those surveyed said they will share the opioid education with others. 13% disagreed, 19% were neutral, and 12% said not applicable to them.

Question 5, comparison between genders. 40% of those surveyed were female, 52% male, and 8% preferred not to answer a question about their gender.

Chapter V: Discussion

Summary of major findings and outcomes linked to SMART objectives

The objectives referred to are from the project aim. Specific survey questions correlated to these objectives. Objectives and survey questions are linked as follows. Survey questions linked to this objective are numbers 3 and 4. The time factor of three months was decided on by consideration of time from implementation date to the date the survey period closed.

Prescription-opioid use patients treated at Southwest Spine and Pain Center who receive an opioid education toolkit state decreased or elimination of prescription-opioid use within three months. According to results of question 3, over half of the patients surveyed (54%) indicated that the opioid education did not influence their decision to decrease opioid use. 15% said it did. Question 4 results show that 60% disagree that the education helped them decide to eliminate their opioid use, and 12% said it did. These results show that at least some people were influenced to decrease or eliminate opioid use.

Patients treated at Southwest Spine and Pain Center that are considering opioids for pain management and receive an opioid education toolkit state they are not considering prescription-opioid use within three months. The survey question linked to this objective was number 2. The opioid education criteria included those who were coming to the pain clinic to begin using opioids, who would be new to regular prescription opioid use. 12% of patients indicated that the opioid education helped them decide not to begin opioid use. 27% disagreed. Therefore, some people were influenced by the opioid education toolkit to make this choice.

Patients treated at Southwest Spine and Pain Center who receive the opioid education toolkit will find the information helpful and/or recommend the information to others within three months. The survey question linked to this objective was number 1. Those surveyed who found the opioid education helpful were 69%. 10% disagreed.

Summary of findings for SMART objectives. It is interesting to note that most people surveyed found the toolkit helpful (69%) and said they would share it with others (56%). However, those who said the toolkit influenced their decisions about opioid use were few; to decrease (15% agreed), to eliminate (12%), or not to begin use (12%). It should have followed that since the information was so helpful it should have impacted patients in those ways.

Implications. One possible reason for this is that someone other than the patient may have filled out the survey. Most patients had a family member or friend with them during the clinic visit. Often the patients were in pain and not feeling well enough that they could read the information and survey. For example, several had recently finished their allotment of pain medications and needed a prescription refill. Additionally, when given the opioid education to read, their family member was invited to assist.

Further, the data could indicate that the patients may not have had enough time to read and consider the opioid education pages. Ideally, they would have taken the information home to read then complete the survey at home or the following month at their medication-refill visit. Unfortunately, this may not have yielded many surveys within the necessary timeframe, as people were more likely to finish the survey at their clinic visit rather than follow up later.

Ultimately, however, these results showed the unexpected benefit that caregivers, family, and friends of the patients who read the opioid education were impacted positively and will share the information. Their awareness of opioids was broadened. This was a further-reaching result

than intended or imagined from this QI project. When family members share what they have learned about opioids with others they can positively impact the fight against the opioid crisis. In this aspect the project was considered successful and exceeded expectations.

Main changes observed in care delivery and clinical outcomes

A few of the patients and/or family members indicated that they were interested in decreasing, eliminating, or not starting prescription opioid use. Although the majority were not influenced in this way, some patients' care could be impacted by this decision. The clinicians at Southwest can help these patients achieve their objectives. Precise clinical outcomes to follow up whether patients decreased their opioid use after being educated about them would need to be done in another QI project with documentation checks. Since this survey was anonymous, the next QI project could possibly follow specific patients who meet criteria for needing to reduce use. The clinic plans to keep the opioid education toolkit on their electronic health system after removing the survey and instructions portions. Patients who meet criteria can then receive the opioid information.

Success and difficulties in implementation

Successes. Most successful was the opportunity Southwest staff and clinicians presented to allow this project to be implemented in their busiest clinic. They see the greatest number of patients there who meet criteria to receive opioid education. Therefore, enough surveys were collected for the DNP student's QI project.

Difficulties. Difficulties in implementation included the MA's being too busy to hand out the opioid education and survey to patients independently. The staff are competent and have a reliable system for prepping patients, getting vital signs, obtaining information from the patient then summarizing this for the clinician before he or she enters the patient's room for

consultation. This optimizes time and workload, streamlining the patient's visit as well. The clinic can see a high volume of patients in this way.

Trying to fit in project implementation tasks added a visible measure of stress to staff and slowed processes somewhat. The staff never complained about the project. However, at times the patient had to be moved out of the room to a chair in the hallway or lobby to complete their opioid education survey, so that another patient could take the consultation room. When the student was on site as an extra person though, implementation was a smoother process overall. In this way there was very little interference to the clinic's daily routine.

Noticeable difficulties included identifying patients who met criteria to receive the opioid education. Even when the student was present, clinicians and MA's sometimes forgot they needed to alert the DNP student to distribute the toolkit to these patients. Despite these challenges, successes to implementation were plentiful. Collaboration with the clinic healthcare team was enjoyable. Interactions with the patients were, for the most part, mutually edifying and interesting.

Effectiveness of the intervention

For those patients who received the intervention, the opioid education toolkit appeared to be effective. With the national opioid crisis at the forefront, any successes, though small, aid the growing issues. When patients and families are educated about opioids, they are more aware of the consequences of their decisions. Because of this project, the clinic now has a method in place to provide written opioid education to their patients. In these ways, success was achieved by implementation of the project.

Limitations or deviations from project plan

The expected sample size was greater than the actual number of surveys collected. Many more opportunities to educate patients about opioids were present than were utilized. However, 52 surveys can serve to inform the clinic's processes through this QI project. Those who read the information and agreed to fill out a survey about the opioid education were able to give feedback as to its effectiveness. Further limitations of the QI project were identified as unique individual choices. For example, a few patients refused to participate in the project and were vocal about their biases on such education.

Implications for the organization and sustainability

The opioid education toolkit is embedded in Southwest's patient database references. Therefore, if the clinic is in favor of continuing to offer this written form of opioid teaching to patients, they will be able to do so. Dr. Christensen is removing the survey portion of the toolkit to avoid confusion when patients read the information in the future. Ideally, clinic staff would send the opioid information home with the patient then follow-up on their next monthly medication refill visit so they can ask questions. This could also lead to further discussions about tapering or eliminating opioids with clinician supervision.

Sustainability will possibly entail a reminder or automatic print-out of opioid education for patients who are getting their pain medications refilled. Since this project was developed for the clinic's QI, there are recommendations to be made to the stake holders. A practice change could be to make the opioid education toolkit pages available for every patient who is prescribed opioids.

The clinic could work with their IT department to have the opioid education print out automatically with a certain procedure or diagnosis code. If the information could be set to print out for each appropriate patient without the MA needing to pull it up, they could give it to them

with their other instructions at the end of the visit. More training of new staff may be required to let them know about this change in procedure and what the opioid education is, who meets criteria, and to encourage the patient to speak with the clinician about any questions they may have concerning the education.

Impact on nursing and health policy change

The stakeholders have indicated that they are required to offer written educational materials to patients; therefore, continuing to offer the opioid education toolkit would help fulfill this need. This action would require a health policy or practice change; that of ensuring patients on opioids are educated about them. Currently, Centers for Medicare and Medicaid Services (CMS) holds providers accountable to educate their patients through Meaningful Use (MU) reimbursement incentives. “Health care providers are required to fulfill patient and family engagement standards” (Shipman et al., 2016, para. 1).

Ideally, nursing would take the lead in this health policy change. The advanced-practice nurses in the clinic understand the importance of educating patients and utilizing evidence-based resources. Their awareness and support of opioid education for the patients can provide the vital missing link in this process to make a successful transition.

Potential project implementation modifications to improve future performance

The DNP project focused on providing opioid information, the patient reading the material while waiting for their clinician, then taking a survey about the education. This process could be improved if the patients were given the education materials on one visit with a follow-up discussion at their next visit a month later. The staff could encourage patients to write down their questions to discuss at a future clinic visit. Further, the patients should be urged to share this written information with their family and friends, to increase impact on the opioid crisis.

Generalizability or transferability of intervention. The opioid education toolkit could be utilized in the other Southwest pain clinics. The pilot program was done in the St. George clinic as a QI project. Since their other clinics have identical software, the opioid education can be transferred to those clinics as well.

Future research. Future research could include chart audits to see how many patients who met criteria were given the opioid education pages. A qualitative study or survey could ask clinicians and patients whether they had discussed items from the opioid education, asked or answered follow-up questions, and if they felt the information had helped them. The surveys for that QI project could not be anonymous, however. The clinic would need to get permission from the individual patients to allow their documentation to be audited and so forth.

Opportunities for interdisciplinary collaboration related to area of interest. The advanced-practice nurses (APRN's) at other clinic sites could be encouraged to champion the written opioid education in their specific offices as well. The APRN's work closely with the physicians in determining course of care for patients. Their educational background and leadership role places them in a unique situation to spearhead collaboration and become change agents to ensure opioid education to patients. The written materials in the opioid education toolkit provide an effective means to do so.

Potential research questions or areas of future scientific/practice inquiry. Of interest long term would be the same research question, i.e., will opioid education influence patients to have a desire to decrease, eliminate, or not to begin prescription opioid use? However, the questions should be studied with patients reading the information, taking the written pages home, and clinicians following up with discussions on subsequent visits. This process could take several months.

Clinicians are aware of those clients needing to decrease their daily intake of opioids. For example, the pain clinic has inherited patients from primary care physicians who are no longer able to provide high doses of opioids. The clinicians at Southwest usually begin a slow taper for these people. Further research for QI could focus on whether opioid education helped patients understand the dangers of opioids and the benefits of tapering or discontinuance.

Plan for dissemination

Within the clinical setting. Results from this QI project will be made available to Southwest's stakeholders by the student. Staff and clinicians at the St. George clinic will be made aware of project results and QI recommendations through project mentor Dr. Christensen, using recommended communication channels, such as email or a staff meeting.

Within the organization. Southwest has several clinics. The opioid education toolkit, minus the survey, can be implemented at other locations. Changes to the information can be updated by clinicians as needed.

Nursing significance of the DNP project

Suggested changes for nursing education. Nursing education for new nurses, especially those in advanced nursing programs or APRN's newly graduated from them, needs to include emphasis on leadership. Nurses are key in leading others to embrace evidence-based practice changes. Registered nurses (RN's) have traditionally been leaders over staff, such as nursing assistants, techs, and licensed practical nurses (LPN's). Southwest employs RN's who can also help lead in this effort to educate their patients about opioids.

Additionally, a primary role of nurses is teaching patients; this is within the RN's scope of practice. Expanding upon these leadership and teaching strengths through nursing education is

vital to the fight against the opioid crisis. Specifically, educating nurses about opioids so they can educate patients will ensure patients receive accurate and timely information.

Health policy. Regulations are in place to provide written education to patients. Clinic APRN's need to be briefed on what these are so that they understand the importance of offering written opioid education to patients. They can then visualize ways to incorporate this within their patient's plan of care.

Opportunities for policy development/reform at various levels. Southwest is one of the few pain clinics in the area and provides an example to others. The stakeholders want to do what is best for their patients; hence the reason for requesting a written opioid education toolkit. Their practice serves as a standard for others to follow. Their influence to use this written opioid education toolkit or similar patient teaching information can extend from St. George to their additional clinics and other pain care providers in the regions around their clinics throughout Utah, benefitting many other patients and communities.

Chapter VI: Conclusion

The value and impact of this project to health care and practice

This DNP project, the opioid education toolkit, positively impacts the opioid crisis one patient at a time. These written pages have shown to be helpful in the clinic setting. Over half of patients and families surveyed through this QI project have indicated that the written education is helpful and that they will share the information with others.

A small percentage of patients said that the opioid toolkit influenced them to decrease, eliminate, or not to begin using prescription opioids. Although few, these numbers represent lives that will be changed for the better due to the education received through this project. This model can be replicated in other settings to answer questions and continue to improve health.

How implementation and completion of the project relates to the DNP essentials

Scientific underpinnings for practice. Extensive research was done to prepare the information for the opioid education toolkit. Many weeks were spent shadowing clinicians consulting with patients and observation of alternative pain-relief procedures. These experiences formed the foundation to the project and education material. This prepared the graduate to "develop and evaluate new practice approaches based on nursing theories and theories from other disciplines" (AACN, 2006. *DNP essential I*, p. 9).

Organizational and systems leadership for quality improvement and systems thinking. The project met this essential as a QI strategy and sustaining changes in practice. Additional DNP proficiencies gained through project planning are evaluation of cost effectiveness and "to redesign effective and realistic care delivery strategies" (AACN, 2020. *DNP essential II*, p. 10). The DNP student had the opportunity to demonstrate leadership during project planning and implementation.

Clinical scholarship and analytical methods for evidence-based practice. This essential was met several ways. The foundation included finding literature to correlate evidence-based practice with the opioid education, then later analyzing data obtained from surveys. Additionally, the DNP student was prepared to "evaluate quality improvement methodologies to promote safe, timely, effective, efficient, equitable, and patient-centered care" (AACN, 2020. *DNP essential III*, p. 12).

Information systems/technology and patient care technology for the improvement and transformation of health care. Collecting and analyzing data helped meet this essential. DNP-prepared nurses utilize information/technology (IT) systems to "implement quality improvement initiatives and support practice and administrative decision-making" (AACN,

2020. *DNP essential IV*, p. 12-13). This technology was utilized throughout the project, from planning and reviewing literature to data analysis. Additionally, the opioid education toolkit is distributed electronically at the clinic.

Health care policy for advocacy in health care. Through experiences in clinical to implementation of this project, the DNP student has modeled advocacy for the nursing profession. The project has also presented an opportunity to "engage proactively in the development and implementation of health policy at all levels" (AACN, 2020. *DNP essential V*, p. 13-14).

Interprofessional collaboration for improving patient and population health outcomes. The most interesting and enjoyable part of project implementation has been collaboration with various members of the healthcare team. DNP-prepared nurses are ready to assume the role of facilitator in blending unique individuals into highly functional teams. Effective communication has been employed, as well as "consultative and leadership skills with intraprofessional and interprofessional teams to create change in health care" (AACN, 2020. *DNP essential VI*, p. 14-15).

Clinical prevention and population health for improving the nation's health. The purpose of this project was to improve socioeconomic and physical health of individuals. By educating patients about opioids patients can make informed choices about improving their health. This supports the DNP-prepared nurse's objective to "engage in leadership to integrate and institutionalize evidence-based clinical prevention and population health services for individuals, aggregates, and populations" (AACN, 2020. *DNP essential VII*, p. 14-15).

Advanced nursing practice. This DNP project helped develop advanced roles of leadership and collaboration. Conceptual and analytical skills were employed, as well as guiding

and supporting others. The DNP student was able to learn advanced nursing practice in "designing, delivering, and evaluating evidence-based care to improve patient outcomes" (AACN, 2020. *DNP essential VIII*, p. 16-17).

A table of evidence is included at the end of this project (see Appendix G). Although more literature was reviewed then listed, the relevant resources utilized and their value to the student are summarized there. Appropriate citations are also included.

Plan for Dissemination

Within the organization. Results from this QI project will be made available to Southwest Spine & Pain clinic through Dr. Christensen. Staff will need to be updated on the changes to the opioid education toolkit (without survey) and encouraged to utilize the written information for the patients who meet criteria. Plans also include discussing issues with IT personnel, should stakeholders agree, about the possibility of setting the opioid education to print out automatically at the end of the patient visit.

Within the nursing profession. A formal oral presentation of this DNP project is scheduled to be presented to faculty, project team, and student peers. Additionally, the project will be submitted to the Doctors of Nursing Practice Doctoral Project Repository.

Attainment of personal and professional goals

On a personal note. A personal goal of mine has been to complete this program which began for me four years ago. I wanted to continue progress toward my educational goals while I needed to be located close to home when our elderly parents moved in with us. A small victory was achieved last July when both parents were finally able to eliminate prescription opioids and subsequently become healthier.

When they moved in, I gave up teaching in the classroom, as it would take me further away from home for long hours. I became a nurse in a hospital a few minutes away instead, working three shifts per week. During four years of school, life still moves forward, along with challenges and obstacles. Throughout this time period, however, I have felt that to press on and persevere to success would be the best course of action. Although I have thoroughly enjoyed my education at Bradley University and the wonderful faculty, I am happy to finally be at this point.

My professional goal is to use my DNP to teach nursing students on-line. I love being a nurse and teaching nursing students in person. I feel I can project that enthusiasm to students through an online program as well. I've appreciated excellent examples of educators during my courses at Bradley University.

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Appendix A

Opioid Use Disorder, DSM-V Criteria (APA, 2013)

Category	Criterion	Description
Impaired control	1	Opioids are often taken in larger amounts or over a longer period than intended
Impaired control	2	There is a persistent desire or unsuccessful efforts to cut down or control opioid use
Impaired control	3	A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects
Impaired control	4	Craving or a strong desire or urge to use opioids
Social impairment	5	Recurrent opioid use resulting in a failure to fulfill major role obligations at work, school, or home

Social impairment	6	Continued opioid use despite having persistent or recurrent interpersonal problems caused or exacerbated by the effects of opioids
Social impairment	7	Important social, occupational, or recreational activities are given up or reduced because of opioid use
Risky use	8	Recurrent opioid use in situations in which it is physically hazardous
Risky use	9	Continued opioid use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance
Pharmacological	10	Tolerance, as defined by either of the following:

		a. A need for markedly increased amounts of opioids to achieve intoxication or desired effect b. A markedly diminished effect with continued use of the same amount of opioid
Pharmacological	11	Withdrawal, as manifested by either of the following: a. The characteristic opioid withdrawal syndrome b. Opioids (or a closely related substance) are taken to relieve or avoid withdrawal symptoms

Appendix B

Opioid Education Toolkit, Instructions, and Survey

Introduction

It is sincerely hoped that this educational material will help patients understand the potential benefits as well as consequences of opioid medications and provide patients with the knowledge to help them make wise choices regarding these medications.

Benefits of Appropriate Opioid Education

- Improve adherence
- Help the patient understand medication responses that are expected and normal and those that are of concern and warrant a phone call
- Allay fears about particular treatments or medications
- Increase satisfaction with treatment by promoting realistic expectations
- Provide an opportunity to discuss any concerns
- Strengthen the clinician-patient relationship by demonstrating respect and enhancing patient feelings of self-efficacy
- Improve health, well-being, and outcomes
- Health literacy: enables the patient to obtain, process, and understand basic health information and services needed to make appropriate health decisions.

What are Opioids?

- Opioids, or opiates, are pain medications which bind specific receptors in the brain, spinal cord, and GI tract; thus, minimizing pain perception.
- Downside of this: opioids also affect other body systems, such as mood, cognition, breathing, blood pressure, heart rate, digestion and many other functions.

Effects of Prescription Opioids on the Brain and Body

- Retards respiratory rate; can cause breathing to stop and death.
- Constipation due to slowing of bowel peristalsis
- Confusion and decreased mentation, including impaired judgment and reflexes. Those taking opioids should not drive or operate heavy machinery.

- An increased risk for confusion exists, especially in those with dementia.
- Opioids can generate a feeling of being relaxed and artificially "happy."
- Drowsiness, sedation
- Euphoria
- Tolerance and potential addiction

Increased Pain

- The body of someone on opioids stops making the endorphins which are natural pain killers designed to help naturally with pain.
- Hyperalgesia: with time opioids can cause any pain, even small aches, to become more severe.

Drug Tolerance

- Opioid doses may need to be gradually increased to get the same pain relief over time.
- Patients taking opioids long term may have difficulty treating new pains that arise (i.e. trauma, surgery, etc.).
- Opioid rotation may be a short-term solution to drug tolerance that allows patients to use lower doses of a different opioid to get better pain relief.
- Other non-opioid medications exist for pain that don't have the same side effects and complications as opioids. Physicians at Southwest Spine & Pain manage these as well. Expect a structured contract which contains helpful incentives to guide the patient through safe opioid treatment.

Benefits of Opioid Discontinuation or Dose Reduction

- Improvement of function and quality of life
- Improved mentation and enjoyment
- Increased energy
- Decrease in depression
- Better quality sleep
- Improvement in hyperalgesia (being extra-sensitive to pain)
- Improvement in pain severity

Difficulty Stopping Opioid Use

- Decreasing or eliminating opioid use can be quite uncomfortable. While withdrawal is not life-threatening, those who experience it can struggle with flu-like symptoms.
- Symptoms of withdrawal can include perspiring, cold chills, nausea, vomiting, diarrhea, headache, body/joint aches, mood swings, anger, agitation, anxiety, and cravings.
- Medications to help alleviate these symptoms may be prescribed or recommended by a clinician experienced in the opioid withdrawal process.
- Staying in treatment long enough is critical to success.

Tapering Opioid Doses

- Tapering or weaning off opioids is best achieved in a consistent, slow-paced manner.
- See experienced practitioners for guidance and supervision of opioid tapering for best results.
- Success to become opioid free is possible with a willingness to change and proper assistance.
- If stopping opioids completely rather than tapering, individuals must first be "detoxed" from opioids, ideally in a controlled medical setting with medications to help reduce withdrawal symptoms.
- After the detox, patients need to follow up with some type of program to help them stay clean. Rehab can be in-patient or out-patient.

Non-Opioid Pain Relief Treatment Options

- If opioids are to be discontinued, pain needs to be alleviated in other ways instead.
- There are many options for pain relief that do not include opioid medications. The physicians at Southwest Spine and Pain can discuss those with you.

Naloxone

- Previously known as "Narcan," this medication reverses opioid overdose.
- Patients on opioids should ask their provider to prescribe this to keep on hand for emergencies.

- Different forms of Naloxone exist, including injectable (self-administering type) and nasal spray. They reverse the effects of opioids and can be a first line of action while waiting for an emergency medical team to arrive.
- Naloxone has been shown to decrease opioid-related deaths and save lives.
- Education about Naloxone has been shown to increase patients' awareness of opioid risks in reference to their own opioid use, thus decreasing their usage.

Other Points for Medication Safety with Prescription Opioids

- Keep opioids locked away from others, children, and pets.
- It is the patient's responsibility to keep track of, not lose meds, and not share with others.
- Be aware of opioid interactions with other medications, such as danger of using alcohol or benzodiazepines with opioids.
- Know warnings of potential adverse events, such as respiratory rate under 12 breaths per minute, slurred speech, or decreased level of consciousness.
- Know risks to pregnant or lactating women.

Community Resources in St. George and Surrounding Area

- Southwest Spine & Pain Clinic 435-656-2424
- Physical therapy: many options; see websites online
- Psychologists and psychiatrists: many options; see websites online
- Drug overdose hotline: 1-800-222-1222
- Intermountain behavioral health unit phone number for questions on detoxification: 435-688-4343

References and Sites for Further Information

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Opioid Education Toolkit Survey Instructions

You are invited to participate in a process improvement project. The purpose of this project is to evaluate whether this opioid education is helpful and/or impacts your decisions concerning opioids. Your part consists of reading the opioid material then answering questions on a survey and submitting it in either electronic (computer survey) or in written form. The written survey may be placed in a designated box at the clinic or mailed. Please submit only one survey per individual.

The process will take approximately 5 minutes and taking part is voluntary. You may choose not to take part or may skip specific questions. Questions about this survey may be directed to Bonnie Jensen at BRJensen@mail.Bradley.edu or the faculty in charge of this project, Dr. Judith Wolloch, email: jwalloch@fsmail.bradley.edu

You are voluntarily making a decision to participate in this project. Your submission of the survey means that you have read and understood the information presented and have decided to participate. Your submission also means that all of your questions have been answered to your satisfaction. If you think of any additional questions or concerns, you should contact Bonnie Jensen or Judith Wolloch. Thank you.

Survey Questions about the Opioid Education Toolkit

1. I found the opioid education toolkit helpful.
    a. Strongly disagree
    b. Disagree
    c. Somewhat disagree
    d. Neither agree or disagree
    e. Somewhat agree
    f. Agree
    g. Strongly agree
    h. Not applicable to me

2. The opioid education toolkit influenced my decision to not begin use of prescription opiates.
    a. Strongly disagree
    b. Disagree
    c. Somewhat disagree
    d. Neither agree or disagree
    e. Somewhat agree
    f. Agree
    g. Strongly agree
    h. Not applicable to me

3. The opioid education toolkit information influenced my decision to decrease usage of prescription opiates.
    a. Strongly disagree
    b. Disagree
    c. Somewhat disagree
    d. Neither agree or disagree
    e. Somewhat agree
    f. Agree
    g. Strongly agree
    h. Not applicable to me

4. The opioid education toolkit information influenced my decision to eliminate use of prescription opiates.

a. Strongly disagree
b. Disagree
c. Somewhat disagree
d. Neither agree or disagree
e. Somewhat agree
f. Agree
g. Strongly agree
h. Not applicable to me

5. I will share the opioid education toolkit with others.
    a. Strongly disagree
    b. Disagree
    c. Somewhat disagree
    d. Neither agree or disagree
    e. Somewhat agree
    f. Agree
    g. Strongly agree
    h. Not applicable to me

6. What is your age group?

    a. 18-24 years
    b. 25-34 years
    c. 35-44 years
    d. 45-54 years
    e. 55-64 years
    f. 65-74 years
    g. 75-84 years
    h. 85-94 years or more
    i. Prefer not to answer

7. What is your gender?
    a. Female
    b. Male
    c. Prefer not to answer

Appendix C

Timeline of DNP Project

- Student shadowed mentor and other clinicians at Southwest Spine & Pain clinics; gained background experience as project foundation. August-November, 2017
- Clinical shadowing and researched literature for project. January-December, 2018
- Defense of project and IRP application process. April-June 2019
- IRB approval obtained. June, 2019
- Began project implementation at Southwest's St. George, UT clinic. August, 2019
- Concluded survey collection period and began data entry. November, 2019
- Data entry and project write-up. January-March, 2020
- Oral presentation of project to Bradley University. April, 2020
- Dissemination of project. April 2020

Appendix D

IRB Approval

BRADLEY University

DATE: 20 June 2019

TO: Bonnie Jenson, Judith Walloch
FROM: Bradley University Committee on the Use of Human Subjects in Research

STUDY TITLE: An Opioid Education Tool Kit about Prescription Opiates
CUHSR #: 40-19
SUBMISSION TYPE: Initial Review

ACTION: Approved
APPROVAL DATE: 20 June 2019
REVIEW TYPE: Quality Assurance

Thank you for the opportunity to review the above referenced proposal. The Bradley University Committee on
the Use of Human Subject in Research has determined the proposal to be NOT HUMAN SUBJECTS
RESEACH thus exempt from IRB review according to federal regulations.

The study has been found to be not human subject research pursuant to 45 CFR 46.102(i), not meeting the
federal definition of research (not contributing to generalizable knowledge). Please note that it is unlawful to
refer to your study as research.

Your study does meet general ethical requirements for human subject studies as follows:
1. Ethics training of research personal is documented.
2. The study involves no more than minimal risk and does not involve vulnerable population.
3. Subject selection is equitable.
4. There is a consent process that:
a. Discloses the procedures
b. Discloses that participation is voluntary
c. Allows participants to withdraw
d. Discloses the name and contact information of the investigator
e. Provides a statement of agreement
5. Adequate provisions are made for the maintenance of privacy and protection of data.
6. Your study is exempt for HIPAA regulations in that no protected health information is collected and the
survey instrument is anonymous.

Please submit a final status report when the study is completed. A form can be found on our website at https://www.bradley.edu/academic/cio/osp/studies/cuhsr/forms/. Please retain study records for three years from the conclusion of your study. Be aware that some professional standards may require the retention of records for longer than three years. If this study is regulated by the HIPAA privacy rule, retain the research records for at least 6 years.

Be aware that any future changes to the protocol must first be approved by the Committee on the Use of Human Subjects in Research (CUHSR) prior to implementation and that substantial changes may result in the need for further review. These changes include the addition of study personnel. Please submit a Request for Minor Modification of a Current Protocol form found at the CUHSR website at https://www.bradley.edu/academic/cio/osp/studies/cuhsr/forms/ should a need for a change arise. A list of the types of modifications can be found on this form.

While no untoward effects are anticipated, should they arise, please report any untoward effects to CUHSR immediately.

This email will serve as your written notice that the study is approved unless a more formal letter is needed.
You can request a formal letter from the CUHSR secretary in the Office of Sponsored Programs.

Committee on the Use of Human Subjects in Research – 100 Kauffman
1501 W Bradley Ave.
Peoria, IL 61625

SOUTHWEST
SPINE & PAIN CENTER

May 14, 2019

To Whom it Concerns:

Ms Bonnie Jensen has approval to proceed with her proposed project in our Southwest Spine and Pain Center clinic. She is authorized to use our clinic location and name "Southwest Spine and Pain Center" in her report. Given that her project is to educate and implement known best practices with respect to the clinical use of opioid analgesics for treatment of pain, I consider her project to be a quality improvement project, and therefore does not need local IRB review/approval.

Thank you for your consideration.

Jon Obray MD
Medical Director
Southwest Spine and Pain Center

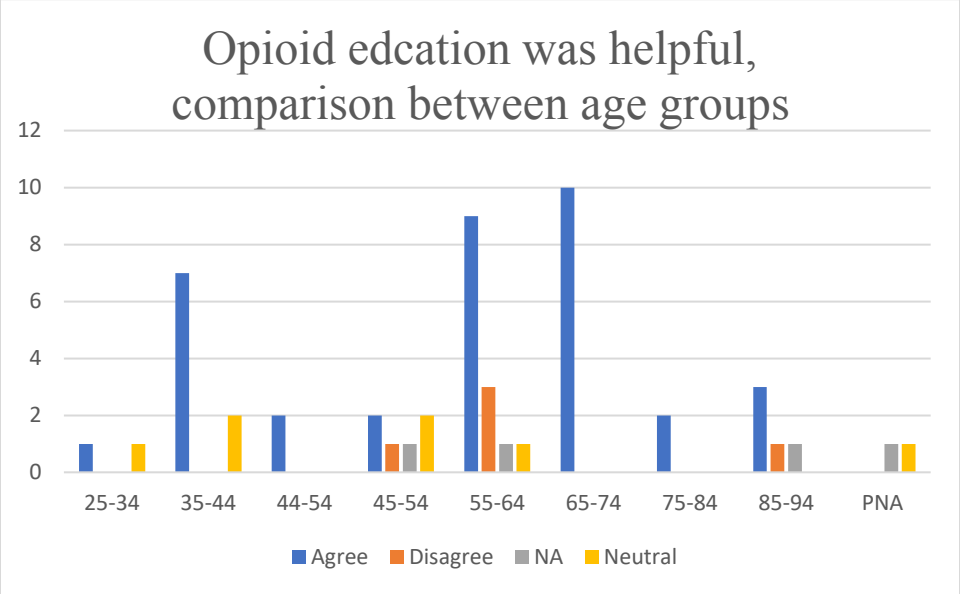
Appendix E

Budget Plan for St. George Clinic

Number of opiate prescription refill patients seen	Cost of Opioid Education Tool Kit Pages	Total
50 patients per day	average 5 cents each patient	$2.50 per day
20 days = 1000 patients per month	1000 patients x 5 cents	$50 per month

Appendix F

Data from the Opioid Education Toolkit Survey

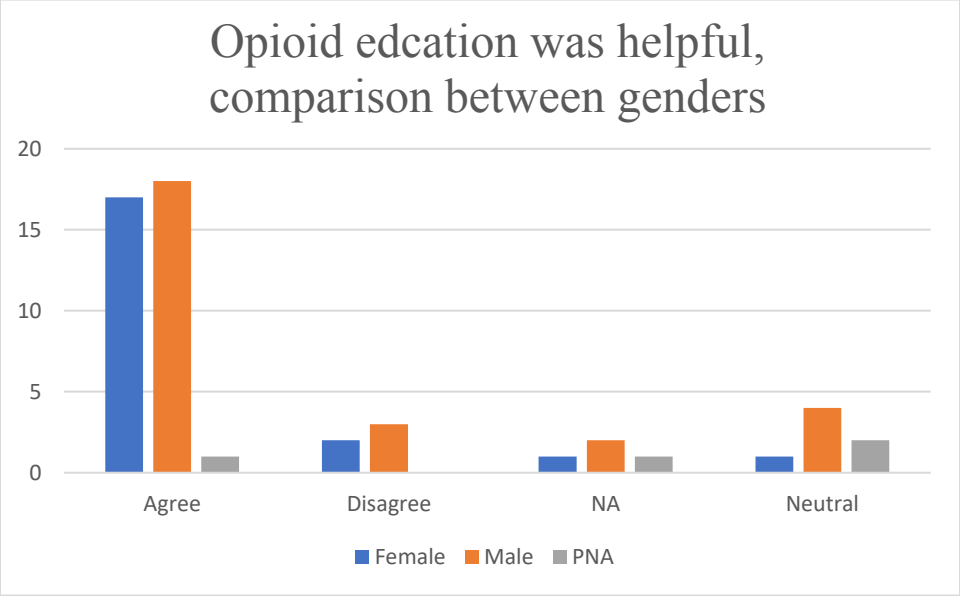


Question 1: Opioid education was helpful

Age years	Agree	Disagree	NA	Neutral	Total	Percent
25-34	1			1	2	4%
35-44	7			2	9	17%
44-54	2				2	4%
45-54	2	1	1	2	6	12%
55-64	9	3	1	1	14	27%
65-74	10				10	19%
75-84	2				2	4%
85-94	3	1	1		5	10%
PNA			1	1	2	4%
Total	**36**	**5**	**4**	**7**	**52**	**100%**

Abbreviations: not applicable to participant (NA), preferred not to answer (PNA), question (Q)

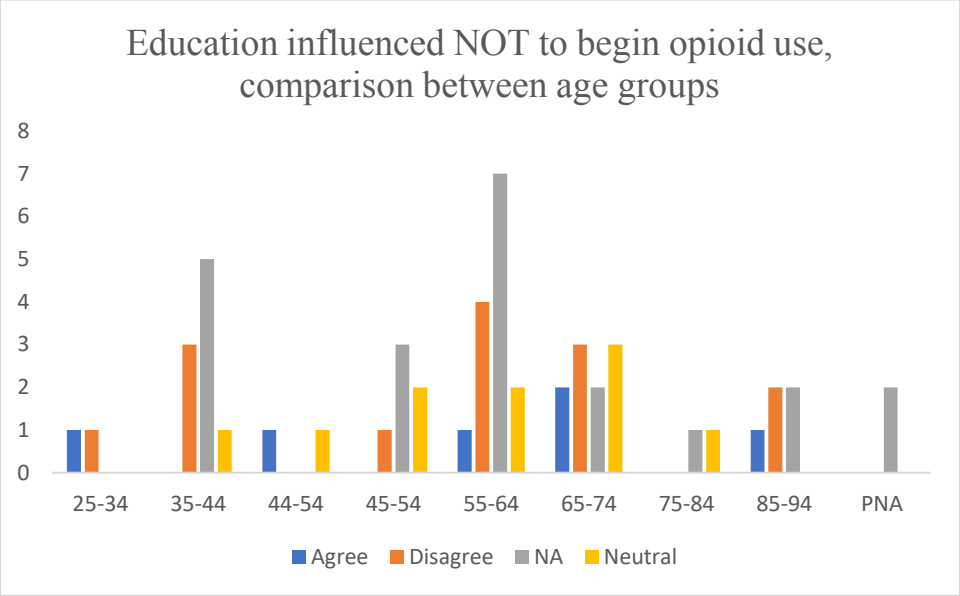
Question 1: “I found the opioid education tollkit helpful.”



Q1 (cont.): Opioid education was helpful

Gender	Agree	Disagree	NA	Neutral	Total	Percent
Female	17	2	1	1	21	40%
Male	18	3	2	4	27	52%
PNA	1		1	2	4	8%
Total	**36**	**5**	**4**	**7**	**52**	**100%**

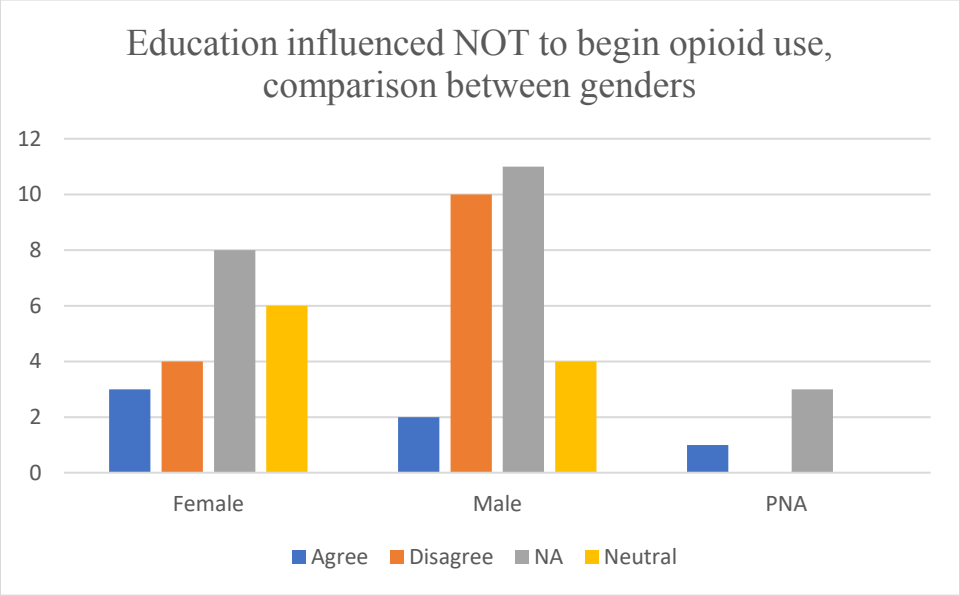
Results of Question 2: “education influenced decision to not begin using opioids”



Q2 (cont.): Education influenced decision NOT to BEGIN

Age years	Agree	Disagree	NA	Neutral	Total	Percent
25-34	1	1			2	4%
35-44		3	5	1	9	17%
44-54	1			1	2	4%
45-54		1	3	2	6	12%
55-64	1	4	7	2	14	27%
65-74	2	3	2	3	10	19%
75-84			1	1	2	4%
85-94	1	2	2		5	10%
PNA			2		2	4%
Total	**6**	**14**	**22**	**10**	**52**	**100%**

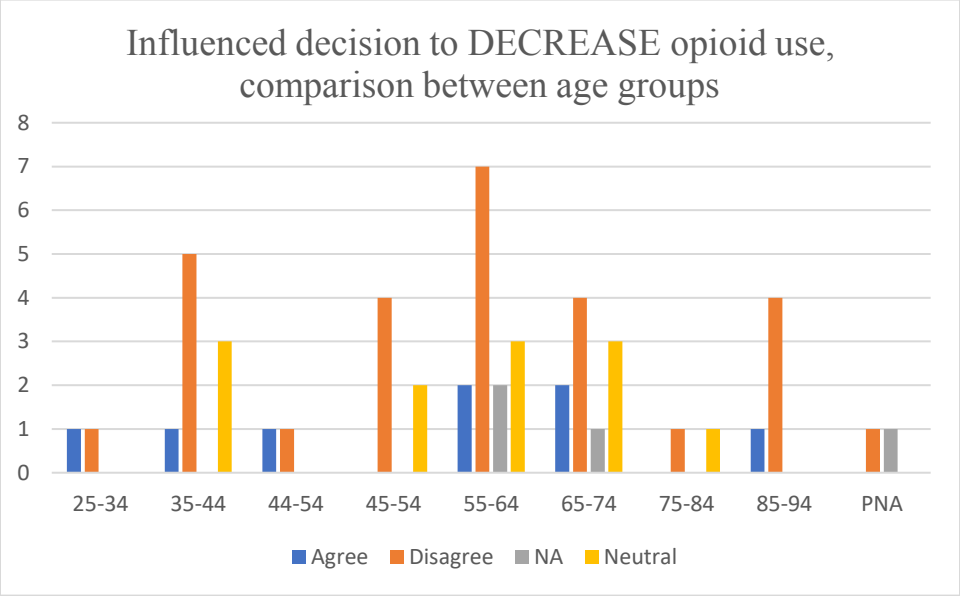
Q2 (cont.): "Opioid influenced decision to not begin using opioids."



Q2: Education influenced decision NOT to BEGIN

Gender	Agree	Disagree	NA	Neutral	Total	Percent
Female	3	4	8	6	21	40%
Male	2	10	11	4	27	52%
PNA	1		3		4	8%
Total	**6**	**14**	**22**	**10**	**52**	**100%**

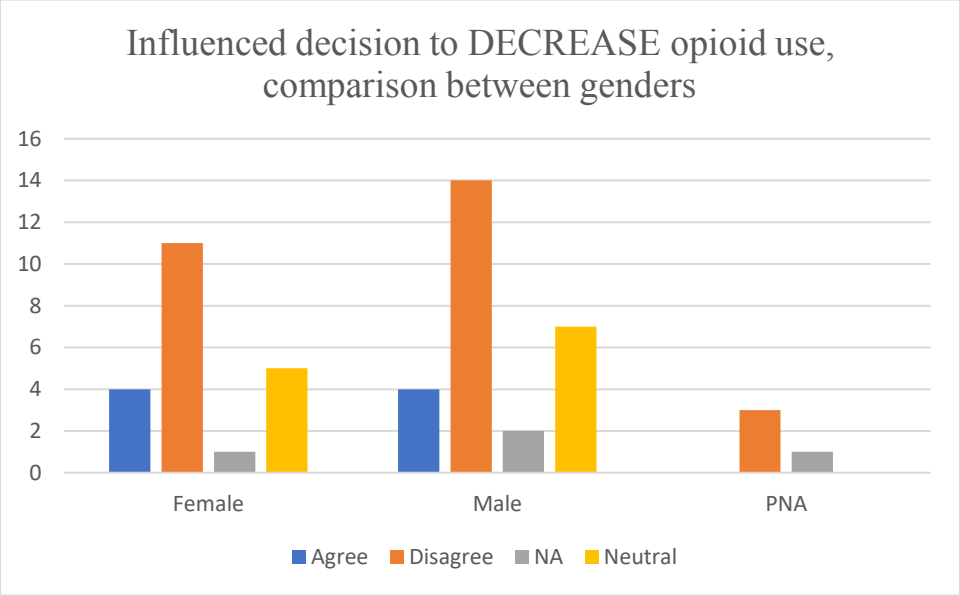
Question 3: “Opioid education influenced decision to decrease use of opioids.”



Q3: Influenced decision to decrease opioid use

Age years	Agree	Disagree	NA	Neutral	Total	Percent
25-34	1	1			2	4%
35-44	1	5		3	9	17%
44-54	1	1			2	4%
45-54		4		2	6	12%
55-64	2	7	2	3	14	27%
65-74	2	4	1	3	10	19%
75-84		1		1	2	4%
85-94	1	4			5	10%
PNA		1	1		2	4%
Total	**8**	**28**	**4**	**12**	**52**	**100%**

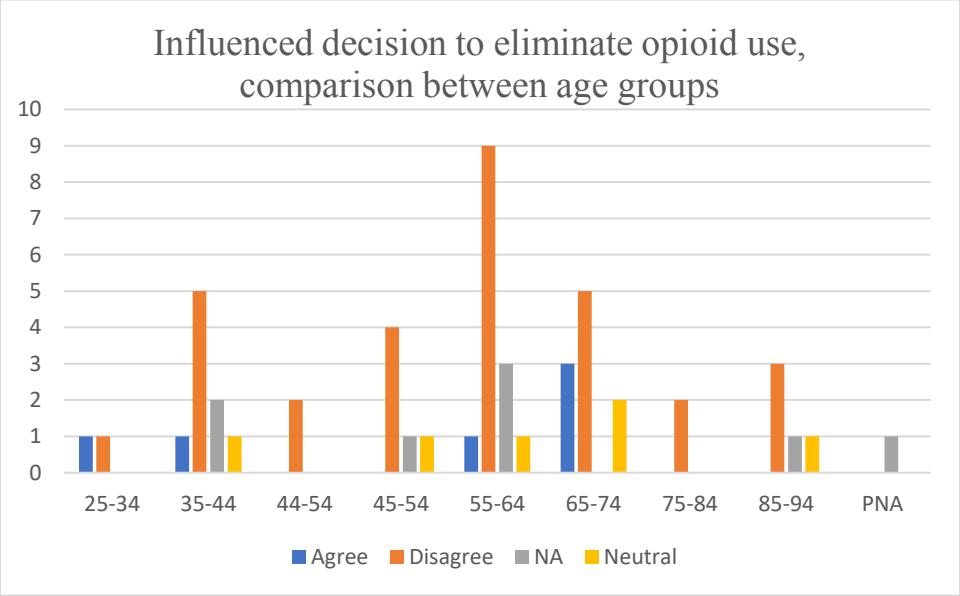
Q3 (cont.): “Opioid education influenced decision to decrease use of opioids.”



Q3: Influenced decision to decrease opioid use

Gender	Agree	Disagree	NA	Neutral	Total	Percent
Female	4	11	1	5	21	40%
Male	4	14	2	7	27	52%
PNA		3	1		4	8%
Total	**8**	**28**	**4**	**12**	**52**	**100%**

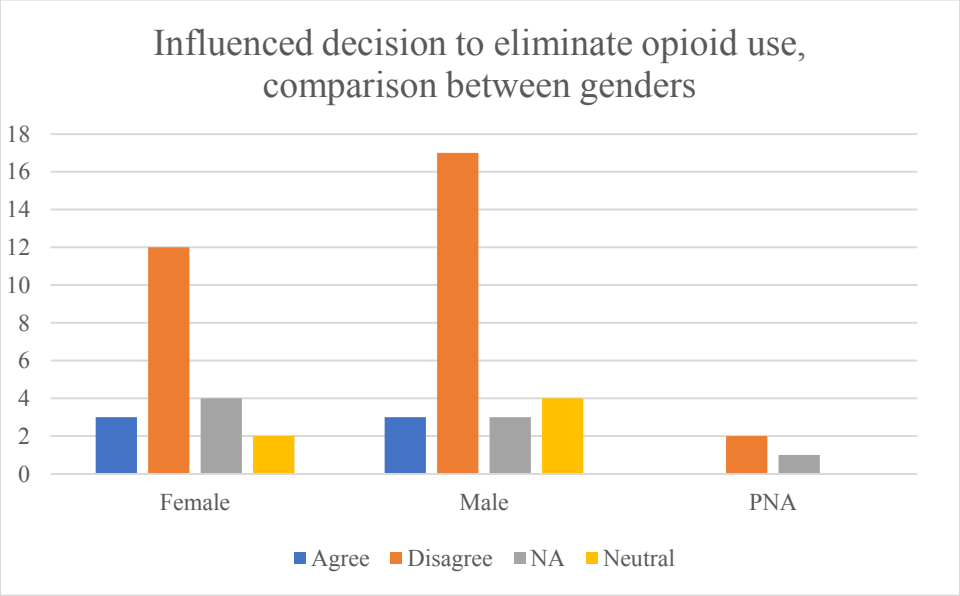
Question 4: “Opioid education influenced decision to eliminate opioid use.”



Q4: Influenced decision to eliminate opioid use

Age years	Agree	Disagree	NA	Neutral	(blank)	Total	Percent
25-34	1	1				2	4%
35-44	1	5	2	1		9	17%
44-54		2				2	4%
45-54		4	1	1		6	12%
55-64	1	9	3	1		14	27%
65-74	3	5		2		10	19%
75-84		2				2	4%
85-94		3	1	1		5	10%
PNA			1		1	2	4%
Total	**6**	**31**	**8**	**6**	**1**	**52**	**100%**

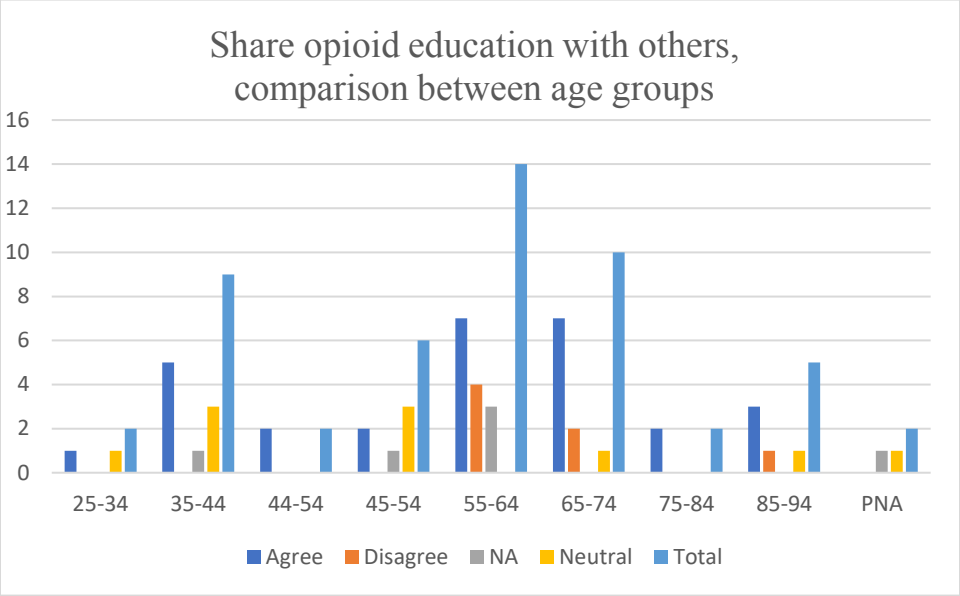
Q4 (cont.): “Opioid education influenced decision to eliminate opioid use.”



Q4: Influenced decision to eliminate opioid use

Gender	Agree	Disagree	NA	Neutral	(blank)	Total	Percent
Female	3	12	4	2		21	40%
Male	3	17	3	4		27	52%
PNA		2	1		1	4	8%
Total	**6**	**31**	**8**	**6**	**1**	**52**	**100%**

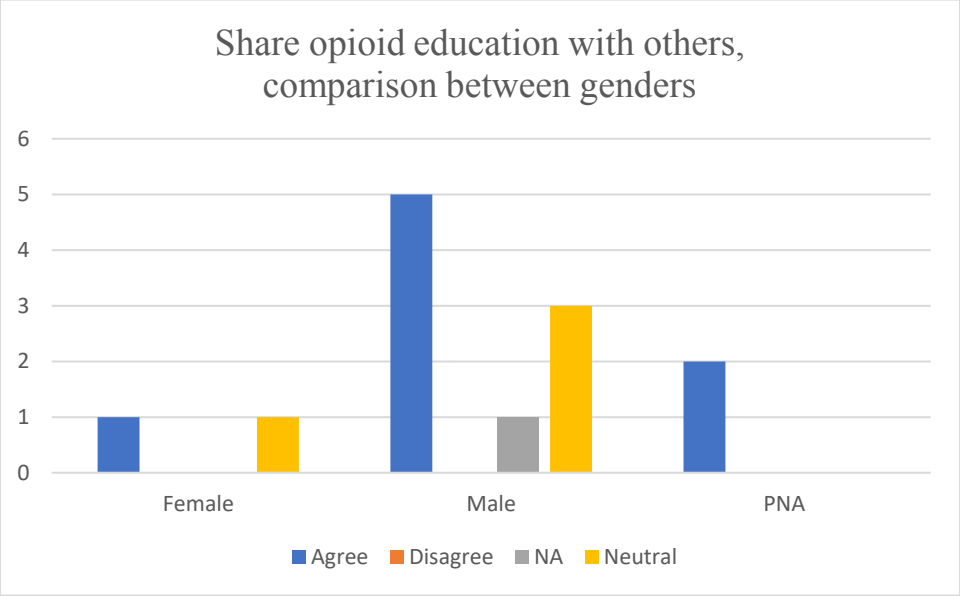
Question 5: “I will share the opioid education toolkit with others.”



Q5: Will share opioid education with others

Age years	Agree	Disagree	NA	Neutral	Total	Percent
25-34	1			1	2	4%
35-44	5		1	3	9	17%
44-54	2				2	4%
45-54	2		1	3	6	12%
55-64	7	4	3		14	27%
65-74	7	2		1	10	19%
75-84	2				2	4%
85-94	3	1		1	5	10%
PNA			1	1	2	4%
Total	**29**	**7**	**6**	**10**	**52**	**100%**

Q5 (cont.): “I will share the opioid education toolkit with others.”



Q5: Will share opioid education with others

Gender	Agree	Disagree	NA	Neutral	Total	Percent
Female	14	2	1	4	21	40%
Male	14	5	3	5	27	52%
PNA	1		3		4	8%
Total	**29**	**7**	**7**	**9**	**52**	**100%**

Appendix G

Table of Evidence

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Alford, D. P., Zisblatt, L., MSc, P. N., Hayes, S. M., Peloquin, S., Hardesty, I., & White, J. L. (2016). Scope of pain: an evaluation of an opioid risk evaluation and mitigation strategy continuing education program [Original research article, Education & training section]. Pain Medicine, 17, 52-63. https://doi.org/10.1111/pme.12878	Clinicians struggle to balance benefits with harm associated with opioid prescribing.	SCOPE of Pain is based on the FDA Blueprint. Live programs had 20 half-day meetings in the U.S. Live & online curricula are identical. Practitioners applied the principles to a clinical scenario.	Data from over 5000 participants of the original Opioid Prescribing program were used. Boston Univ. IRB determined study to be exempt.	Profession Specialty Years of Practice Participation type (online or live)	Measurement was by a pre- and post-assessment.	Used IBM SPSS 22.0 software Paired t-tests used to identify participant knowledge change and knowledge maintenance.	The SCOPE of Pain program improved knowledge, attitudes, confidence, and self-reported clinical practice in safe opioid prescribing.	Knowledge Intention to change Communication with patients	While pain management education remains inadequate, it is a key strategy to address the prescription opioid misuse problem. Appraisal level 3 non-experimental systematic review
Ho, S., Ahmad, L. W., Christopher, C. H., Tan, Z., Nursharifah, M. S., Choy, Y. C., ... Sharaf, I. (2015). The impact of a patient education package on outcomes of pain management following orthopaedic surgery in a tertiary hospital in Malaysia [Original article]. Med & Health, 10(1), 58-65. Retrieved from Bradley University Librarian.	To observe whether pre-operative patient teaching using a written, verbal, and visual tool increases patient education retention after surgery.	Conducted in the Orthopaedic Surgery Wards of UKMMC hospital in Malaysia	Participants chosen through "convenience sampling" when scheduled for surgery. Ethics: approved by the Ethics Committee of University Kebangsaan Malaysia Medical Centre (UKMMC). Written, informed consent of individual patients.	Demographic data; cultural variances, male, female, education, history of prior surgery	Boyd-Seale et al modified BQ-13, Likert scale.	SPSS version 21. Relationship between sociodemographic variables with the BQ-13 of orthopaedic surgery patients were analyzed by inferential statistic analysis using student t-test and AVNOVA	Reduction between pre-test and post-test scores of pain belief and management among patients undergoing orthopaedic surgery. Decrease in scores were statistically significant which implicates the effectiveness of pain education package in this study.	Used a Pain Education Package; included info on pain and medications, side effects.	Outcomes showed that a teaching intervention other than simply verbally discussing will increase knowledge retention of opioid education. Appraisal level 1 randomized controlled study (RCT) evidence synthesis

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
De La Cruz, M., Reddy, A., Balankari, V., Epner, M., Frisbee-Hume, S., Wu, J., … Bruera, E. (2016, October 14). The impact of an educational program on patient practices for safe use, storage, and disposal of opioids at a comprehensive cancer center [Research article]. The Oncologist, 22, 115-121. https://doi.org/http://dx.doi.org/10.1634/theoncologist.2016-0266	To improve unsafe opioid practices.	Palliative care (PC) pain clinic; provided educational material (EM) to every patient who received an opioid prescription. Surveyed before and afterward if knowledge and practices improved.	University of Texas	Demographics; types of cancer, employment, education, stage of cancer, race, gender, and other factors were considered.	Self-administered survey	Chi-square test or Fisher's exact test, as appropriateWilcoxon rank-sum test	Patient education can improve knowledge and modify behavior if delivered in a simple and clear manner.	Two-page written material opioid education	Similar to own project. Appraisal level 2 quasi-experimental study
Tannenbaum, C., Martin, P., Tamblyn, R., Benedetti, A., & Ahmed, S. (2014, April 14). Reduction of inappropriate benzodiazepine prescriptions among older adults through direct patient education; the EMPOWER cluster randomized trial [Research original investigation article]. JAMA Intern Med., 174(6), 890-898. https://doi.org/10.1001/jamainternmed.2014.949	To compare the effect of a direct-to-consumer educational intervention against usual care on benzodiazepine therapy discontinuation in community-dwelling older adults.	Pharmacies randomized to the educational intervention.	148 participants plus 155 control group participants.	Comorbidities Demographics Polypharmacy	8-page educational booklet. Follow-up surveys with patients 6 months after intervention (30-minute telephone calls).	ITT analyses	Direct-to-consumer education effectively elicits shared decision making around the overuse of medications that increase the risk of harm in older adults.	Patients tapered doses then discontinued them. 58% of patients successful due to this education.	Booklet based on social constructivist learning and self-efficacy theory. Booklet set at a sixth-grade reading level in 14 pt font. Level 1 RCT with 2 groups

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
, B., Somasundaram, S., Mogi, J., Burns, R., Hoonpongsimanont, W., Wiechmann, W., & Lotfipour, S. (2018). Randomized pilot trial measuring knowledge acquisition of opioid education in emergency department patients using a novel media platform [Report]. Substance Abuse, 39(1), 27-31. https://doi.org/10.1080/08897077.2017.1375061	Determine whether an educational intervention via a brief video discharge instruction could achieve higher knowledge acquisition than does the current standard of care (written/verbal) dc instructions.	2 control groups; one used the animation video (6 minutes long) and the other used usual care.	Emergency Room	Control group unable to be consistent due to different styles and how busy the nurses were.	Survey with knowledge-based questions that patients could answer correct or wrong.	Data analysis not detailed	The animated video allowed more knowledge retention than usual care.	Discharge instructions for opioids whether the patient had chronic or acute pain.	Different means of instructing and educating patients. Level 1 RCT
Costello, M., Thompson, S., Aurelien, J., & Luc, T. (2016, September-October). Patient opioid education: research shows nurses' knowledge of opioids makes a difference [CNE series]. MEDSURG Nursing, 25(5), 307-333.	Determine if an educational intervention improved nurses' and subsequently patients' knowledge of the safe use of opioids.	Quasi-experimental pretest/post-test to evaluate nurse' knowledge of opioids	Patients on a GI surgical unit who were discharged with an oral opioid prescription were followed up with a phone survey about their opioid teaching.	Intervention vs. usual care	Nurses received a 40-minute opioid education prior to teaching patients	Data analysis N/A	The patients who received opioid education increased after nurses were taught about them	Safe storage of opioids, disposal of opioids, decreased use of opioids when pain decreased, avoidance of opioid use other than for pain, not sharing opioids	Types of education (instructional sheet), verbal plus written opioid education. Level 2 systematic review evidence synthesis

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Alexandridis, A., McCort, A., Ringwalt, C. L., Sachdeva, N., Sanford, C., Marshall, S. W., ... Dasgupta, N. (2017). A statewide evaluation of seven strategies to reduce opioid overdose in North Carolina. Injury Prevention. Abstract retrieved from https://injuryprevention.bmj.com/content/24/1/48.citation-tools	Evaluation of Project Lazarus, a centralized statewide intervention designed to prevent opioid overdose.	Observational intervention study of seven strategies in 74/100 North Carolina counties implemented during the intervention.	Sample: 74 of 100 NC counties	Difficult to ascertain (abstract only)	Exposure data: process logs, surveys, treatment interviews, prescription drug monitoring data.	Poisson regression used to estimate rates during preintervention (2009-2012) and intervention periods (2013-2014). Adjusted IRR. Time-lagged regression models.	Provider education was associated with lower overdose mortality.	Provider education related to pain management and addiction treatment, and ED policies limiting opioids showed modest immediate reductions in mortality.	Patient and provider opioid education. Level 3 non-experimental
Albert, S., Brason, F. W., Sanford, C. K., Dasgupta, N., Graham, J., & Lovette, B. (2011). Project Lazarus: community-based overdose prevention in rural North Carolina [Wiley Periodicals]. Pain Medicine, 12, S77-S85.	Overdose prevention program	Five components; community activation and coalition building; monitoring and surveillance data; prevention of overdoses; use of rescue medication for reversing overdoses by community members, and evaluating project components.	Wilkes County in Western North Carolina. Pre-intervention situation: the Wilkes County mortality rate for prescription opioid pain relievers was quadruple that of the rest of the state in 2009.	Limited to each intervention and application	Include activities aimed at reducing mortality rate from prescription opioid overdose.	Physicians' prescribing behaviors changed after exposure to the peer-medicated education and after receiving the tool kit.	Community-based prevention education: school-based education and pledge cards, red ribbon campaign, warnings not to share (attached to prescription opiate medication packages), etc.	Several interventions, including naloxone priority groups and risk factors for opioid-induced respiratory depression.	Educational interventions and types. Level 3 non-experimental qualitative study evidence synthesis

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Alsaffar, H., Wilson, L., Kamdar, D. P., Sultanov, F., Enepekides, D., & Higgins, K. M. (2016). Informed consent: do information pamphlets improve post-operative risk-recall in patients undergoing total thyroidectomy: prospective randomized control study. Journal of Otolaryngol Head & Neck Surgery, 45(14). Abstract retrieved from https://www.ncbi.nlm.nih.gov/pubmed/26873163 (Accession No. doi 10.1186/s40463-016-0127-5)	Investigates whether giving patients procedure-specific handouts pre-operatively improves overall risk-recall following surgery	Randomly assigned patients are given a pamphlet as part of their informed consent teaching prior to surgery	Patients undergoing total thyroidectomy	Randomized pts receiving usual teaching or verbal plus pamphlet written education	Pamphlet pre-op and recall test post-operatively	Statistically significant differences between the two groups in regard to both interview duration and in time between interview and in recall tests	Recall for usual care group was 80% while the pamphlet group was 83% (made very little to no difference)	12 questions on recall test with 2 domains. Questions tested patients on info about post-op risks, and questions about management of those highlighted post-op complications and appropriate corrective action steps	Verbal plus written information Level 1 RCT
Bozimowski, G. (2012). Patient perceptions of pain management therapy: a comparison of real-time assessment of patient education and satisfaction and registered nurse perceptions. Pain Management Nursing, 13(4), 186-193. Abstract retrieved from doi.org/10.1016/j.pmn.2010.04.004	To understand patient's perception of pain and increase their satisfaction of pain management.	Used tool to survey patients after nurses taught them about pain management options.	Hospital setting	Nurses' perception of patients' self- ratings correlated.	Simple survey tool for patients	Not explored (only able to get abstract for free)	Patient satisfaction increased with adequate teaching and therapy for pain management.	Patient education	Nursing education, pain management, results of teaching. Leve 3 non-experimental study

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Smith, D. H., Kuntz, J., DeBar, L., Mesa, J., Yang, X., Boardman, D., & Schneider, J. (2018). A qualitative study to develop materials educating patients about opioid use before and after total hip or total knee arthroplasty. Journal of Opioid Management, 14(3), 183-190. Abstract retrieved from doi: 10.5055/jom.2018.0448 (Accession No. 30044483)	Educational materials to support pain management and opioid reduction. To understand patients' educational needs when undergoing these surgeries.	Provider interviews	Interviewees: surgeons, advice nurses, physical therapists, physician assistants, and patients who had recent THA/TKA surgery.	Patients getting 1 of the two types of ortho surgeries	Qualitative study	Not indicated on abstract	Results: recommendations for patient educational content	How opioids work, non-opioid pain management options, problems from overuse, how long to expect to be on opioids, visual timeline to illustrate opioid tapering, emphasis on pain management is multimodal, balance opioids for recovery vs overuse, repetition of education multiple times before and after surgery	Conclusions: patients and providers agreed that clearly stated verbal and written messaging is needed beyond what has typically been done regarding opioid expectations Level 3 non-experimental qualitative study
McCarthy, D. M., Wolf, M. S., McConnell, R., Sears, J., Chevier, A., Ahlstrom, E., ... Courtney, M. (2015). Improving patient knowledge and safe use of opioids: a randomized controlled trial. Academic Emergency Medicine, 22, 331-339. https://doi.org/10.1111/acem.12600	Evaluate the effect of a dual-modality (written and spoken) literacy-appropriate educational strategy on patients' knowledge of and safe use of opioid analgesics.	With new prescriptions for hydrocodone-acetaminophen pts were given a 1-page info sheet which was also read by the research assistant (non-blinded). Followed up 4-7 days later to test knowledge retention and actions regarding opioids.	An urban, academic ED at patient discharge	Intervention group vs "usual care" group	Phone calls to follow up.	Statistics calculated for demographic variables and reported for entire sample, as well as by study arm. Chi-square test, t-tests, Fisher's exact test.	The intervention group had better knowledge of opioid precautions.	Resulted in fewer pts driving while taking hydrocodone.	To reinforce verbal opioid education with written; study shows this improves knowledge retention. Level 1 RCT

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Frank, J. W., Levy, C., Matlock, D. D., Calcaterra, S. L., Mueller, S. R., Koester, S., & Binswanger, I. A. (2016). Patients' perspectives on tapering of chronic opioid therapy: a qualitative study [Original research article]. Pain Medicine, 17, 1838-1847. https://doi.org/10.1093/pm/pnw078	Qualitative study to facilitate detailed examination of patients' perspectives.	Qualitative, interviews	Sampling strategy of patients in three different phases of Chronic Opioid Tapering (COT)	Those currently on opioid medications without tapering, those currently tapering COT, and discontinued COT within the past 3 years.	Interview guide	Mixed deductive and inductive approach	Identified emergent themes in four domains: perceived risks, barriers, facilitators, and benefits.	Verbal teaching and support, encouragement from primary care provider increased success.	Physicians teaching patients about opioids (verbal only). Level 3 non-experimental study
Gryczynski, J., Mitchell, S. G., Gonzales, A., Moseley, A., Peterson, T. R., Ondersma, S. J., ... Schwartz, R. P. (2015, March). A randomized trial of computerized vs. in-person brief intervention for illicit drug use in primary care: outcomes through 12 months. Journal of Substance Abuse Treatment, 50, 3-10. https://doi.org/10.1016/j.jsat.2014.09.002	Premise that computerized brief intervention (CBI) may be more advantageous to an in-person brief (IBI) with the sensitive topic of drug use.	CBI group was compared to the IBI group then followed for elimination of drug use.	Control trial conducted in a health clinic. Ethics: some of the participants could not be followed to the end of the 12-months since they had either been incarcerated or died.	CBI could be useful when there are limited staff to teach in-person.	Various tools for statistical analysis and measurement of participants	Power estimated using Stroup's procedure. Power to detect small mean differences over time exceeded .8 0 in all simulations	In some instances, one was better than the other (CBI vs. IBI); no significant measurable difference was noted.	Themes: intervention to influence patients to eliminate opioid and substance abuse. Computerized tool vs. in-person education compared.	Applicability: alternate type of opioid education tool. Level 1 RCT

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Ondersma, S. J., Svikis, D., Thacker, L., Beatty, J. R., & Lockhart, N. (2014, January). Computer-delivered screening and brief intervention (e-SBI) for postpartum drug use: a randomized trial. Journal of Substance Abuse Treatment, 46(1), 1-17. https://doi.org/10.1016/j.jsat.2013.07.013	Study designed to replicate the results of Ondersma et al (2007) with respect to postpartum drug use.	One group interacted with a computerized animated cartoon character who was programed to react in a non-judgmental, empathetic, and non-threatening way to guide viewer toward eliminating or not re-starting drug use.	Participants were in multiple sites and randomized in Detroit, with only private rooms for recovery after childbirth.	Usual care group vs. intervention group	Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) developed by the World Health Organization.	7-day point-prevalence abstinence using a Timeline Follow-Back approach, urinalysis and hair analysis	After 6 months the intervention group had a higher rate of drug use than the control group. Biologically confirmed with hair analysis in 6 months, 26.4% vs. 9.9%.	Reaching out with interventions to curb opioid use when patients are in a teachable condition.	Opioid education in the pain clinic is an ideal time to encourage tapering or elimination of opiates. Level 1 RCT
Brason, F. W., Castillo, T., Dasgupta, N., Ferrell, N., Irwin, J., Mack, K., ... Varnell, D. (2015). Lessons learned from implementing project Lazarus in North Carolina [White paper]. Retrieved from Injury Prevention Research Center, University of North Carolina at Chapel Hill: https://www.ruralhealthinfo.org/project-examples/870	To summarize lessons learned from implementation of Project Lazarus.	Two webinars on lessons learned from Project Lazarus were presented and summarizing conclusions.	University of North Carolina at Chapel Hill	Not a study or RCT	Discussion and observation of interventions	N/A	Lessons learned show that impact of implementation take time. Most important: continuation of this project as a successful collaboration	Each of the various strategies included int eh model's hub and spokes, including the difficulties encountered relative to each – some are resolves and others will continue. The work requires continued attention to reduce opioid overdose and abuse.	Types of education and interventions Level 4 committee consensus panel based on scientific evidence

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Griffey, R. T., Shin, N., Jones, S., Aginam, N., Gross, M., Kinsella, Y., ... Kaphingst, K. A. (2015). The impact of teach-back on comprehension of discharge instructions and satisfaction among emergency patients with limited health literacy: a randomized, controlled study. Journal of Communication in Healthcare, 8, 10-21. https://doi.org/10.1179/1753807615Y.0000000001	To evaluate the efficacy of teach-back in improving comprehension at the time of discharge among LHL patients in the ED setting	RCT of teach-back vs. standard discharge instructions	Urban academic ED and level 1 trauma center with over 95K annual visits	Usual care group vs. intervention group	Patients screened with the REALM-R, randomized pts received the teach-back technique by the ED nurses	Used SAS version 9.4	Teach-back did not increase knowledge retention after 2 weeks, although it did in the short-term (but not the patient's perception of knowledge retention nor satisfaction with teaching).	Patients were asked about diagnosis, ED course, post-ED care, reasons to return and satisfaction	Teaching techniques and tools to be applied to opioid education; i.e. high-risk situations Level 1 RCT
Waszak, D. L., Mitchell, A. M., Ren, D., & Fennimore, L. A. (2018, July). A quality improvement project to improve education provided by nurses to ED patients prescribed opioid analgesics at discharge. Journal of Emergency Nursing, 44, 336-344. https://doi.org/10.1016/j.jen.2017.09.010	To develop, implement, and evaluate an evidence-based approach to educating patients discharged from the ED with opioids.	Gave patients an information sheet about opioids, teach-back included comprehension of the 3 talking points, nurses were trained on the topic before project implementation	University of Pittsburgh Medical Center Presbyterian Hospital, level 1 regional trauma center	Nurse and patient experience	Written material, pre and post-tests to compare patient knowledge before and after opioid teaching	Paired-t	100% of patients reported clear understanding of how to take their pain med, and 88.2% learned something new about how to safely take, store, or dispose of their pain medication	Opioid teaching with written material, verbal instruction, and teach-back approach	Information sheet printed out on patient's HER Level 2 quasi-experimental study

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Rose, P., Sakai, J., Argue, R., Froehlich, K., & Tang, R. (2015, May). Opioid information pamphlet increases postoperative opioid disposal rates: a before versus after quality improvement study. Reports of Original Investigations, 63, 31-37. https://doi.org/10.1007/s12630-015-0502-0	To determine whether the introduction of a simple low-cost opioid education pamphlet would increase the rate of proper opioid stage and disposal and safe opioid weaning practices in patients undergoing elective primary hip and knee arthroplasty.	Opioid education pamphlet on the EHR was developed by pain anesthesiologists and nurses.	University of British Columbia Hospital	Usual care group vs. intervention group	Pamphlet alone; no verbal education; pts told to read the pamphlet in post-op.	Power calculation determined that 88 patients per group would be required.	The rate of self-reported proper opioid disposal was more than fivefold greater in patients receiving an opioid education pamphlet than in those with standard care.	Written material increases knowledge comprehension and retention.	Dissemination of a low-cost written information pamphlet printed off the patient's EHR Level 2 quasi-experimental study
Martin, P., Tamblyn, R., Ahmed, S., & Tannenbaum, C. (2013, February). A drug education tool developed for older adults' changes knowledge, beliefs and risk perceptions about inappropriate benzodiazepine prescriptions in the elderly. Patient Education and Counseling, 92, 81-87. https://doi.org/10.1016/j.pec.2013.02.016	To develop and test an educational tool targeted directly to older consumers on the risks of benzodiazepine use in the geriatric population	Participants were randomized to immediately receive an educational intervention to reduce inappropriate prescripts or to a six-month wait-list group.	Aged 65 years or older in Montreal, Canada	Ages of participants, number of medications they are already on	Brochure cover states, "You may be at risk" and includes a knowledge test. The information also contains a simple, 21-week tapering program.	Participant characteristics were summarized using means with standard deviations for continuous data and percentages for categorical data. Then groups were divided between those who perceived risk after one week and those who did not.	Brochure was effective in changing medication risk perceptions in 45% of older chronic users due to heightened risk perception from changes in knowledge and beliefs about benzos.	Information about a habit-forming, high risk medication especially in the elderly	Written information, older population, tapering or discontinuance of drug. Level 2 quasi-experimental study

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Yajnik, M., Hill, J. N., Hunter, O. O., Howard, S. K., Kim, T. E., Harrison, T. K., & Mariano, E. R. (2018, September). Patient education and engagement in postoperative pain management decreases opioid use following knee replacement surgery. Patient Education and Counseling. https://doi.org/10.1016/j.pec.2018.09.001	Designed a simple pain management educational card for total knee surgery patients and retrospectively reviewed clinical data before and after implementation to test the hypothesis that more informed patients will use less opioid.	Approval, designed card, distributed to patients, gathered and analyzed data.	Surgical environment	Patient's background and experience with pain.	The cared was designed using a modified Delphi method; the front explained all analgesic medications and the Defense and Veterans Pain Rating Scale was on the back.	Not detailed on abstract	20 patients in each group with no differences in baseline characteristics Total two-day MME was 71 (32-285) for PRE and 38 (1-117) for POST.	Written education about opioids	Written opioid patient education Level 2 quasi-experimental study

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Webb, J., Feinglass, J., Makoul, G., Wilkes, C., Dunham, D., Baker, D. W., & Wolf, M. S. (2010). Can electronic medical records help improve patients' understanding of medications: Improving medication understanding with the EMR. American Journal of Managed Care, 16, 919-922. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4131729/	Using the patient's electronic health record to improve medication management with a pre-visit review of med list and a plain language new medication information sheet to provide with every new prescription.	Patients asked about discrepancies concerns and questions in their electronic medical record summary.	Northwestern University granted IRB permission	Various medications individual patients were on. Randomized patient selection.	Interview with the patients concerning their electronic medical record and resolving discrepancies. 250 medication teaching sheets were developed for the top-prescribed medications. Formatting for each is the same. These sheets will be automatically printed and given to patients with each new prescription at checkout	Not indicated	191 patients were interviewed; 38.7% had at least 10 prescription medicines; 77% had at least 5 meds listed, 23% had 1-4 prescriptions. 4/5 patients had some type of discrepancy with the EMR summary.	Medications on the EMR, teaching sheets about new meds, finding and resolving med discrepancies	Rapid dissemination of patient education; may print off from the EMR at the visit Level 2 quasi-experimental stud

Study	Purpose	Design	Setting	Variables	Tools	Data	Findings	Concepts	Apply to own research
Blanco, C., Iza, M., Schwartz, R. P., Rafful, C., Wang, S., & Olfson, M. (2013, January 8). Probability and predictors of treatment-seeking for prescription opioid use disorders: a national study [special section]. Drug and Alcohol Dependence, 131(0), 143-148. http://dx.doi.org/	Very little known about the help-seeking behavior among individuals with OUD	Sample included respondents of the Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions with a lifetime diagnosis of prescription drug use disorders. Treatment seeking characteristic	Civilian, non-institutionalized population 18 years and older	Anxiety disorders, phobias, PTSD, personality disorders	Interviewed respondents from Wave 1	Respondents with lifetime prescription opioid drug use disorders weighted cross-tabulations to calculate those who had sought treatment for prescription OUD	Lifetime cumulative probability of treatment seeking was 42% and median delay form OUD to first treatment was 3.83 years	Some comorbid psychiatric disorders increase the rate of treatment seeking. Need to improve detection and treatment of OUD.	Opioid education toolkit seeks to influence those with OUD to seek treatment to decrease or eliminate prescription opioids.
Shipman, J. P., Lake, E. W., Van Der Volgen, J., Doman D. (2016, April). Provider documentation of patient education: a lean investigation. Journal of the Medical Library Association (JMLA) 104(2). Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4816478/	Study evaluates how providers give patient education materials and identifies improvements to comply with Meaningful Use (MU) requirements.	A flow diagram of perceived current state of patient education documentation was created based on team's knowledge of outpatient encounters.	University of Utah Health Care academic health care system; 4 hospitals, several specialty centers, and 11 neighborhood community clinics.	38 patient provider interactions in two health care outpatient clinics were observed.	Shadowing tool recorded each patient provider encounter. The observer used the tool to document who searched for and provided patient education, what type, did documentation occur, and how easy was it to locate materials.	Data were analyzed comparing the two clinics where observed.	Providers do not uniformly know MU patient education requirement. Providers have individual preferences and find gaps in what is available. EHR materials have technical access barriers.	Providers' EHR skills and knowledge levels contribute to non-standardized patient education delivery.	Required patient teaching is one reason for the written opioid education tool kit development.