EVALUATION OF A SURVEY OF CURRENT CLINICAL AND OPIOID PRESCRIBING PRACTICES IN THE TREATMENT OF CHRONIC NON-TERMINAL PAIN IN ARIZONA

by

Jill Ray Weinstein

A DNP Project Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements
For the Degree of

DOCTOR OF NURSING PRACTICE

In the Graduate College

THE UNIVERSITY OF ARIZONA

2 0 1 5

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the DNP Project Committee, we certify that we have read the DNP Project prepared by Jill Ray Weinstein entitled "Evaluation of a Survey of Current Clinical and Opioid Prescribing Practices in the Treatment of Chronic Non-terminal Pain in Arizona" and recommend that it be accepted as fulfilling the DNP Project requirement for the Degree of Doctor of Nursing Practice.

_____ Date: November 3, 2015
Cathy L. Michaels, PhD, RN, FAAN

_____ Date: November 3, 2015
Heather L. Carlisle, PhD, DNP, RN-BC, FNP-BC, AGACNP-BC

_____ Date: November 3, 2015
Christy L. Pacheco, DNP, FNP-BC

Final approval and acceptance of this DNP Project is contingent upon the candidate's submission of the final copies of the DNP Project to the Graduate College.

I hereby certify that I have read this DNP Project prepared under my direction and recommend that it be accepted as fulfilling the DNP Project requirement.

_____ Date: November 3, 2015
DNP Project Director: Cathy L. Michaels, PhD, RN, FAAN

_____ Date: November 3, 2015
DNP Project Director: Heather L. Carlisle, PhD, DNP, RN-BC, FNP-BC, AGACNP-BC

STATEMENT BY AUTHOR

This DNP Project has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this DNP Project are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his or her judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: __Jill Ray Weinstein_____

ACKNOWLEDGMENTS

My gratitude and thanks to Dr. Cathy Michaels who supported each project idea I've had over the years as if it were "the one" until, with her impetus, this project was "the one." Dr. Michaels and Dr. Heather Carlisle tirelessly reviewed my work, sharing with me their scholarly knowledge, quick wit, and support.

I am enormously thankful to Dr. Christy Pacheco for contributing her expertise throughout the research process allowing me the privilege of working on this project.

Thanks to several outstanding professors Dr. Loescher, Dr. Martin-Plank, Dr. McArthur, Dr. McEwen, and Dr. Ritter, for their commitment to academic rigor, imparting their expertise and challenging me to analyze, synthesize and critically evaluate content related to the discipline of nursing.

TABLE OF CONTENTS

LIST OF FIGURES 7

LIST OF TABLES 8

ABSTRACT 9

INTRODUCTION 10
Background Knowledge 10
Definitions 10
A Perfect Storm 11
Impact 12
Local Problem 12
Guidelines: An Integral Factor in Problem Resolution 13
Intended Local Improvement 14
Study Questions 15

FRAMEWORK 16
Theoretical Underpinnings 16
Evidence Synthesis 19
Evaluation of the Evidence 20
Opioids in the Management of Chronic Non-terminal Pain 20
Barriers to Opioid Prescribing 21
Facilitators to Opioid Prescribing 21
Providers' Perception of Patients' Barriers to Opioid Use 22
Logistical Factors 22
Gaps in Literature 23

METHODS AND DESIGN 23
Project Design 23
Overview of the Survey Evaluation 24
Phase I: Formulating and Formatting Survey Questions 24
Survey Development 24
Survey Content 26
Survey Demographics 26
Survey Format 27
Phase II: Survey Evaluation 28
Ethical Issues 29
Timeline 30
Data Analysis 31

RESULTS 31
Survey Evaluation Response 32
Arizona IP PBRN Interprofessional Content Evaluation Results 33
Demographic category. 33
Provider relationship to CP patients being treated with opioids. 34

TABLE OF CONTENTS – *Continued*

Initiating opioid pain care management. 35
Initiating opioid pain care agreements. 35
Items to be included in an opioid pain agreement. 36
Urine drug screens. 37
Access to AZ CSPMP database. 38
Expert Primary Care Providers' Evaluation 39
Overall Evaluation 39
Demographics – Practice Setting 40
Common practices performed prior to initiating opioids for CP patients. 41
Opioid pain care agreements. 42
Items to be included in an opioid pain care agreement. 43

DISCUSSION 47
Summary 47
Modifications 47
Practice Setting 48
Evaluations and assessments performed prior to opioid treatment. 48
Terminology. 48
Limitations 49
Strengths 50
Interpretations 50

CONCLUSION 51
Usefulness of the Work 51
Implications of Project and Suggested Next Steps 51

APPENDIX A: SURVEY EVALUATIONS 53
A1: ARIZONA IP PBRN CONTENT SURVEY EVALUATION 54
A2: EXPERT PRIMARY CARE PROVIDER SURVEY EVALUATION 63

APPENDIX B: PRIMARY CARE PROVIDER EVALUATION – RESPONSE TABLE FOR CLOSE-ENDED EVALUATION QUESTIONS 78

APPENDIX C: FINAL SURVEY INSTRUMENT 80

APPENDIX D: HUMAN RESEARCH REVIEW CORRESPONDENCE 88

REFERENCES 90

LIST OF FIGURES

FIGURE 1. Logic Model of Survey Development.....28
FIGURE 2. Timeline of Evaluation Survey Creation 31

LIST OF TABLES

TABLE 1. *Provider and practice setting demographics.* 34

TABLE 2. *Evaluation of Q12: Of patients treated for chronic pain . . . matrix with three (3) statements and five (5) multiple choice responses.* 34

TABLE 3. *Evaluation of Q15: Prior to initiating opioids for new chronic pain patients or refilling prescriptions for CP . . . matrix with five (5) statements and three (3) multiple choice responses.* 35

TABLE 4. *Evaluation of Q24: In regard to opioid pain care agreements or pain contracts . . . matrix with five (5) statements and three (3) multiple choice responses.* 36

TABLE 5. *Evaluation of Q28: Items included in the opioid pain care agreement . . . itemized list.* 37

TABLE 6. *Evaluation of Q32: A urine drug screen is performed . . . itemized list.* 37

TABLE 7. *Evaluation of Q36: The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed . . . itemized list with prompt.* 38

TABLE 8. *Evaluation of Q41: Access of the online AZ CSPMP database is performed by . . . three (3) multiple choice responses with prompt.* 39

TABLE 9. *Evaluation of Q5: How many patients are seen in your practice setting per month?* 40

TABLE 10. *Evaluation of Q8: On average, how many chronic pain patients do you see in a week?* 41

TABLE 11. *Evaluation of Q10: To determine rurality, please write your practice zip code . . . text box.* 41

TABLE 12. *Evaluation of Q18: When initiating opioids for new CP patients, what evaluations and assessments are performed . . . itemized list.* 42

TABLE 13. *Evaluation of Q29: Who facilitates the use of opioid pain care agreements for CP patients . . .* 43

TABLE 14. *Evaluation of Q35: In regard to opioid pain care agreements or pain contracts. . . itemized list.* 44

TABLE 15. *Evaluation of Q41: A urine drug screen is performed . . . itemized list.* 45

TABLE 16. *Evaluation of Q47: The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed . . . itemized list with prompt.* 46

TABLE 17. *Total responses for primary care providers' evaluation questions.* 46

ABSTRACT

Chronic non-terminal pain (CNTP) is defined as pain lasting longer than three months, serves no functional role in healing, lasts beyond normal tissue recovery time and is unresolved despite appropriate treatment. CNTP triggers a complex set of central nervous system responses and a decline in social function. Opioids have been used to treat moderate to severe pain when non-opioid analgesics have not been sufficient. Multiple factors have led to increased use and higher prescribing dosages of opioids to manage CNTP in primary care. Higher dosages of opioids are associated with higher risk of adverse events, including death. Nationally, between 1999 and 2011, opioid related deaths rose over 300%. In Arizona, 41% of drug mortality is attributed to opioids and in 2011, the state ranked fifth in the nation for opioid prescribing rates. Statewide, a multi-professional, multi-agency strategy has been initiated to address this problem. The impact evaluation of the prescribing initiative led by the Arizona Criminal Justice Commission has been positive but little information exists regarding prescribers' practice patterns, prescribers' knowledge of evidence based recommendations synthesized in the guidelines, or the barriers to safe opioid prescribing in Arizona. The Statewide Interprofessional Practice-Based Research Network (IP PBRN) identified chronic pain management as a top research priority during their planning conference in 2012. The purpose of this project was to create and formalize a survey, eliciting responses that describe current practice patterns and identify implementation barriers to evidence-based recommendations for prescribing and monitoring opioids for patients with CNTP in Arizona primary care settings.

INTRODUCTION

Background Knowledge

The Centers for Disease Control and Prevention (CDC) (2008) reports that pain is the most common reason people seek medical attention. In the general population, researchers estimate that 10% to 20% of adults experience chronic pain (Gatchel & Okifuji, 2006; Trescot et al., 2008). Chronic, uncontrolled pain not only impacts health but also is a major economic and societal burden (Trescot et al., 2008). Patients with chronic pain heavily utilize healthcare services, have high functional and emotional impairment, increased comorbidities and reduced quality of life (Gatchel & Okifuji, 2006). Chronic pain that is poorly treated can exacerbate co-morbidities like diabetes, hypertension, and inflammatory diseases. Poorly controlled chronic pain can negatively impact sleep disturbances, mood and mental health, sexual function, and mobility (Fine, 2011). In 2006, a survey by The American Pain Foundation showed that more than half of respondents felt they had no control over their pain; many experienced daily pain detrimentally impacting general well-being. The management of chronic pain is critical to minimizing long-term consequences.

Definitions

Chronic pain (CP) is commonly defined as “pain persisting longer than three months that has not resolved despite appropriate treatment” (Arizona Department of Health Services (ADHS), 2014; Hutchinson et al., 2007, p. 94). In contrast to acute pain, CP serves no functional role and lasts beyond normal tissue recovery time (ADHS, 2014; Berland & Rodgers, 2012). It triggers a complex set of central nervous system responses resulting in an altered pain perception and a decline in social function (Berland & Rodgers, 2012). Chronic pain may be traced to an

identifiable initial injury or can exist in the absense of injury or tissue damage (American Pain Foundation, 2006). Chronic non-terminal pain (CNTP) is defined as pain that is not related to end of life or caused by cancerous malignancy; the definition includes chronic pain non-cancerous pain, CNCP (ADHS, 2014).

Pain management is a multifaceted and complex task involving all aspects of a patient's life. Treatment options include nonpharmacologic and pharmacologic interventions in addition to treating comorbid conditions that often accompany chronic pain disorders (Jackman, Purvis, & Mallett, 2008). If the provider is unsuccessful in addressing pain, use of opioid may be initiated and has been shown to reduce the severity of acute pain, but not chronic pain (Manchikanti, Atluri, & Hansen, 2014; Mularski et al., 2006).

A Perfect Storm

Historically, most states prohibited the use of opioid treatment for chronic pain. In the 1990s, as the result of intense lobbying, state Medical Boards and policy-makers resolved to lift the prohibition of opioid medications for the management CNCP (Franklin, 2014; Gilson, Maurer, & Joranson, 2007; Manchikanti et al., 2014). At the time, guidelines were based on the assumption that sustained pain relief could be offered with opioid therapy and guideline wording suggested that there was no unsafe maximum dosage (Franklin, 2014). Additionally, principle guidelines implied that regulatory policy should not conflict with the scientific domain of medical knowledge and stated that "… physicians should not fear disciplinary action from the Board …" for prescribing opioids analgesics "for a legitimate purpose and in the usual course of professional practice" (Federation of State Medical Boards, 1998, p. 1). Two years later, in 2000, the Joint Commission on Accreditation of Healthcare Organizations, now known as The Joint

Commission, implemented pain as the fifth vital sign standardizing the assessment of pain in the inpatient and outpatient setting and validating a patients' right to pain relief (Manchikanti, Boswell, & Hirsch, 2013; Phillips, 2000). Meanwhile, physicians pushed for increasing use of opioids in treating chronic pain and pharmaceutical companies promoted opioids as a panacea for chronic pain (Manchikanti et al., 2012; 2013). Despite endorsement from medical boards, legislators, patients, pharmaceutical companies and physicians, no significant evidence existed to corroborate the efficacy of opioids in treating chronic pain (Franklin, 2014; Gilson et al., 2007; Manchikanti et al., 2014).

Impact

As a result, opioid sales increased from 96 milligrams per person to 7.1 kilograms per person between 1997 and 2010 (Manchikanti et al., 2013). The sizeable increase in sales has led to a greater availability in homes and on the streets. The average morphine equivalent dose (MED) prescribed for CNTP increased from less than 40mg/day MED to between 80mg/d MED and 140mg/d MED (Portenoy & Foley, 1986; Franklin et al., 2005). Nationally, opioid related deaths rose over 300% between 1999 and 2011, and in 2008, opioid analgesics were involved in more than 40% of all drug-poisoning deaths (CDC, 2011; Chen, Hedegaard, & Warner, 2014). Overall, opioid abuse in terms of workplace costs, healthcare costs and criminal justice costs totaled $55.7 billion dollars in 2007 (Birnbaum et al., 2011).

Local Problem

Arizona has the sixth highest drug overdose mortality rate in the United States, 41% due to opioids or opiates (Malone, 2013a). The state ranked fifth in the nation for opioid prescribing rates in 2011 (CDC, 2014). In 2013, 575 million Class II-IV pills were prescribed; hydrocodone

and oxycodone account for 82.6 % of prescribed pain relievers in Arizona (Malone, 2013a). Almost a third of all emergency department visits due to opioid abuse or dependency in Arizona, involve persons under 24 (Malone, 2013b). Finally, 3 out of every 1,000 babies born in Arizona suffer from neonatal abstinence syndrome primarily caused by maternal opiate use (Malone, 2013b).

Guidelines: An Integral Factor in Problem Resolution

Prescribers struggle to meet the expectations of their patients, while trying to ensure safety and quality. Clinical practice may be improved by designing guidelines that assist prescribers in making health care decisions to achieve safe delivery of care and quality health outcomes. Recent changes in the Arizona state prescribing guidelines for the treatment of chronic pain are intended to provide improved access to quality care while avoiding abuse and diversion. In order to reduce prescription opioid abuse, reduce morbidity and mortality and lessen societal costs, the CDC suggests three main focus areas: enhance surveillance, inform policy and improve clinical practice (CDC, 2012). In 2014, the Arizona Department of Health Services met to discuss the development of state opioid prescribing guidelines, to reduce high prescribing rates, reduce mortality rates (resulting from prescription drug misuse and abuse), and promote evidence-based practice. Considered a fundamental strategy to address the misuse and abuse of prescription drugs, many states have designed guidelines to assist the practitioner to safely prescribe opioids while providing appropriate treatment of pain. The CDC (2014) reviewed eight guidelines for prescribing opioids for chronic pain developed by professional agencies, states and federal agencies, between 2007 and 2013. Among the guidelines studied, common elements for opioid prescribing and management of patients' suffering with CNTP include pre-treatment patient

assessment and goal setting, initial treatment trial period, follow-up care and opioid discontinuation. The Arizona guidelines focused on these themes from national and state prescribing guidelines and complement existing Emergency Department Guidelines and the Pharmacy Dispensing Guidelines (ADHS, 2014). The state guidelines were developed with the support and input from state professional associations, licensing boards, academic institutions and practitioners. Despite stakeholder input, there a wide variation in the number of providers aware of the guidelines and guideline adherence is low (CDC, 2014).

Intended Local Improvement

During the Arizona Interprofessional Practice-Based Research Network (Arizona IP PBRN) conference in 2012, chronic pain management; including prescription drug abuse, pain contracts and prescription monitoring programs, were identified by those present as top clinical-practice research priorities. PBRNs seek to bridge the gap between recommended guidelines and actual care (Westfall, Mold, & Fagnan, 2007). By identifying problems that arise in clinical practice that create a guideline-care gap, demonstrating treatments that are effective in the practice setting, and providing a setting by which improvements to primary care can be tested, PBRNs' can connect scientifically based evidence with patients in the community. In order for the Arizona IP PBRN to gather information and feedback in relation to opioid prescribing patterns and chronic pain management; then need to design a focused survey emerged.

The purpose of this DNP project was to create and formalize a survey that would elicit responses that describe current practice patterns and identify implementation barriers to evidence-based recommendations for prescribing and monitoring opioids for patients with CNTP in Arizona primary care settings.

Study Questions

Survey questions address the following content in a clear, concise, and logical manner:

- Are primary care providers (PCPs) in Arizona aware/*familiar* with state recommendations – access to guidelines, providers' practice patterns in prescribing opioids, patient and provider demographics?
- What are some of the *workflow* limitations identified by PCPs – access to patient prescribing history, time and staff limitations, utilization of prescription monitoring program, frequency of adherence to and use of pain contracts with patients receiving narcotics?
- What are some of the *resource obstacles* PCPs identify in managing CNTP – reimbursement limitations, availability of pain specialists and or pharmacists (CDC, 2014)

State organizations, healthcare associations, community practitioners, academic institutions, public health leaders, patients and their families are key stakeholders for eliminating the gap between recommended guidelines and current practice.

Development and evaluation of the survey lays the groundwork for future research and quality improvement to be conducted among selected community health centers and primary care practices associated with the Arizona IP PBRN. When the finalized survey is administered, prescriber responses will identify practice patterns in the primary care setting, identify effective chronic pain management strategies and improve the quality of primary healthcare.

FRAMEWORK

Theoretical Underpinnings

Implementation research (IR) is defined as the scientific study of methods "to promote the systematic uptake of research findings and other evidence-based practice into routine practice…" (Eccles & Mittman, 2006, p.1). IR studies the impact of individual, institutional and system level factors that influence integration and adoption of evidence into practice; key variables in IR are the providers, patients, and the social context in which the population exists (Glasgow et al., 2012). The research process requires multidisciplinary and interdisciplinary partnerships and research results from practice-setting implementation of interventions. Implementation research incorporates; stakeholder responses, potential influence of contextual factors, questions of feasibility, and adaptations needed for change, details that traditional study designs often neglect (Stetler et al., 2006). Therefore, traditional scientific *rigor* is balanced with the *quality* of research (Fogarty International Center, 2010). Successful implementation of an intervention is evidenced by strategies that contribute to practice improvements, create organizational change, and initiate policy changes (Glasgow et al., 2012).

In the expanded research initiative of the NIH Roadmap incorporates Practice-Based Research (PBR) and T3, a translational step (Westfall, Mold, & Fagnan, 2007; Zerhouni, 2003). PBR is the setting for studying the process of care, the diagnosis of disease and the treatment and management of chronic diseases (Westfall et al., 2007). In this setting or "laboratory," observational studies, surveys and phase 3 - 4 clinical trials are conducted (Westfall et al., 2007, p. 405). Dissemination and implementation research, T3 - using data derived from PBR, translates findings to enhance the spread of evidence-based interventions into the clinic setting.

Guidelines are documents that organize, synthesize and condense evidence-based research related to a particular health issue, providing recommendations for informed decision making in healthcare practices (Weisz et al., 2007). They are a key reference for developing healthcare policy, planning, evaluation, and quality improvement (Gagliardi, Marshall, Huckson, James, & Moore, 2006). Ideally, use of guidelines reduce the risk of negligent care and promote quality, cost effective care (Mickan, Burls, & Glasziou, 2011). Healthcare guidelines are disseminated to providers on a variety of levels: journals, websites, meetings, educational and social formats. Yet despite awareness (90%), adherence and adoption of guidelines in practice on average is 36%. Given that dissemination is adequate, publication of guidelines and awareness does not sufficiently change provider behavior, effecting health outcomes, and quality of care (Glasziou & Haynes, 2005; Mickan, Burls, & Glasziou, 2011).

Evidence-based guidelines for opioid prescribing in the management of chronic pain exist on state and national levels (Centers for Disease Control and Prevention, 2013; Arizona Department of Health Services, 2014). As previously mentioned, guideline adherence is low in the primary care setting, indicating a block in the translational process. A block at this point occurs when clinical evidence is not put into practice despite consensus of the validity of the evidence (Rubenstein & Pugh, 2006; Westfall et al., 2007; Woolf, 2008). A survey will be utilized in order to identify the factors that impact uptake of the guidelines and best practice patterns for managing CNTP.

The survey will examine the multi-level factors that affect implementation of evidence-based practice. In IR, there is currently no single model or framework to follow that will identify the factors that predict successful implementation outcomes (Chaudoir, Dugan, & Barr, 2006;

Damschroder et al., 2009). Yet, there is a consensus among several researchers that the following factors are implicated: *community-level setting*, *organizational-level setting*, *provider* and *innovation-level setting*, and *patient setting* (Chaudoir, Dugan, & Barr, 2006, p 2; Damschroder et al., 2009; Durlak & Dupre, 2008).

For the purposes of this survey, the community-level factor encompasses the sociocultural context of the practice environment. Possible constructs include rural versus urban setting, policies related to opioid prescribing, availability of prescription monitoring programs and clinic funding (private or public).

Organizational factors encompass workflow (staffing limitations) and practice patterns (utilization of pain contract, urine drug testing, screening for high risk of opioid addiction), availability of pain referral resources (pharmacists, pain specialists), access to patient prescribing history, number of patients receiving opioids or being treated for chronic pain, and workload limitations (staff sufficient to coordinate refills and urine testing).

Provider factors include type of provider, age and experience, membership in professional organizations, continuing education credits in chronic pain management, perceived confidence in performing established guidelines and willingness to adopt guidelines, issues or concerns related to managing patients and/or “inheriting” patients with CNTP who have multiple co-morbidities and concerns regarding diversion, abuse or misuse of opioids.

The innovation-level refers to the guidelines and evidence-based practices established by the Arizona. This level examines the perceived advantages or disadvantages of adopting pain management guidelines over existing practice, the complexity of factors involved in guideline implementation at the practice level and cost-effectiveness of innovative practice routines.

The patient setting refers to the perceived willingness of patients to non-opioid management of pain, documented goal for pain management, number of patients participating in alternative pain management therapies, compliance with medication regimen, and type of healthcare insurance or self-pay.

When the survey is administered, responses will provide data regarding current practice patterns as well as identify gaps in practice related to CNTP and opioid prescribing in practice based research settings. Survey responses may identify barriers and facilitators to guideline-recommended care to adapt interventions aimed at improving opioid management of CNTP in primary care.

Evidence Synthesis

Studies were included that met the following criteria; adult patients, pain persisting longer than three months and studies that addressed treatment and management of chronic pain in the primary care setting. Studies were excluded if they addressed specific types of chronic pain, acute or cancer pain, palliative care, parenteral opioids, and pain management outside the primary care setting. Key words used to search PubMed and EBSCO: Pain Management; pain; chronic pain; analgesics, opioid; primary health care (non-mesh). Guidelines published between 2008 and 2014 were retrieved from MEDLINE, National Guideline Clearinghouse, specialty society Web sites, and Canadian Guideline Clearinghouse, were included for review. Data concerning the local problem (i.e., within the state of Arizona) was retrieved from state and federal websites, as well as, state and local agencies.

Evaluation of the Evidence

Of the articles used, five were clinical reviews, one systematic analysis, one quantitative cohort study and ten qualitative descriptive surveys. For the record, there are no documented randomized control trials studying opioid therapy versus placebo or no opioid therapy for outcomes related to pain, quality of life or function (Chou et al., 2015).

All survey participants were taken from convenience samples, raising issues of generalizability to other settings and groups. Participants were reached online or by post, except one study that used individual and group style interviews. Two articles documented the survey tool used was not tested for reliability or content validity (Bhamb et al., 2006; Wolfert et al., 2010). Aside from the limitation of the tool itself, self-report surveys may not accurately reflect actual practice. Only one article surveyed PCPs from a medically underserved environment (Leverence et al., 2011). Finally, one study compared the opioid practice patterns of APRNs and physicians (Franklin et al., 2013).

Opioids in the Management of Chronic Non-terminal Pain

While opioid therapy (OT) for acute pain is commonly accepted in treating cancer-related pain, OT for non-cancerous pain is a viable treatment option when pain is moderate to severe, if the pain is negatively impacting quality of life and if potential benefits of OT outweigh potential adverse events (Chou et al., 2009; Kalso et al., 2003; Sehgal, Colson, & Smith, 2013) Primary care providers are concerned about prescribing opioids for CNTP for a variety of reasons (Barry et al., 2010; Bhamb et al., 2003; Lincoln, Pellico, Kerns, & Anderson, 2013; Nwokeji, Rascati, Brown, & Eisenberg, 2007; Potter et al., 2001; Sinatra, 2006). Perceived barriers and facilitators

to opioid treatment of CNTP can be classified in three major themes: physician factors, patient factors and logistical factors (Barry, 2010).

Barriers to Opioid Prescribing

Despite a belief that opioids effectively control pain and improve quality of life, some providers are unwilling to prescribe opioids for CNTP (Leverence et al., 2011; Nwokeji, Rascati, Brown, & Eisenberg, 2007; Potter et al., 2001). Barriers that providers cite to prescribing opioids include; the absence of physiological or medically objective findings to support pain intensity (Barry et al., 2010; Lincoln, Pellico, Kerns, & Anderson, 2013; Nwokeji, Rascati, Brown, & Eisenberg, 2007) lack of expertise in treating CP (Bhamb et al., 2010; Leverence et al., 2011) lack of expertise in treating CP in patients with suspected current or past addiction issues psychiatric conditions and/or comorbidities (Bhamb et al., 2010; Nwokeji, Rascati, Brown, & Eisenberg, 2007) fear of adverse events (Dunn et al., 2011; Wenghofer et al., 2011) and fear of regulatory scrutiny (Nwokeji, Rascati, Brown, & Eisenberg, 2007; Potter et al., 2001). Wolfert et al. (2010) reported that providers' concerns related to investigation influenced their practice patterns; providers who were concerned tended to limit the number of refills and prescribe in lower doses or smaller quantities then their counterparts were not concerned about being investigated. Most articles reported that care providers cautiously prescribe opioids due to abuse, misuse and diversion (Lincoln, Pellico, Kerns, & Anderson, 2013; Potter et al., 2001; Leverence et al., 2011; Wenghofer et al., 2011; Allen, Asbridge, MacDougal, Furlan, & Tugalev, 2013).

Facilitators to Opioid Prescribing

Opioid agreements, pain contracts and urine drug screens are perceived as both a barriers and facilitators. On the one hand, time and logistics of these procedures can be prohibitive, while

on the other, these tools establish clear boundaries and expectations, minimize aberrant use, and inform clinical decision-making. Other factors providers cite as facilitating OT include; level of comfort in skills and knowledge (education) related to OT (Wenghofer et al., 2011), access to guideline (Franklin et al., 2005), access to patients' prescribing history (Allen, et al., 2013; Wenghofer et al., 2011), access to support resources, such as pharmacists, and availability of risk management programs to minimize abuse. Successful treatment of CNCP encouraged compassionate treatment and helped to form enduring bonds with their patients (Lincoln et al., 2013).

Providers' Perception of Patients' Barriers to Opioid Use

Providers' perception of patient factors barriers include cost of specialty pain management, patients who request opioids (Potter et al., 2001), antagonistic patient-provider relationship fear of physical dependence, misuse, tolerance and addiction (Franklin et al., 2005; Potter et al., 2001; Sinatra, 2006; Wenghofer et al., 2011).

Logistical Factors

Logistical factors most providers cited include; lack of options for referrals (Barry et al., 2010; Franklin et al., 2005; Leverence et al., 2011; Wolfer et al., 2010), limited clinic time limited ancillary staff for urine drug tests, and opioid refills (Barry et al., 2010; Lincoln et al., 2013), inconsistent co-management of patients (Leverence et al., 2011; Franklin et al., 2013), time related to care of complex patients – establishing referrals, coordinating care (Leverence et al., 2011; Lincoln et al., 2013).

Gaps in Literature

The synthesis presented is reflective of opioid prescribing patterns among primary care providers who practice in the United States and Canada. It seems that there is a lack of supporting evidence related to prescribing patterns of APRNs and PAs (although one study was found). There is a lack of information regarding the current *statewide* patterns for CNTP in terms of prescribers' knowledge of evidence based recommendations, current practice and management of CNTP among primary care providers in Arizona, and barriers and facilitators to safe opioid prescribing.

The overall doctoral project designed and evaluated survey questions, based on feedback from content experts and primary care providers who have previously expressed an interest improving care for their chronic pain patients. Tables were used to report reviewers' responses. Comments and responses were compiled, evaluated and used to reformulate the questions as necessary. The reformulated questions were compiled into a formal survey to be administered to primary care providers by the Arizona IP PBRN at some point in the future.

METHODS AND DESIGN

Project Design

The DNP project had two phases. The initial phase was the design and creation of survey questions (see Survey Development below and Figure 1). Once questions were compiled and formatted into a survey, the second project phase began which consisted of two independent expert review groups tasked with evaluating the survey for content and flow. At some point in the future, primary care providers associated with the Arizona IP PBRN will be asked to respond to the survey as a separate, independent project.

Overview of the Survey Evaluation

Using Qualtrics survey software, a quantitative cross sectional survey was designed with two options for completion: an electronic survey, and paper and pencil. The survey was developed for the busy provider to take no more than 10 minutes to complete. Survey questions (identified by black text) are based on three major topics previously identified by the CDC as barriers to optimal care in prescribing opioid for CNTP (CDC, 2014); *providers' awareness and or familiarity* with state recommendations, *workflow limitations* and *resource obstacles.* These three themes major topics are integrated under 'clinical practice patterns' sections to enhance survey flow, improve the survey-takers experience and to avoid obvious shifts in context. The remaining questions (identified in red text) ask the reviewer to reflect, evaluate and comment on the context questions (black text). Surveys can be found in Appendix A and B.

Phase I: Formulating and Formatting Survey Questions

Survey Development

Formulation and formatting of the survey questions was completed as part of the DNP Project methods (Phase I). Development of survey questions began with a review of previous surveys, existing literature, and analysis of current national and state opioid prescribing guidelines. Question design was based on suggestions from the University of Wisconsin, "Survey Fundamentals" guide (University of Wisconsin-Madison, 2010). The guide describes the principles of good survey design and implementation. Based on the guide, survey questions were formulated from the perspective of the respondent while keeping the survey goal (identify opioid prescribing patterns and barriers and facilitators to guideline based clinical care) in mind. Effective survey questions provide a context, understood as identifying the question topic and

timeframe. The following is one such example, “Prior to initiating opioids for new chronic pain patients, do you....” Question focus on events or behaviors, and the response is designed to capture the occurrence of an event, the frequency, regularity or duration of the event and the timing of the event. Response topics to the above question are in matrix form and include performing risk assessments, assessing for depression, psychiatric disorders and level of function. The respondent has the option to answer, “sometimes, always, or never” and if “never” is selected, “no time, no resources or no need” can further clarify the response.

Question wording avoided technical terms, shorthand and double negatives (University of Wisconsin-Madison, 2010). Both closed and open-ended questions were utilized, giving respondents the opportunity to express themselves while offering a less time-consuming option so that the overall time to take the survey is kept to a minimum.

Once the questions were drafted, an expert panel of doctorally-prepared nurses reviewed the initial draft from complementary perspectives of: 1) primary care practice and leadership of the Arizona IP PBRN, 2) patient-centered health services in the community and 3) specialty in acute or chronic pain management. Initial questions (50) were simple, with content heavily reflecting the Arizona Opioid Prescribing Guidelines of 2014. For example, guideline #5 recommended the use of an Opioid Pain Care Agreement (OPCA) and the question was “Do you use an OPCA?” To extract the information desired about identification of barriers and facilitators to recommended practice patterns, panel members advocated that questions be grouped according to topics from the literature. Several rounds of modifying questions ensued until the group endorsed the final draft questions. The following is an example of a question that began as several separate questions: 1) “Do you sign an opioid pain agreement with your patients ...

always, sometimes, or never?" 2) "When do you sign an opioid pain agreement with your patients … only when establishing care, with all who are prescribed opioids, I never sign a pain agreement" 3) "In your practice, a opioid pain agreement is used? ... with new patients, if there is a perceived risk, no time, no need" The final question design is a matrix that begins with, "Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic pain patients new to your practice, do you … sign an opioid pain agreement with your patient?" The response options are "sometimes, always, never"; if "never" is selected, another option is displayed, "If never … no time, no resources or no need" can be selected. The logic of this matrix addresses practice patterns ("… prior to initiating opioids …"), guideline recommendation (OPCA) and barriers to implementing best practice, ("… no time, no resources, no need …").

The draft was uploaded into Qualtrics and the expert panel analyzed questions for content, structure, form, and clarity. The survey was subjected to a reiterative cycle of editing and analyzed questions response, questions were modified until a final consensus was reached with regard to each question and format, as well as the sequencing of questions and systematic formatting.

Survey Content

Survey Demographics

The survey addresses provider demographics including; provider specialty (MD, DO, NP, PA), years in practice, practice setting (community health center, public or private, group or solo practice), and rurality (to be determined by zip code). The following questions are related to patients with CNTP; the number of patients/month prescribed opioids, inherited patients taking

opioids, number of continuity patients for whom you are managing chronic pain vs. maintaining patients while transferring to specialist versus covering for another provider.

Survey sections also address recommended practices contained in the Arizona Opioid Prescribing Guidelines (Arizona Department of Health Services, 2014). Other sections address urine drug testing, referrals and specialists, and clinician patient assessment practices as related practice recommendations.

Survey Format

The first section of the survey evaluation will have a disclosure form informing participants' of their rights, contact information for the PI, and a statement on anonymity. Participants may then proceed to provide feedback on the survey questions. If the participant does not consent to participation, the option is to simply close the web browser. Participants may withdraw from the project at any time without consequences by simply closing their web browser.

The disclosure form is followed by questions (multiple choice, descriptive text, and matrix style) pertaining to the participants' practice demographics. Multiple choice questions then address pre-treatment management of opioid prescribing, followed by matrix and multiple choice questions related to opioid pain care agreements and urine drug screens. Finally, there are three multiple answer questions related to the Arizona Controlled Substance Prescription Monitoring Program.

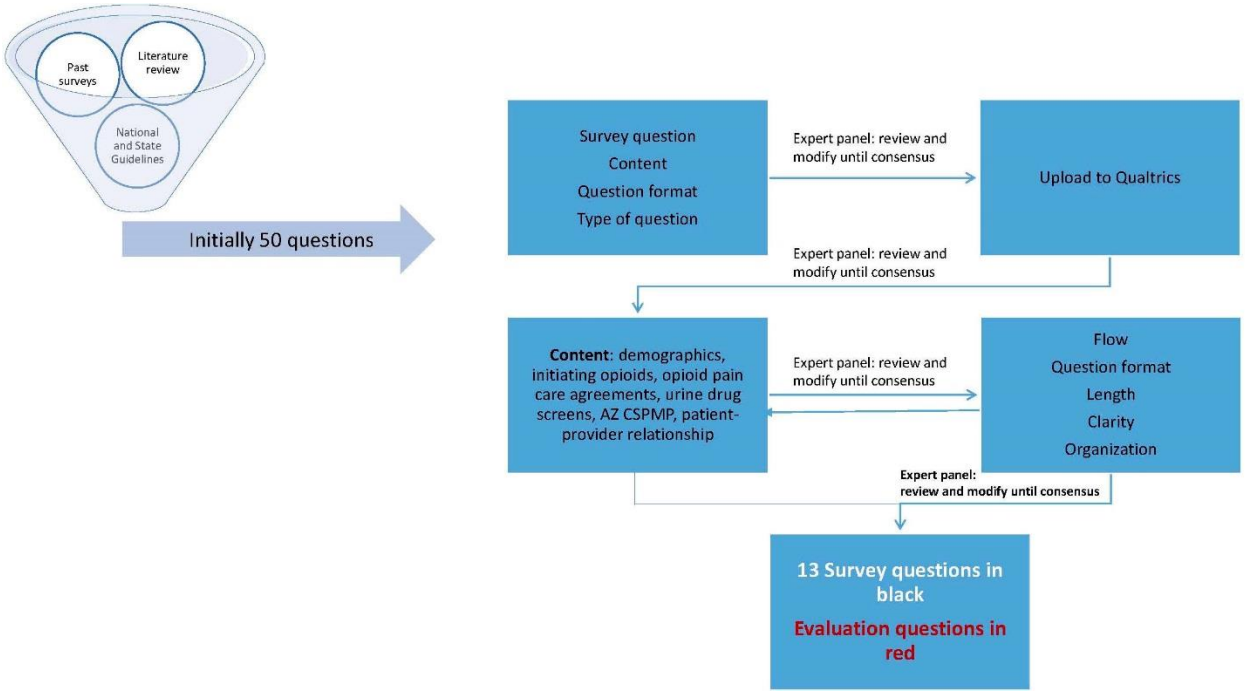

FIGURE 1. Logic Model of Survey Development.

Phase II: Survey Evaluation

During Phase II of the DNP project, expert content reviewers evaluated the survey for future implementation. A diverse group of providers, who participated in identifying opioid prescription and monitoring as a clinical issue, evaluated and commented on the survey, critically appraising it for content. Participants from the *Arizona IP PBRN review* consisted of: five interprofessionals associated with the University of Arizona including: 1) a leader in the Arizona IP PBRN; 2) a clinical pharmacist; and 3) three primary care providers active in IP PBRN activities. These professionals were selected based on prior interest in the project, expert qualifications and diverse professional backgrounds. They were invited to comment on the content of the survey for content regarding; prescribers' practice patterns, barriers to safe opioid

prescribing, workflow limitations, and evidence-based guidelines, issues identified by the Arizona IP PBRN in 2012 (Appendix A).

The *Expert primary care provider* reviewers evaluated the survey questions for clarity, organization, length, and survey flow. The group consisted of: 10 primary care providers, selected by a leader in the Arizona IP PBRN, representing rural and urban practice settings and various interprofessional backgrounds (MD, NP, PA) and who prescribe and monitor opioids in their care of patients who suffer from chronic pain. Primary care providers were asked to review survey questions for quality, organization, clarity, length, and flow (survey located in Appendix B).

Evaluators in both groups received the survey invitation via email with an anonymous link to the survey on Qualtrics. Invitations were sent on a Monday with the survey kept active for two weeks and a response-reminder sent at the end of the first week. The survey review participants did not actually "take" the survey but their comments and responses were compiled, evaluated and used to reformulate the survey questions as necessary, creating a novel survey instrument.

Ethical Issues

Survey responses were collected by Qualtrics without any identifying information, thus protecting the anonymity of the reviewers. Reviewers received a basic hyperlink via email that allowed direct access to survey evaluation. The anonymous survey link collected the user's IP address so that progress could be saved as participants completed the evaluation so they could close the window and finish at a later date. Participants who opted to receive a copy of the formal survey instrument, received a link to the survey via Qualtrics. Privacy is key to the larger

concept of *respect for persons* and applicable to surveys and questionnaires by respecting subjects' confidentiality of information (The Belmont Report, 1979). Application to and approval by the University of Arizona, College of Nursing Departmental Review Committee was received prior to the proposal being sent to University of Arizona Human Subjects Protection Program (HSPP). According to the Office of Human Research Protections (OHRP) if the survey meets any of the following three criteria, approval is needed from the Institutional Review Board (IRB) review under 45 CFR part 46 requirements; *directly involve human subjects, contribute to* ***generalizable*** *knowledge, involve an activity or* ***intervention or interaction*** with human subjects (OHRP, 2014). The approval letter and consenting documents were received from the HSPP, and the pilot survey was administered for stakeholder review (see first page of survey Appendix A and B).

Timeline

University IRB certification was acquired for the draft survey. Content review experts were informed that the survey would be available for two weeks for review. Feedback from content review experts was analyzed and changes made to the existing survey for compilation of the final survey instrument (Figure 2).

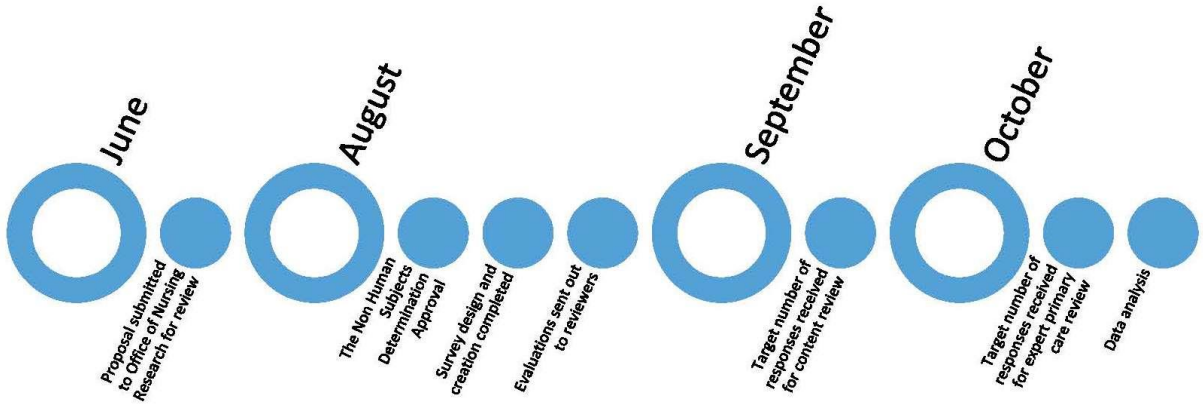

FIGURE 2. Timeline of Evaluation Survey Creation.

Data Analysis

Once the evaluations were collected, the Principal Investigator created a table to classify responses into themes before reformatting questions for a final survey as needed, for example, table themes included but were not limited to; question content, order of questions, question format, clarity, and survey flow. Based on dominant responses within a theme, survey questions were edited or deleted from the survey based on expert panel consensus. Descriptive comments were grouped according to theme, analyzed and reported. Gaps in content identified by Arizona IP PBRN review panel, were documented and considered for addition to future survey editions.

RESULTS

This section reports results from the evaluation of the survey. Two groups evaluated the survey, the five AZ IP PBRN interprofessionals and 10 expert primary care providers. Results of the Arizona IP PBRN content review are presented first, followed by the expert primary care review. Survey questions and the respective evaluation responses are presented in narrative and

table format. Comments in the tables are verbatim and evaluation tables are classified by major *categories* demographics, practice patterns, workflow barriers, and resource limitations, and *thematic category*: number of patients in practice setting, number of chronic pain (CP) patients seen in one week, rurality, initiating opioids for chronic pain patients, initiating opioid pain care agreements, items included in an opioid pain care agreement, use of urine drug screens (UDS), and use of the Arizona CSPMP. Major *category* comments are further identified by demographics, practice patterns, clarity, organization, add content, and workflow barrier. The relationship between *category* and *thematic category* will be known when the survey is actually "taken" and data related to demographic and practice variables can be collected and analyzed. Survey evaluation questions can be found in Appendix A1, A2. The final survey instrument is located in Appendix B.

Survey Evaluation Response

Eighteen requests for participating in evaluation of the survey were sent to two evaluation groups, six requests to AZ IP PBRN interprofessionals and twelve requests to expert primary care providers. Five of the original six Arizona IP PBRN evaluations were returned within two weeks meeting the initial goal of five responses and a 100% response rate. Of the first round of 10 Expert Primary Care reviewer evaluations sent out, only eight were returned, falling short of the agreed upon goal of 10. Two more cycles of evaluations were sent out until 10 responses were received, extending the response-return timeline five weeks longer than the originally planned two-week return time but achieving a 100% response rate.

Initially, survey evaluations were sent out to both evaluation groups the first of the week, with a mid-week and 48-hour reminder follow up. An initial review of survey responses revealed

some confusion with the original survey directions. As a result, mid-week reminder letters reiterated instructions for the participants to “take” the survey in order to trigger several pop-up that constitute a part of the survey content and important to the survey evaluation.

Not all respondents answered all questions and therefore, some questions have comments related to the question itself or comments related only to the response parameters. Several questions have no responses at all; while some respondents answered close-ended questions (i.e., ‘No’ to “Is this question clear?”), they did not consistently follow the response with a comment specifically illustrating how the question was flawed.

Arizona IP PBRN Interprofessional Content Evaluation Results

Demographic category. Two issues emerged from the demographic category of survey responses: one about the number of patients in a practice setting and one about rurality. The number of patients in a practice setting and number of chronic patients seen weekly was intended to reflect reviewers’ patient panel, not the number of total patients for the practice setting. One reviewer asked whether the question referred to all providers in a practice setting or just the individual provider’s practice. The term ‘rurality’ was awkward for another reviewer who pointed out that providers might practice in more than one setting, and that one zip code response would be inadequate to describe practice location (Table 1).

TABLE 1. *Provider and practice setting demographics.*

Evaluation of Q6: How many patients are seen in your practice setting per month?			
Category	Thematic Category	Response parameters	Responses
Demographics			
Clarity	Number of patients in practice setting	< 100 100-199 200-300 >300	“I think these are reasonable cut offs, but it depends upon how you will use them too. And I assume when you say ‘practice setting’ you are referring to ALL providers in your practice, correct?”
Evaluation of Q8: On average, how many chronic pain patients do you see in a week?			
Demographics			
	Number of chronic patients seen in one week	< 5 5-20 >20	"Looks good"
Evaluation of Q10:To determine rurality, please write your practice zip code...text box			
Demographics			
Clarity	Rural vs. urban practice setting	Zip Code	“Suggest replacing the word rurality.....awkward read.... Be aware that some may practice in more than one zip and it is not uncommon for prescribers to be "floaters"...”
			"Great way to determine rural vs urban”

Provider relationship to CP patients being treated with opioids. One issue was identified for the category of how provider’s established care for CP patients treated with opioids. One reviewer suggested the addition of “unsure” to the response set for the question related to provider relationship to patients being treated with chronic pain with opioids (Table 2).

TABLE 2. *Evaluation of Q12: Of patients treated for chronic pain . . . matrix with three (3) statements and five (5) multiple choice responses.*

Evaluation of Q12: Of patients treated for chronic pain...matrix with three (3) statements and five (5) multiple choice responses.			
Category	Thematic Category	Response parameters	Responses
Demographics			
Organization	Provider relationship to patients treated for chronic pain, how many were: -on opioids when you began seeing them -treating patient until transferred to specialist treating patient while covering for other provider	Hardly any Less than half About half More than half Almost all	“...suggest adding an ‘Unsure’ to the response set,...it's retrospective spanning differential timeframes per prescribers and the reliability would not likely hold up b/c they legitimately do not remember or can't mentally tabulate that...You could shorten the whole response set to None, A few, about half, several, almost all and unsure and still get decent variability on the individual items.”

Initiating opioid pain care management. Prior to initiating opioids for new chronic pain patients, one reviewer suggested adding a review of the risks, side effects and alternatives to opioid therapy, as well as options for other therapy treatments; another reviewer suggested adding to the list of practice patterns accessing the Arizona CSPMP, a third reviewer felt the response parameters would be improved if changed to "never, rarely, usually, and always" (Table 3).

TABLE 3. *Evaluation of Q15: Prior to initiating opioids for new chronic pain patients or refilling prescriptions for CP . . . matrix with five (5) statements and three (3) multiple choice responses.*

Table 3 Evaluation of Q15: Prior to initiating opioids for new chronic pain patients or refilling prescriptions for CP...matrix with 5 statements and 3 multiple

Category	Thematic Category	Response parameters	Responses
Practice patterns, workflow barriers and resource limitations			
Content	Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic pain do you: -risk assessment -assess for history of depression -sign an opioid -assess for level of function -assess for history of psychiatric disorders	Sometimes Always Never, then prompt of: -no time, no resources, no need	"Review the potential risks, side effects and alternatives to opioid treatment or options for multiple therapies treatment????"
Organization			"I would consider 4 choices: never, rarely, usually (or often) always. Sometimes is a wide range"
Content			"adding the pmp, objective measures used?

Initiating opioid pain care agreements. In terms using opioid pain care agreements (OPCA) with new CP patients, CP patients new to practice, and high risk patients (Q24), one reviewer suggested adding a response to include "continuing patients" and as "needed based on clinical judgment." The question was not clear for another reviewer, who was unsure of the distinction between "new CP patients" and "new to you CP patients" and felt that "high risk"

should be defined. Another comment referred to the use of “facilitate”; is the role of the medical assistant (MA) to ensure the agreement is in the chart or to actively participate in reviewing and signing the contract with the patient (Table 4).

TABLE 4. *Evaluation of Q24: In regard to opioid pain care agreements or pain contracts . . . matrix with five (5) statements and three (3) multiple choice responses.*

Evaluation of Q24: In regard to opioid pain care agreements or pain contracts...matrix with 5 statements and 3 mulitple choice responses			
Category	Thematic Category	Response parameters	Responses
Practice patterns, workflow barriers and resource limitations			
Clarity	Opioid pain care agreements: - medical assistant will automatically facilitate prior to consult with provider -medical assistant will facilitate only with provider's order -provider will facilitate -not applicable -not used	Used for all new CP patients - CP patients new to practice - high risk CP patients	“For continuing patients every e.g., 6 months, 12 months, as needed based on clinical judgment?”
Clarity			“I'm not sure, but I think maybe its an unclear distinction between new CP and new to you CP patients. I'd suggest, "for all newly diagnosed CP patients" Also, I'd suggest that if you're surveying providers for their current practice, (maybe I have the parameter's confused) but use current tense in the listed items in the left hand column. Also, I'm unclear on how you plan to analyze the data collected from this particular question. Also, what is the definition of a "high risk" patient- is this defined somewhere in the text of the survey?”
Clarity			“Use a term more specific than facilitate. Facilitate can mean anything from putting the contract in the room to reviewing it with the patient and getting it signed. what information are you trying to illicit? For instance my MAs don't do anything with pain contracts except make sure we have copies of them at nurses station. Where would I answer the question? I put not applicable but it would be clearer to put MA not involved”

Items to be included in an opioid pain agreement. In addition to the seven listed items to be documented in an opioid pain agreement, one respondent asked to leave a text space to write additional items while another respondent suggested adding “risks opiates” to the list (Table 5).

TABLE 5. *Evaluation of Q28: Items included in the opioid pain care agreement . . . itemized list.*

Evaluation of Q28: Items included in the opioid pain care agreement...itemized list.			
Category	Thematic Category	Response parameters	Responses
Practice patterns, workflow barriers and resource limitations			
Organization	Items included in opioid pain agreement	Check all that apply: -treatment goals -having only one prescribing provider -limitations on refills -use of monitoring tools (urine drug screens, pill counts, prescription monitoring program) -consequences of non-adherence with agreement/contract -patients should not change dosages without prescriber knowledge -adverse effects and safety issues	“Maybe include a section where a respondent can write in any additional items not included?’
Content			“risks of opiates”

Urine drug screens. The content in question Q32 (Table 6) and Q36 (Table 7) reflect the evaluation of the use of urine drug screens (UDS) and review of the Arizona Controlled Substance Prescription Monitoring Program in the treatment of CNTP, respectively. For Q32, one reviewer suggested using categories previously used in the survey for continuity; new CP patients, CP patients new to practice, and adding a “high risk” patient category. In evaluating Q36, one respondent proposed adding “every 90 days for current patients receiving opioid therapy, when potential misuse and abuse is suspected.”

TABLE 6. *Evaluation of Q32: A urine drug screen is performed . . . itemized list.*

Evaluation of Q32: A urine drug screen is performed...itemized list.			
Category	Thematic Category	Response parameters	Responses
Practice patterns, workflow barriers and resource limitations			
Organization	Use of urine drug screens	Check all that apply:	"Since you introducethe categories of new, new to you, and high
			"just the screen or ordering confirmations"

TABLE 7. *Evaluation of Q36: The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed . . . itemized list with prompt.*

Evaluation of Q36: The online Arizona Controlled Substance Prescripton Monitoring Program (AZ CSPMP) database is reviewed...itemized list with prompt.			
Category	Thematic Category	Response parameters	Responses
Practice patterns, workflow barriers and resource limitations			
Content	Online review of the Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP)	Check all that apply: -inititiating opioid therapy -assuming care for a patient already taking opioids -refilling a prescription -randomly -never...if never is selected, then reviewer is promped to answer: -no time -no resources -no need -unaware of the database -aware of the database but haven't registered	'Every 90 days for current patients receiving opioid therapy,when potential misuse and abuse is suspected"
Content			"add: every visit- which is what the AZ Safe Opioid Rx recomends"

Access to AZ CSPMP database. Lastly, content of Q41 is concerned with access of the AZ CSPMP (Table 8). The response parameters were not questioned but the use of the term “office delegate” was questioned; “maybe list nurse and CMA separately.” One reviewer suggested the response parameters should include, at “every visit – which is what the AZ Safe Opioid RX recommends.”

TABLE 8. *Evaluation of Q41: Access of the online AZ CSPMP database is performed by . . . three (3) multiple choice responses with prompt.*

Evaluation of Q41: Access of the online AZ CSPMP database is performed by... 3 multiple choice responses with prompt.			
Practice patterns, workflow barriers and resource limitations			
Clarity	Access of the online AZ CS	Access is performed by: -provider -office delegate such as a nurse or medical assistant -pharmacist...if the response is office delegate or pharmacist, a prompt appears to select: -based on standing order -prior to patient visit -on a patient to patient basis, when ordered by provider	"Why is it listed as office delegate? Maybe list nurse and CMA separately."
Clarity			"I would consider based on a protocol (rather than standing order), otherwise looks ok"

Expert Primary Care Providers' Evaluation

In reporting the responses of the Expert primary care providers' evaluation, results are grouped together according to thematic category. There are several integrated, closed and open-ended evaluation questions following each survey question designed to elicit a variety of information pertaining to each survey question, and those responses are grouped together; otherwise, the results would be incoherent. Appendix B is a compilation of tables with statistical results of questions that report; *if the question is clear, if the question is well organization, if the question is too lengthy, and if anything could be added to the question.* At the end of this section a table (Table 17) will show the overall total response statistics for the four evaluation questions.

Overall Evaluation

Overall, almost three quarters of the reviewers responded that the survey questions were clear and well organized. Almost 40% of reviewers indicated content or clarity needed to be added to the questions, while under 10% felt questions were too long.

Demographics – Practice Setting

The theme of Q5 is the number of patients in practice setting (Table 9). Three reviewers were unclear if the number of patients in the practice setting referred to the all providers in the practice or just the provider answering the question. The practice setting for one of the reviewers suggested a write-in option as there was not a response, which described his/her practice setting. In both Q5 and Q8 (Table 10) two reviewers were unclear as to the target provider population for the survey, "...are you confirming in the consent that they are primary care providers?" and identified this issue to be important in obtaining valid responses. Question 10 is clearly stated, but in terms of rurality, reviewers mentioned that practice settings located in urban zip codes often serve clients from rural areas and underserved populations, hence, the zip code would not indicate this fact (Table 11).

TABLE 9. *Evaluation of Q5: How many patients are seen in your practice setting per month?*

Evaluation of Q5: How many patients are seen in your practice setting per month?			
Category	Thematic category	Response parameters	Responses
Clarity	Number of patients in practice setting	< 100 100-199 200-300 >300	"Practice setting: Other: do you want a space for the participant to answer? Clarity: How many patients are seen in the practice or are seen by the provider answering the question? Are you wanting to know if the practice is large? If so the question stands, but if you want to know the volume of patients seen by the practitioner, you need to ask how many patients the participant sees in his practice setting per month."
Clarity			"I am confused with the number of patients seen in the practice - this would depend greatly on if a provider was full time or part time and there is not a way to identify this. Also you are asking about a practice - if I am in a practice with 10 providers you won't get a very good picture of the number of patients being seen - do you want the number of patient that the individual is seeing or the whole practice?
Clarity			"Do you mean in the whole practice or just by the individual provider? This is not clear. Regarding the practice setting, a community health center (an xxx clinic like xxx) and public health (working for a health department/this is not primary care) are two very different things. My clinic, a university health system family practice clinic, is not covered by any of the categories. Are you confirming in the consent that they are primary care providers? work with adult patients? You might want to ask their clinical area, and limit it to family practice and internal medicine"

TABLE 10. *Evaluation of Q8: On average, how many chronic pain patients do you see in a week?*

Evaluation of Q8: On average, how many chronic pain patients do you see in a week?			
Demographics			
Clarity	Number of chronic patients seen in one week	< 5 5-20 >20	"depending on the type of practice which you don't have identified (I wonder if your intent is to only have primary care providers or you are going to potentially have providers with more focus on pain) if so this number could be very skewed."
Content			"ranges are good"

TABLE 11. *Evaluation of Q10: To determine rurality, please write your practice zip code . . . text box.*

Evaluation of Q10: To determine rurality, please write your practice zip code...text box.			
Demographics			
Clarity	Rural vs. urban practice setting	Zip Codes	"The question is clear but there are some zip codes that are in the city that are locations of more underserved populations. If you are looking at rural areas as defined by number of persons in a community, or area your question stands"
Clarity			"It is fine, though will not tell you where the patients come from. My practice is in within a city but many patients come to us from rural areas"
Organization			"provide more choices to answer as rural areas include more than one zip code"

Common practices performed prior to initiating opioids for CP patients. Q18 is designed to identify common practices PCPs' perform when initiating opioid therapy for chronic pain patients. One reviewer asked if response parameters are applicable to "known chronic pain patients" or for "any patient who is prescribed opioids." Two other providers thought an option should be added for providers who don't initiate opioid therapy and an option for accessing the Arizona CSPMP (Table 12).

TABLE 12. *Evaluation of Q18: When initiating opioids for new CP patients, what evaluations and assessments are performed . . . itemized list.*

Evaluation of Q18: When initiating opioids for new CP patients, what evaluations and assessments are performed...itemized list			
Practice patterns, workflow barriers and resource limitations			
Clarity, Practice pattern	Initiating opioids for new chronic pain patients: -assess for risk of misuse, addiction or adverse effects -assess for history of depression -sign an opioid pain agreement with your patient -assess for level of function -assess for history of psychiatric disorders	Open ended response, text box	"Regarding the opioid pain agreement, I prescribe and sign it only after reviewing patient's old records - so it may or may not be at the first appointment. Perhaps you should add "review records from provider previously prescribing opioids for chronic pain". Also sometimes I prescribe for acute pain that later becomes chronic or patients with untreated chronic pain, and we do the agreement at 3 months. Do you want this survey to be about only about long term known chronic pain patients, or anyone we are prescribing opiates for?'
Content			"You may need to add if the provider besides risk assessment, consider state drug monitoring program check"
Content			"Option for providers who don't initiate opiates"

Opioid pain care agreements. Two general issues emerged from this section: one issue involved opioid pain care agreements, while the second issue pertained to the context for the opioid pain care agreements. In terms of the agreements, the role of the medical assistant to "facilitate" the pain agreement was problematic for several reviewers. Like the content reviewers, the meaning of "facilitate" was unclear to primary care reviewers. Additionally, one PCP reviewer pointed out that "high risk" was not defined, one reviewer questioned the difference between CP patients who are "new and new to my practice" while another asked if "new" refers to the "first visit." One reviewer felt that "not applicable" and "not used" were confusing. Two reviewers suggested that the question be organized differently, "provide another column for provider and medical assistant..." and "turn it into 3 questions." Two reviewers

addressed issues of practice policy, “medical assistants here aren’t involved with the pain agreements in any way...” and “pain management policy is driven by the clinic...” (Table 13).

TABLE 13. *Evaluation of Q29: Who facilitates the use of opioid pain care agreements for CP patients . . . matrix with three (3) statements and five (5) responses.*

Evaluation of Q29: Who facilitates the use of opioid pain care agreements for CP patients....			
Practice patterns, workflow barriers and resource limitations			
Clarity	Opioid pain care agreements used for all new CP patients, CP patients new to practice, high risk CP patients...	MA will facilitate prior to consult, MA will facilitate only with provider's order, provider facilitates, not applicable, not used	"What do you mean by facilitate- just give us the form (this happens sometimes) or sign it with the patient? What is the difference between new and new to my practice - do you mean new to me and new to the practice? Not applicable and not use is confusing..."
Clarity			“I don't know that a patient would understand the verb facilitate in this context”
Clarity			“...I just don't like the way this question reads. The medical assistants here aren't involved in initiating the pain agreements in any way. In truth, the nurse case managers are only involved in the pain agreement renewals”
Clarity			“High risk is not defined”
Clarity, Practice Pattern			“Does new mean on the first visit? I do not write rx on the first visit unless I have the records.”
Organization			"Turn it into 3 questions"
Practice patterns			"In our CHC, the pain mgmt policy is driven by the clinic, not individual providers choice”
Organization			“Provide a column for Not applicable for provider and medical assistant instead of a line answer”

Items to be included in an opioid pain care agreement. Reviewers’ comments vacillated greatly on what content should be included in an OPCA. One reviewer suggested adding, “not applicable, I don’t use contracts,” two reviewers addressed the issue of refills; “lost or stolen prescriptions shall not be replaced” and “restriction on use of ER for refills.” One reviewer thought that a mandatory check of the Arizona CSPMP and acquisition of records from previous opioid prescriber should be added to the response parameters, yet another felt that

“adherence to referrals” should be a condition for treatment. The context for opioid pain care agreements evoked additional comments. Two reviewers indicated that for patients assessed as high risk for abuse, OPCAs should be modified to include elevated monitoring and more frequent UDS (Table 14).

TABLE 14. *Evaluation of Q35: In regard to opioid pain care agreements or pain contracts . . . itemized list.*

Evaluation of Q35: In regard to opioid pain care agreements or pain contracts...itemized list.			
Practice patterns, workflow barriers and resource limitations			
Content	Items included in opioid pain agreement: -treatment goals -having only one prescriber -limitation on refills -use of monitoring tools (urinde drug screens, pill counts, prescription monitoring program) -consequences of non-adherence with agreement/contract	Open ended response	“1. Mandatory checks of the CSPMP 2. Mandatory records from prior PCP, opioid prescriber 3. Patients breaking an agreement and terminated will not seek care for pain management by other providers in the same clinical setting 4. If at high risk for abuse shorter prescription refills will be used, such as every 2 week refills + more frequent U tox”
Content			“you need a not applicable - don't use pain contracts”
Content			“lost or stolen prescriptions shall not be replaced”
Content			“adherence to referrals for treatments”
Content			“Restriction on use of ER for refills”
Organization			“I use a "controlled substance agreement" and include non-opiates such as tramadol and benzodiazepines. Setting treatment goals is not realistic at the initial appointment. Refills are not allowed on opiates. I would change that to "frequency of appointments"

One reviewer stated that response parameters for the use of UDS should include more frequent screening when a patient is at high risk for abuse, while another proposed “...done at each appointment.” One reviewer stated the survey question would be clearer if a more informative introductory statement was provided. One reviewer did not understand the response parameter “test is available but time is limited.”

TABLE 15. *Evaluation of Q41: A urine drug screen is performed . . . itemized list.*

Evaluation of Q41: A urine drug screen is performed...itemized list.			
Practice patterns, workflow barriers and resource limitations			
Clarity	Use of urine drug screens -when initiating opioid therapy -when assuming care of a patient that is already taking opioids -randomly or spot checks -never -test is not available -test is available but consultation time is limited	Open ended response, text box	"When a patient is at high risk for abuse, more frequent testing is mandated"
Clarity			"I do not know what you mean by test is available but consultation time is limited"
Clarity			"...you may need an introductory paragraph to check all that applies to the statement since you are not asking a question and the survey taker needs to read responses to understand direction."
Content			"and done at each appointment"

Question 47, related to the AZ CSPMP left one reviewer "guessing" as to "what the question is asking." Other reviewers indicated that response parameters should include "when there is a suspicion...," "at each appointment...," and "...not aware of AZ CSPMP."

TABLE 16. *Evaluation of Q47: The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed . . . itemized list with prompt.*

Evaluation of Q47: The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed...itemized list with prompt.			
Practice patterns, workflow barriers and resource limitations			
Clarity	Database of the online Arizona Controlled Substance Prescription Monitoring Program is reviewed when: -initiating opioid therapy -assuming care for a patient already taking opioids -refilling a prescription -randomly -never...if never is selected, then reviewer is prompted to answer: -no time -no resources -no need -unaware of the database -aware of the database but haven't registered	Open ended response, text box	"Leaves us guessing as to what you are asking. I like the way to answer but not certain what the question is asking until I see the responses"
Content			"I would add a statement such as "not aware of the AZ CSPMP"
Content			"and at each appointment or phone call"
Content			"when there is a suspicion, or red flag"

TABLE 17. *Total responses for primary care providers' evaluation questions.*

Total responses for primary care providers' evaluation questions						
Evaluation Questions	Answers					
	Yes	No	No answer	Total	% Yes	% No answer
Is the question clear?	51	12	7	70	72.9%	10.0%
Is the question well organized?	53	8	9	70	75.7%	12.9%
Is the question too lengthy?	5	58	7	70	7.1%	10.0%
Would you add anything to the question?	26	38	6	70	37.1%	8.6%

DISCUSSION

Summary

In summary, evaluation of the survey across both the AZ IP PBRN interprofessional group and the expert primary care providers revealed no major flaws. Rather, several questions were raised related to clarity of content and language, plus a few questions related to organization. Based on feedback, four questions and five response parameters were modified as described below.

Modifications

Modification of question content or response parameters was based on the content of the recommendations of the AZ Opioid Prescribing Guidelines for Chronic Non Terminal Pain (2014). For example, one content reviewer suggested adding a response parameter for Q36 (to access the AZ CSPMP at each visit) based on recommendations from the "AZ Safe Opioid RX." While accessing the AZ CSPMP at each patient-provider encounter might be a responsible prescribing practice, the AZ Opioid Prescribing Guidelines for Chronic Non Terminal Pain (2014) guideline #1 recommends "use of the AZ CSPMP to screen for adherence to COT and the use of unreported prescribed medications" as part of a comprehensive evaluation prior to initiating opioid treatment for CP (pg. 9). Guideline #7 (monitoring progress and adherence to treatment plan) recommends frequency of AZ CSPMP monitoring should be determined by risk category (pg. 14). High-risk patients "...should be monitored quarterly or more frequently as indicated" (pg. 14). Moderate risk patients are to be monitored twice yearly and low risk patients, yearly, with more frequent monitoring "as indicated" (pg. 14). The identical guidelines support

the modification of the response parameters related to urine drug screens to include “more frequent urine drug screens depending on the patient’s risk of abuse.

Practice Setting

In the demographic category, the question concerning “number of patients in practice setting” was intended to determine the number of patients in the provider’s patient panel as opposed to the number of patients in the entire practice panel. In general, the range of numbers in the response parameters for this category was not challenged and remained the same for the final survey. In addition, rurality was left as stated. Zip codes were used to determine location of the primary practice setting. Zip code information provides a determination of rural or urban setting for the practice, critical data for identifying differences in the quality of healthcare.

Evaluations and assessments performed prior to opioid treatment. Wording for the question related to the evaluations and assessments performed prior to initiating opioids, was changed to more closely reflect the wording of the first recommendation in the state guideline. The response parameter was modified to include, “access the AZ CSPMP.” The AZ CSPMP is a thematic category covered later in the survey and although the potential for overlap exists, use of the AZ CSPMP is a critical, underused intervention in the management of patients with CNTP worthy of reiteration (Rutkow, Turner, Lucas, Hwang, & Alexander, 2014).

Terminology. Both groups raised common issues with terminology. The use of the words, “facilitate,” “medical assistant,” and “high risk,” prompted confusion and misunderstanding. A glossary of terms has been added to the final survey instrument as a reference. Due to divergent definitions of “facilitate” the word was replaced and response parameters rephrased. “Office delegate,” the official term used by the Arizona State Board of

Pharmacy (ASBP) on the CSPMP registration site, replaced “Medical Assistant” (n.d.). Licensed delegates (Registered Nurse, Licensed Practical Nurse and Dental Hygienist) and unlicensed delegates (Medical Record Technician, Medical Assistant and Office Manager) are granted access to the database to view and print controlled substance information under their supervisor’s Drug Enforcement Administration’s number (DEA). Expanding the pool of authorized personnel able to access the database diminishes workflow barriers and increases the ease of integrating the use of the database in the clinic setting (Substance Abuse and Mental Health Services Administration, 2012).

Reviewers were satisfied with the length and flow of the survey. Although some minor modifications to response patterns were identified by the Arizona IP PBRN, they did not indicate a missing *category* or *thematic category* needed to make the survey more comprehensive. Modifications and changes to the 13 survey questions evaluated by both review groups are highlighted in red in the final survey document located in Appendix B.

Limitations

The evaluation results of this project were limited by the use of a convenience sample, the minimal feedback from the sample and the instructions for the evaluation. Survey instructions directed reviewers to “take” the survey but that only the data from the red evaluation questions would be analyzed. Unfortunately, without “taking” the survey, evaluators did not see some pop up responses to respond to. As a result, several reviewers recommended the addition of content without realizing that the information was embedded in the question.

Strengths

Although the sample size was small, reviewers represented a diverse group of experts representing several different professional specialties who practice or work in various settings. The interprofessional (multi-disciplinary?) component of the group generated a variety of responses, broadly representing practice-based clinical and non-clinical settings, from both academic and non-academic backgrounds (?), providing valuable observations and data. In addition, because the survey was based on evidence-based guidelines and integrated previously identified barriers to managing CNTP (CDC, 2014), the survey was comprehensive. Content reviewers did not identify content gaps nor were there major issues with survey length, flow or organization. Finally, respondents were offered the opportunity to see the final survey instrument, further educating providers and possibly, stimulating conversation about the content of the survey.

Interpretations

Delivery of the survey evaluation via Internet was financially cost effective. Qualtrics is a user-friendly venue for creating a survey. Yet due to the delay in return rates, a suggestion for future survey evaluations would be to generate a hard copy of the survey and distribute the survey at a meeting, seminar or any other appropriate setting of the target population and wait for the completed surveys. In this way, and questions regarding directions can be answered and the turn-around time response rate potentially high. Instructions should be extremely clear so the respondent is not left to question the intention of the survey.

CONCLUSION

Usefulness of the Work

There is an urgent and identifiable need for data and recommendations regarding safe opioid prescribing and management of CNTP to improve patient outcomes in Arizona. While recognizing the important role opioids play in pain acute pain management, over prescribing, increased access and misuse has led to an opioid epidemic in the state. The survey was designed to identify the issues which impact opioid prescribing patterns and chronic pain management that are unique to primary care providers in Arizona. Nationally identified challenges and state recommended practices contained in the Arizona Opioid Prescribing Guidelines for safe and effective opioid prescription and chronic pain management were integrated into the survey. Data from the final survey instrument will help to identify the barriers, facilitators and practice patterns of PCPs in regard to opioid prescribing in the state of Arizona in order to promote evidence based care and safe prescribing management for CNTP patients in the primary care setting.

Implications of Project and Suggested Next Steps

The final survey was designed to be administered by an interprofessional student group to PCPs. Pain management and opioid-focused conferences, medical seminars, healthcare meetings, nursing and medical conventions would be the ideal setting to target primary care providers for group administration of the survey. Survey administration in these types of settings will increase response rate, decrease response-return time and generate among participants in the exchange of information regarding opioid prescribing practice patterns and management of CP patients. Future dissemination of survey results could influence state policy and clinical guidelines in the

state of Arizona in an attempt to promote best practice care of chronic pain and improved prescribing patterns concerning opioids.

APPENDIX A:

SURVEY EVALUATIONS

APPENDIX A1: ARIZONA IP PBRN CONTENT SURVEY EVALUATION

Q1 You have been invited to evaluate the following survey questions because you have participated in activities of the Arizona Interprofessional Practice Based Research Network (Arizona IP PBRN) project and showed interest in providing safe and effective use of opioids for chronic non-terminal pain. Your comments and responses will be compiled, evaluated and used to reformulate the questions as necessary. The reformulated questions will be compiled into a formal survey to be administered to primary care providers by the Arizona IP PBRN at some point in the future. These survey questions are being developed as the Doctor of Nursing Practice Project for Jill Weinstein, Doctoral Candidate, University of Arizona, College of Nursing.

If you choose to take part in this evaluation, please evaluate the questions for content regarding:

- prescribers' practice patterns
- the barriers to safe opioid prescribing
- workflow limitations
- evidence based guidelines

Responses to the **survey questions** (**in black**) and the evaluation questions (in red) will only be used to improve the formal survey and will not be shared or reproduced in any way. Although responses to the **survey questions (in black**) will not be collected for analysis, it is important to answer the survey questions, as your response might generate other questions and the entire question will be important to evaluate for content (in red). Additionally, your feedback (in red) might generate changes to the overall survey. It will take approximately 15 minutes to evaluate the questions and provide written feedback.

Your input is greatly appreciated!

Q2 No risks or discomforts are anticipated from taking part in this evaluation. Your participation is completely voluntary, anonymous, and should you decide not to participate, simply close your web browser.

If you have any questions or concerns about this evaluation project, please contact Jill Weinstein at jillw1@email.arizona.edu or (520) 577-2909.

By beginning this evaluation, you acknowledge that you have read the above information and agree to participate in this evaluation, with the knowledge that you are free to withdraw your participation without repercussions, at any time.

Q3 We thank you for evaluating these survey questions for content. Please note that "chronic pain" is defined as chronic non-terminal pain (not caused by cancer), that has lasted longer than three months, and has not resolved despite appropriate treatment.

Please click the >> button below to begin.

Q4 Describe your professional education...

- ○ MD/DO
- ○ NP
- ○ PA

Q5 Practice setting....

- ○ Community Health Center/Public Health
- ○ Group Private Practice
- ○ Solo Private Practice
- ○ Hospital
- ○ Other

Q6 How many patients are seen in your practice setting per month?

- ○ < 100
- ○ 100-199
- ○ 200-300
- ○ >300

Q7 If the above numbers are not realistic, please indicate a more realistic range of numbers...

_____text box_____

Q8 On average, how many chronic pain patients do you see in a week?

- ○ < 5
- ○ 5-20
- ○ >20

Q9 If the above numbers are not realistic, please indicate a more realistic range of numbers...

_____text box_____

Q10 To determine rurality, please write your practice zip code:

Q11 The above question intent is to differentiate between rural and urban practice settings. If the question is not clear, please explain how it could be improved:

_____text box_____

Q12 Of patients treated for chronic pain:

	Hardly any	Less than half	About half	More than half	Almost all
How many were already on opioids when you began seeing them...	○	○	○	○	○
How many are you treating until they can be transferred to a chronic pain specialist...	○	○	○	○	○
How many are you treating while covering for another provider...	○	○	○	○	○

Q13 Does the above question adequately describe the patients you treat for chronic pain?

- ○ Yes
- ○ No

If Answer = "Does the above question adequately describe the patients you treat for chronic pain?" If "No" Is Selected, then

Q14 How would you improve the question?

_____textbox_____

Q15 Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic pain patients new to your practice, do you....

	Sometimes	Always	Never
Perform a risk assessment to evaluate for risk of misuse, addiction or adverse effects....	○	○	○
Assess for history of depression?	○	○	○
Assess for history of psychiatric disorders?	○	○	○
Assess for level of function?	○	○	○
Sign an opioid pain agreement with your patient?	○	○	○

Answer "If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Perform a risk assessment to evaluate for risk of misuse, addiction or adverse effects? – 'Never'" Is Selected:

Q16 You selected "Never" for "Perform a risk assessment to evaluate for risk of misuse, addiction or adverse ...please explain. Check all that apply.

- No time
- No resources
- No need

Answer "If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Assess for history of depression? - 'Never'" Is Selected:

Q17 You selected "Never" for "Assess for history of depression...please explain. Check all that apply.

- No time
- No resources
- No need

Answer If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Assess for history of psychiatric disorders? – 'Never'" Is Selected:

Q18 You selected "Never" for "Assess for history of psychiatric disorders"...please explain. Check all that apply.

- No time
- No resources
- No need

Answer "If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Assess for level of function? – 'Never'" Is Selected:

Q19 You selected "Never" for "Assess level of function"...please explain. Check all that apply.

- No time
- No resources
- No need

Answer "If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Sign an opioid pain agreement with your patient? – 'Never'" Is Selected:

Q20 You selected "Never" for "Sign an opioid pain agreement with your"... please explain. Check all that apply.

- No time
- No resources
- No need

Q21 Does the content in this question adequately address issues in regard to initiating opioids for new chronic pain patients or refilling prescriptions for chronic pain patients new to your practice?

- Yes
- No

Answer "If Does the content in this question adequately address issues related to opioid pain care agreements or pain contracts?" If "No" Is Selected:

Q23 How would you improve the content of the question?

_____text box_____

Q22 Any other thoughts about the content of the question?

_____text box_____

Q24 In regard to opioid pain care agreements or pain contracts...

	For all new CP patients (1)	For CP patients who are new to my practice (2)	For high risk CP patients (3)
Medical assistant will automatically facilitate prior to consult with provider	○	○	○
Medical assistant will facilitate only with provider's order	○	○	○
Provider will facilitate	○	○	○
Not applicable	○	○	○
Not used	○	○	○

Q25 Does the content in this question adequately address issues related to opioid pain care agreements or pain contracts?

- ○ Yes
- ○ No

Answer If "Does the content in this question identify items included in a opioid pain care agreement or pain contract? If "No" Is Selected:

Q26 How would you improve the content of the question regarding opioid pain care agreements or pain contracts?

_____text box_____

Q27 Any other thoughts about the content of the question?

_____text box_____

Q28 Items included in the opioid pain care agreement: Check all that apply

- ○ Treatment goals
- ○ Having only one prescribing provider
- ○ Limitation on refills

- ○ Use of monitoring tools (urine drug screens, pill counts, prescription monitoring program)
- ○ Consequences of non-adherence with agreement/contract
- ○ Patients should not change dosages without prescriber knowledge
- ○ Adverse effects and safety issues

Q29 Does the content in this question identify items included in an opioid pain care agreement or pain contract?

- ○ Yes
- ○ No

Answer If "Does the content in this question identify items included in an opioid pain care agreement or pain contract?" If "No" Is Selected:

Q30 How would you improve the content of the question related to items included in an opioid pain care agreement or pain contract?

_____text box_____

Q31 Any other thoughts about the content of the question?

_____text box_____

Q32 A urine drug screen is performed: Check all that apply

- ○ When initiating opioid therapy
- ○ When assuming care of a patient that is already taking opioids
- ○ Randomly or spot checks
- ○ Never
- ○ Test is not available
- ○ Test is available but consultation time is limited

Q33 Does the content in this question adequately address issues related to administration of a urine drug screen?

Yes

No

Answer If "Does the content in this question adequately address issues related to opioid pain care agreements or pain contracts?" If "No" Is Selected:

Q34 How would you improve the content of the question regarding the use of a urine drug screen?

_____text box_____

Q35 Any other thoughts about the content of the question?

_____text box_____

Q36 The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed: Check all that apply:

- ○ When initiating opioid therapy
- ○ When assuming care for a patient already taking opioids
- ○ When refilling a prescription
- ○ Randomly
- ○ Never

Answer If "The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed... "If "Never" Is Selected:

Q37 If never...

- ○ No time
- ○ No resources
- ○ No need
- ○ Unaware of database
- ○ Aware of database but haven't registered

Q38 Does the content in this question adequately address issues related to when to access the online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP)?

- ○ Yes
- ○ No

Answer If "Does the content in this question adequately address issues related to when to access the online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP)? If "No" Is Selected:

Q39 How would you improve the content of the question regarding when to access the online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP)?

_____text box_____

Q40 Any other thoughts about the content of the question?

_____text box_____

Q41 Access of the online AZ CSPMP database is performed by. Check all that apply:

- ○ Provider
- ○ Office delegate such as nurse or medical assistant
- ○ Pharmacist

Answer If "Access of the online AZ CSPMP database is performed by Office delegate such as nurse or medical assistant" Is Selected *Or* "Access of the online AZ CSPMP database is performed by Pharmacist" Is Selected:

Q42 A delegate accesses online AZ CSPMP database:

- ○ based on a standing order
- ○ prior to patient visit, so that the information is in the chart prior to the consultation
- ○ on a patient to patient basis, when the provider orders it

Q43 Does the content in this question adequately address issues related to who accesses the online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP)?

- ○ Yes
- ○ No

Answer If "Does the content in this question adequately address issues related to when to access the online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP)?" If "No" Is Selected:

Q44 How would you improve the content of the question regarding who accesses the online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP)?

Q45 Any other thoughts about the content of the questions? Q46 Use this space for any comments concerning the content of this survey. If there are topics that have not been adequately addressed, please feel free to identify them below:

Q47 Would you like to see a copy of the final survey instrument?

APPENDIX A2: EXPERT PRIMARY CARE PROVIDER SURVEY EVALUATION

Q1 You have been invited to evaluate the following survey questions because you are a primary care provider whose practice includes prescribing and monitoring opioids for patients with chronic non-terminal pain. Your comments and responses will be compiled, evaluated and used to reformulate the questions as necessary. These survey questions are being developed as the Doctor of Nursing Practice Project for Jill Weinstein, Doctoral Candidate, University of Arizona College of Nursing. The reformulated questions will be compiled into a formal survey to be administered to primary care providers by students who participate in activities related to the Arizona Interprofessional Practice Based Research Network (Arizona IP PBRN) project.

If you choose to take part in this evaluation, please evaluate the survey questions for:

- quality
- organization
- clarity
- length
- flow

Located after most questions, there is a textbox in which you can write any comments or suggestions. It will take approximately 15 minutes to evaluate the questions and provide written feedback.

Your time is greatly appreciated!

Q2 By evaluating this survey, you will be contributing to the design of survey questions and potentially assisting the Arizona IP PBRN activity of gathering information about opioid prescribing and practice patterns of primary care providers. No risks or discomforts are anticipated from taking part in this evaluation. Your participation is completely voluntary, and should you decide not to participate, simply close your web browser.

Your question evaluations and comments about survey questions will remain anonymous and no personal information will be obtained. Responses to the **survey questions (in black)** and the evaluation questions (in red) will only be used to improve the formal survey and will not be shared or reproduced in any way. Although responses to the **survey question (in black)** will not

be collected for analysis, your feedback on the clarity of each item requires you to "answer" each question to elicit the broadest possible set of responses. Additionally, your feedback (in red) might generate changes to the overall survey.

By beginning this evaluation, you acknowledge that you have read the above information and agree to participate in this evaluation, with the knowledge that you are free to withdraw your participation without repercussions, at any time.

If you have any questions or concerns about this evaluation project, please contact Jill Weinstein at jillw1@email.arizona.edu or (520) 577-2909.

Q3 We thank you for evaluating the survey questions for quality, organization, clarity, length and flow. Please note that “chronic pain” is defined as chronic non-terminal pain (not caused by cancer), that has lasted longer than three months, and has not resolved despite appropriate treatment.

Please click the >> button below to begin.

Q4 Describe your professional education...

- ○ MD/DO
- ○ NP
- ○ PA

Q5 Practice setting....

- ○ Community Health Center/Public Health
- ○ Group Private Practice
- ○ Solo Private Practice
- ○ Hospital
- ○ Other

Q6 How many patients are seen in your practice setting per month?

- ○ < 100
- ○ 100-199
- ○ 200-300
- ○ >300

Q7 If the above numbers are not realistic, please indicate a more realistic range of numbers...

_____text box_____

Q8 On average, how many chronic pain patients do you see in a week?

- ○ < 5
- ○ 5-20
- ○ >20

Q9 If the above numbers are not realistic, please indicate a more realistic range of numbers...

_____text box_____

Q10 To determine rurality, please write your practice zip code:

Q11 The above question intent is to differentiate between rural and urban practice settings. If the question is not clear, please explain how it could be improved:

_____text box_____

Q12 Of patients treated for chronic pain:

	Hardly any	Less than half	About half	More than half	Almost all
How many were already on opioids when you began seeing them...	○	○	○	○	○
How many are you treating until they can be transferred to a chronic pain specialist...	○	○	○	○	○
How many are you treating while covering for another provider...	○	○	○	○	○

Q13 In evaluating the question above regarding, “patients treated for chronic pain...”

	Yes	No
Is the question clear?	❍	❍
Is it the question well organized?	❍	❍
Is the question too lengthy?	❍	❍
Would you add anything to this question?	❍	❍

Answer If In evaluating the question above regarding, "patients treated for chronic pain"....Is the question clear? “No” Is Selected, then:

Q14 How could the question be more clear?

_____text box_____

Answer If In evaluating the question above regarding, "patients treated for chronic pain".... Is the question well organized? “No” Is Selected, then:

Q15 How could the question be better organized?

_____text box_____

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...." Is the question too lengthy? “Yes” Is Selected, then:

Q16 If the question is too lengthy, what could be deleted?

_____text box_____

Answer If In evaluating the question above regarding, "patients treated for chronic pain".... “Would you add anything to this question? “Yes” Is Selected, then:

Q17 What would you add to the question?

_____text box_____

Q18 Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic pain patients new to your practice, do you....

	Sometimes	Always	Never
Perform a risk assessment to evaluate for risk of misuse, addiction or adverse effects....	○	○	○
Assess for history of depression?	○	○	○
Assess for history of psychiatric disorders?	○	○	○
Assess for level of function?	○	○	○
Sign an opioid pain agreement with your patient?	○	○	○

Answer "If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Perform a risk assessment to evaluate for risk of misuse, addiction or adverse effects? – 'Never'" Is Selected:

Q24 You selected "Never" for "Perform a risk assessment to evaluate for risk of misuse, addiction or adverse ...please explain. Check all that apply.

- ○ No time
- ○ No resources
- ○ No need

Answer "If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Assess for history of depression? - 'Never'" Is Selected:

Q28 You selected "Never" for "Assess for history of depression...please explain. Check all that apply.

- ○ No time
- ○ No resources
- ○ No need

Answer If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Assess for history of psychiatric disorders? – ‘Never’” Is Selected:

Q25 You selected “Never” for “Assess for history of psychiatric disorders”...please explain. Check all that apply.

- No time
- No resources
- No need

Answer “If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Assess for level of function? – ‘Never’” Is Selected:

Q26 You selected ”Never” for “Assess level of function”...please explain. Check all that apply.

- No time
- No resources
- No need

Answer “If Prior to initiating opioids for new chronic pain patients or refilling prescriptions for chronic... Sign an opioid pain agreement with your patient? – ‘Never’” Is Selected:

Q27 You selected ”Never” for “Sign an opioid pain agreement with your”... please explain. Check all that apply.

- No time
- No resources
- No need

Q19 In evaluating the question above regarding, "initiating opioids for new chronic pain patients...."

	Yes	No
Is the question clear?	❍	❍
Is it the question well organized?	❍	❍
Is the question too lengthy?	❍	❍
Would you add anything to this question?	❍	❍

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...." Is the question clear? “No” Is Selected, then:

Q20 How could the question be more clear?

_____text box_____

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...." Is it the question well organized? “No” Is Selected, then

Q21 How could the question be better organized?

_____text box_____

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...." Is the question too lengthy? “Yes” Is Selected, then:

Q22 If the question is too lengthy, what could be deleted?

_____text box_____

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...."Would you add anything to this question ? “Yes” Is Selected, then:

Q23 What would you add to the question?

_____text box_____

Q29 In regard to opioid pain care agreements or pain contracts...

	For all new CP patients	For CP patients who are new to my practice	For high risk CP patients
Medical assistant will automatically facilitate prior to consult with provider	○	○	○
Medical assistant will facilitate only with provider's order	○	○	○
Provider will facilitate	○	○	○
Not applicable	○	○	○
Not used	○	○	○

Q30 In evaluating the question above regarding opioid pain care agreements....

	Yes	No
Is the question clear?	❍	❍
Is it the question well organized?	❍	❍
Is the question too lengthy?	❍	❍
Would you add anything to this question?	❍	❍

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...." Is the question clear? “No” Is Selected, then:

Q31 How could the question be more clear?

_____text box_____

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...." Is the question well organized? “No” Is Selected, then:

Q32 How could the question be better organized?

_____text box_____

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...." Is the question too lengthy? “Yes” Is Selected, then:

Q33 If the question is too lengthy, what could be deleted?

_____text box_____

Answer If In evaluating the question above regarding, "initiating opioids for new chronic pain patients...." Would you add anything to the question? “Yes” Is Selected, then:

Q34 What would you add to this question?

_____text box_____

Q35 Items included in the opioid pain care agreement: Check all that apply

- ○ Treatment goals
- ○ Having only one prescribing provider
- ○ Limitation on refills
- ○ Use of monitoring tools (urine drug screens, pill counts, prescription monitoring program)
- ○ Consequences of non-adherence with agreement/contract
- ○ Patients should not change dosages without prescriber knowledge
- ○ Adverse effects and safety issues

Q36 In evaluating the question above regarding, "items included in the opioid pain care agreement...."

	Yes	No
Is the question clear?	❍	❍
Is it the question well organized?	❍	❍
Is the question too lengthy?	❍	❍
Would you add anything to this question?	❍	❍

Answer If In evaluating the question above regarding, "items included in the opioid pain care agreement...." Is the question clear? “No” Is Selected, then:

Q37 How could the question be more clear?

_____text box_____

Answer If In evaluating the question above regarding, "items included in the opioid pain care agreement...." Is the question well organized? “No” Is Selected, then:

Q38 How could the question be better organized?

_____text box_____

Answer If In evaluating the question above regarding, "items included in the opioid pain care agreement...." Is the question too lengthy? “Yes” Is Selected, then:

Q39 If the question is too lengthy, what could be deleted?

_____text box_____

Answer If In evaluating the question above regarding, "items included in the opioid pain care agreement...." Would you add anything to this question? “Yes” Is Selected, then:

Q40 What would you add to this question?

_____text box_____

Q41 A urine drug screen is performed: Check all that apply

- ○ When initiating opioid therapy
- ○ When assuming care of a patient that is already taking opioids
- ○ Randomly or spot checks
- ○ Never
- ○ Test is not available
- ○ Test is available but consultation time is limited

Q42 In evaluating the question above regarding, "urine drug screens...."

	Yes	No
Is the question clear?	❍	❍
Is it the question well organized?	❍	❍
Is the question too lengthy?	❍	❍
Would you add anything to this question?	❍	❍

Answer If In evaluating the question above regarding, "urine drug screens...." Is the question clear? No” Is Selected, then:

Q43 How could the question be more clear?

_____text box_____

Answer If In evaluating the question above regarding, "urine drug screens...." Is the question well organized? No" Is Selected, then:

Q44 How could the question be better organized?

_____text box_____

Answer If In evaluating the question above regarding, "urine drug screens...." Is the question too lengthy? "Yes" Is Selected, then:

Q45 If the question is too lengthy, what could be deleted?

_____text box_____

Answer If In evaluating the question above regarding, "urine drug screens...." Would you add anything to this question? "Yes" Is Selected, then:

Q46 What would you add to this question?

_____text box_____

Q47 The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed: Check all that apply:

- ○ When initiating opioid therapy
- ○ When assuming care for a patient already taking opioids
- ○ When refilling a prescription
- ○ Randomly
- ○ Never

Answer If "The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed... "If "Never" Is Selected:

Q48 If never...

- ○ No time
- ○ No resources
- ○ No need
- ○ Unaware of database
- ○ Aware of database but haven't registered

Q49 In evaluating the question above regarding, ”Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP)”

	Yes	No
Is the question clear?	❍	❍
Is it the question well organized?	❍	❍
Is the question too lengthy?	❍	❍
Would you add anything to this question?	❍	❍

Answer If In evaluating the question above regarding, "Arizona Controlled Substance Prescription Monitoring... Is the question clear? “No” Is Selected, then:

Q50 How could the question be more clear?

_____text box_____

Answer If In evaluating the question above regarding, "Arizona Controlled Substance Prescription Monitoring... Is the question well organized? “No” Is Selected, then:

Q51 How could the question be better organized?

_____text box_____

Answer If In evaluating the question above regarding, "Arizona Controlled Substance Prescription Monitoring... Is the question too lengthy? “Yes” Is Selected, then:

Q52 If the question is too lengthy, what could be deleted?

_____text box_____

Answer If In evaluating the question above regarding, "Arizona Controlled Substance Prescription Monitoring... Would you add anything to this question? “Yes” Is Selected, then:

Q53 What would you add to this question?

_____text box_____

Q54 Access of the online AZ CSPMP database is performed by... Check all that apply:

- ○ Provider
- ○ Office delegate such as nurse or medical assistant
- ○ Pharmacist

Answer If "Access of the online AZ CSPMP database is performed by Office delegate such as nurse or medical assistant" Is Selected *Or* "Access of the online AZ CSPMP database is performed by Pharmacist" Is Selected:

Q42 A delegate accesses online AZ CSPMP database:

- based on a standing order
- prior to patient visit, so that the information is in the chart prior to the consultation
- on a patient to patient basis, when the provider orders it

Q55 Is the above question regarding individuals who access the AZ CSPMP clear?

❍ Yes

❍ No

Answer If Is the above question regarding individuals who access the AZ CSPMP clear? "No" Is Selected, then:

Q56 How would you change the question?

_____text box_____

Q58 In evaluating the question above regarding, "delegate access of the Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database...."

	Yes	No
Is the question clear?	❍	❍
Is it the question well organized?	❍	❍
Is the question too lengthy?	❍	❍
Would you add anything to this question?	❍	❍

Answer If In evaluating the question above regarding, "delegate access of the Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database...." Is the question clear? "No" Is Selected, then:

Q59 How could the question be more clear?

_____text box_____

Answer If In evaluating the question above regarding, "delegate access of the Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database...." Is the question well organized? “No” Is Selected, then:

Q60 How could the question be better organized?

_____text box_____

Answer If In evaluating the question above regarding, "delegate access of the Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database...." Is the question too lengthy? “Yes” Is Selected, then:

Q61 If the question is too lengthy, what could be deleted?

_____text box_____

Q62 What would you add to this question?

Q63 Overall, the survey....

	Yes	No
Is well organized	❍	❍
Flows well	❍	❍
Is too long	❍	❍

Answer If Overall, the survey is well organized? No Is Selected, then:

Q65 How would you change the organization of the survey?

_____text box_____

Answer If Overall, the survey flows well? No Is Selected, then:

Q66 How would you improve the flow of the survey?

_____text box_____

Q67 How could the survey be improved?

_____text box_____

Q68 Please add any additional comments....

_____text box_____

Q47 Would you like to see a copy of the final survey instrument?

- ○ Yes

- ○ No

If “Yes” respondents are linked directly to an area where email information is collected into a list, accessed by the Principal Investigator in order to send the final survey instrument to interested review participants.

APPENDIX B:

PRIMARY CARE PROVIDER EVALUATION – RESPONSE TABLE FOR CLOSE-ENDED EVALUATION QUESTIONS

Question 13						
Evaluation Questions	Answers					
	Yes	No	No answer	Total	% Yes	% No answer
Is the question clear?	9	1	0	10	90.0%	0.0%
Is the question well organized?	9	1	0	10	90.0%	0.0%
Is the question too lengthy?	1	9	0	10	10.0%	0.0%
Would you add anything to the question?	2	8	0	10	20.0%	0.0%

Question 24						
Evaluation Questions	Answers					
	Yes	No	No answer	Total	% Yes	% No answer
Is the question clear?	9	0	1	10	90.0%	10.0%
Is the question well organized?	7	0	3	10	70.0%	30.0%
Is the question too lengthy?	1	8	1	10	10.0%	10.0%
Would you add anything to the question?	5	5	0	10	50.0%	0.0%

Question 30						
Evaluation Questions	Answers					
	Yes	No	No answer	Total	% Yes	% No answer
Is the question clear?	3	6	1	10	30.0%	10.0%
Is the question well organized?	4	5	1	10	40.0%	10.0%
Is the question too lengthy?	1	7	2	10	10.0%	20.0%
Would you add anything to the question?	6	4	0	10	60.0%	0.0%

Question 35						
Evaluation Questions	Answers					
	Yes	No	No answer	Total	% Yes	% No answer
Is the question clear?	8	1	1	10	80.0%	10.0%
Is the question well organized?	9	0	1	10	90.0%	10.0%
Is the question too lengthy?	0	9	1	10	0.0%	10.0%
Would you add anything to the question?	6	3	1	10	60.0%	10.0%

Question 41						
Evaluation Questions	Answers					
	Yes	No	No answer	Total	% Yes	% No answer
Is the question clear?	6	2	2	10	60.0%	20.0%
Is the question well organized?	8	1	1	10	80.0%	10.0%
Is the question too lengthy?	1	8	1	10	10.0%	10.0%
Would you add anything to the question?	2	5	3	10	20.0%	30.0%

Question 47						
Evaluation Questions	Answers					
	Yes	No	No answer	Total	% Yes	% No answer
Is the question clear?	8	1	1	10	80.0%	10.0%
Is the question well organized?	8	0	2	10	80.0%	20.0%
Is the question too lengthy?	0	9	1	10	0.0%	10.0%
Would you add anything to the question?	3	6	1	10	30.0%	10.0%

Question 58						
Evaluation Questions	Answers					
	Yes	No	No answer	Total	% Yes	% No answer
Is the question clear?	8	1	1	10	80.0%	10.0%
Is the question well organized?	8	1	1	10	80.0%	10.0%
Is the question too lengthy?	1	8	1	10	10.0%	10.0%
Would you add anything to the question?	2	7	1	10	20.0%	10.0%

APPENDIX C:

FINAL SURVEY INSTRUMENT

FINAL SURVEY INSTRUMENT*

Glossary of terms and abbreviations

AZ CSPMP - Arizona Controlled Substance Prescription Monitoring Program

Chronic non terminal pain - pain persisting longer than 3-6 months and beyond the normal tissue healing that is not occurring at the end of life and is not due to malignancy.

"High risk" patients **-** patients who have been assessed for both medication misuse/addiction and the exhibit the following characteristics: widespread pain without objective signs and symptoms, unstable or untreated substance abuse of psychiatric disorder or high suicide or homicide risk, history of or current troublesome aberrant drug related behaviors, unwilling to participate in multi modal therapy and not functioning close to a normal lifestyle, pattern of CSPMP reports or urine drug screen that is inconsistent with expected results (Arizona Opioid Prescribing Guidelines, 2014)

Office Delegate - defined as: Registered Nurse, Licensed Practical Nurse, Dental Hygienist, Medical Record Technician, Medical Assistant, Office Manager (Arizona State Board of Pharmacy CSPMP, n.d.)

Q2 Describe your professional education...

- ❍ MD/DO
- ❍ NP
- ❍ PA

*Modifications from original survey are in red

Q3 Practice setting....

❍ Community Health Center/Public Health

❍ Group Private Practice

❍ Solo Private Practice

❍ Hospital

❍ Other

Q4 How many patients are seen in your practice setting per month? If you practice in a group setting, please indicate the number that best reflects your patient panel.

❑ < 100

❑ 100-199

❑ 200-300

❑ >300

Q5 On average, how many chronic pain patients being treated with opioids do you see in a week?

❍ < 5

❍ 5-20

❍ >20

Q6 To determine rurality, please write your practice zip code:

Q7 The intent of this question is to better understand how providers began treating chronic pain patients with opioids.

Of patients you treat for chronic pain:

	Hardly any	Less than half	About half	More than half	Almost all	Unsure or can't remember
How many were already on opioids when you began seeing them...	❍	❍	❍	❍	❍	❍

How many are you treating until they can be seen by a chronic pain specialist...	❍	❍	❍	❍	❍	❍
How many are you treating while covering for another provider...	❍	❍	❍	❍	❍	❍

Q8 Prior to initiating opioids for newly diagnosed chronic pain patients or refilling opioid prescriptions for chronic pain patients new to your practice, do you....

	Sometimes	Always	Never
Perform a risk assessment to evaluate for risk of misuse, addiction or adverse effects....	❍	❍	❍
Assess for history of depression?	❍	❍	❍
Assess for history of psychiatric disorders?	❍	❍	❍
Assess for level of function?	❍	❍	❍
Sign a opioid pain agreement with your patient?	❍	❍	❍
Access the Arizona Controlled Substance Prescription Monitoring Program	❍	❍	❍

Answer: If “never” is selected, then...

Q9 You selected “never” for “Perform a risk assessment to evaluate for risk of misuse, addiction or adverse effects”...please explain. Check all that apply.

- ❑ No time
- ❑ No resources
- ❑ No need

Answer: If “never” is selected, then...

Q10 You selected “never” for “Assess for history of depression?”...please explain. Check all that apply.

- ❑ No time
- ❑ No resources
- ❑ No need

Answer: If “never” is selected, then...

Q11 You selected “Never” for ”Assess for history of psychiatric disorders”...please explain. Check all that apply.

- ❑ No time
- ❑ No resources
- ❑ No need

Answer: If “never” is selected, then...

Q12 You selected ”Never” for “Assess for level of function”...please explain. Check all that apply.

- ❑ No time
- ❑ No resources
- ❑ No need

Answer If “Never” or “Sometimes” is selected, then...

Q13 You selected “Never” or “Sometimes” for ”Sign an opioid pain agreement with your patient please explain. Check all that apply.

- ❑ No time
- ❑ No resources
- ❑ No need

Answer If “Never” or “Sometimes” is selected, then...

Q14 You selected "Sometimes" or "Never" for "Access the Arizona Controlled Substance Prescription Monitoring Program"... please explain. Check all that apply.

- ❑ No time
- ❑ No resources
- ❑ No need

Q15 In regard to opioid pain care agreements or pain contracts...

	For all newly diagnosed CP patients	For CP patients who are already taking opioids but are new to my practice	For high risk CP patients
Office delegate will automatically place contract in patient file prior to consult with provider	❑	❑	❑
Office delegate will place contract in patient file only with provider’s order	❑	❑	❑
Provider facilitates all aspects of a pain care agreement	❑	❑	❑
Pain care agreements are not used	❑	❑	❑

Q16 Items included in the opioid pain care agreement used in your practice: Check all that apply.

- ❑ Treatment goals (shared decision-making, terms under which opioids are prescribed and discontinued)
- ❑ Having only one prescribing provider
- ❑ Limitation on refills (related to ER visits, lost medication, frequency of refills)
- ❑ Use of monitoring tools (urine drug screens, pill counts, prescription monitoring program)
- ❑ Consequences of non-adherence with agreement/contract
- ❑ Patients should not change dosages without prescriber knowledge
- ❑ Adverse effects and safety issues (risks, benefits and informed consent)

Q17 A urine drug screen is performed: Check all that apply.

- ❍ When initiating opioid therapy
- ❍ When assuming care of a patient that is already taking opioids
- ❍ Randomly or spot checks
- ❍ Never
- ❍ Test is not available
- ❍ Test is available but consultation time is limited
- ❍ Frequency is determined by risk category of patient

Q18 The online Arizona Controlled Substance Prescription Monitoring Program (AZ CSPMP) database is reviewed: Check all that apply.

- ❑ When initiating opioid therapy
- ❑ When assuming care for a patient already taking opioids
- ❑ When refilling a prescription
- ❑ Periodic query, if misuse or abuse is suspected
- ❑ Frequency is dependent on risk category of patient
- ❑ Never

Answer if "never" is selected:

Q19 If never...

- ❑ No time
- ❑ No resources
- ❑ No need
- ❑ Unaware of database
- ❑ Aware of database but haven't registered

Q20 Access of the online AZ CSPMP database is performed by... Check all that apply.

- ❑ Provider
- ❑ Office delegate
- ❑ Pharmacist

Answer If "Access of the online AZ CSPMP database is performed by Office delegate Is Selected *Or* Access of the online AZ CSPMP database is performed by Pharmacist Is Selected

Q21 A delegate accesses online AZ CSPMP database:

- ❑ based on a standing order for all patients on opioids at every consultation
- ❑ prior to patient visit, so that the prescribing history is in the chart prior to the consultation

on a patient to patient basis, when the provider orders it

APPENDIX D:

HUMAN RESEARCH REVIEW CORRESPONDENCE

THE UNIVERSITY OF ARIZONA

Human Subjects
Protection Program

1618 E. Helen St.
P.O.Box 245137
Tucson, AZ 85724-5137
Tel: (520) 626-6721
http://orcr.arizona.edu/hspp

Date:	August 03, 2015
Principal Investigator:	Jill Weinstein
Protocol Number:	1507986359
Protocol Title:	Evaluate a Survey of Current Clinical and Opioid Prescribing Practices in the Treatment of Chronic Non-Terminal Pain
Determination:	Human Subjects Review not Required

The project listed above does not require oversight by the University of Arizona because the project does not meet the definition of 'research' and/or 'human subject'.

- **Not Research as defined by 45 CFR 46.102(d):** As presented, the activities described above do not meet the definition of research as cited in the regulations issued by the U.S. Department of Health and Human Services which state that "research means a systematic investigation, including research development, testing and evaluation, designed to contribute to generalizable knowledge".
- **Not Human Subjects Research as defined by 45 CFR 46.102(f):** As presented, the activities described above do not meet the definition of research involving human subjects as cited in the regulations issued by the U.S. Department of Health and Human Services which state that "human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains data through intervention ***or*** interaction with the individual, or identifiable private information".

Note: Modifications to projects not requiring human subjects review that change the nature of the project should be submitted to the Human Subjects Protection Program (HSPP) for a new determination (e.g. addition of research with children, specimen collection, participant observation, prospective collection of data when the study was previously retrospective in nature, and broadening the scope or nature of the research question). Please contact the HSPP to consult on whether the proposed changes need further review.

The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).

REFERENCES

Allen, M., Asbridge, M., MacDougall, P., Furlan, A., & Tugalev, O. (2013). Self-reported practices in opioid management of chronic noncancer pain: A survey of Canadian family physicians. *Pain Research & Management: The Journal of the Canadian Pain Society, 18*(4), 177-184. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3812188/

Arizona State Board of Pharmacy (n.d.) *Arizona State Board of Pharmacy Controlled Substance Prescription Monitoring Program*. Retrieved from https://pharmacypmp.az.gov

American Pain Foundation. (2006). *Voices of chronic pain: A national survey conducted for the American Pain Foundation.* Retrieved from www.davidmichaelsoncompany.com

Arizona Department of Health Services. (2014). *Arizona Opiod Prescribing Guidelines*. Retrieved from http://azdhs.gov/clinicians/documents/clinical-guidelines-recommendations/prescribing-guidelines/141121-opiod.pdf

Barry, D., Irwin, K., Jones, E., Becker, W., Tetrault, J., Sullivan, L., . . . & Fiellin, D. (2010). Opioids, Chronic Pain, and Addiction in Primary Care. *The Journal of Pain, 11*(12), 1442-1450. doi: http://dx.doi.org/10.1016/j.jpain.2010.04.002

Berland, D. & Rodgers, P. (2012). Rational use of opioids for management of chronic nonterminal pain. *American Family Physician, 86*(3), 252-258. Retrieved from http://www.aafp.org/afp/2012/0801/p252.html

Bhamb, B., Brown, D., Hariharan, J., Anderson, J., Balousek, S., & Fleming, M. F. (2006). Survey of select practice behaviors by primary care physicians on the use of opioids for chronic pain. *Current Medical Research and Opinion, 22*(9), 1859-1865.doi:10.1185/030079906X132398

Birnbaum, H., White, A., Schiller, M., Waldman, T., Cleveland, J., & Roland, C. (2011). Societal costs of prescription opioid abuse, dependence, and misuse in the United States. *Pain Medicine, 12*(4), 657-667. Retrieved from http://dx.doi.org/10.1111/j.1526-4637.2011.01075.x

Centers for Disease Control and Prevention, (2008). *Health, United States, 2008*. Retrieved from www.cdc.gov/nchs/data/hus/hus08.pdf.

Centers for Disease Control and Prevention. (2011). *NCHS Data Brief: Drug Poisoning Deaths in the United States, 1980-2008.* Retrieved from http://www.cdc.gov/nchs/data/databriefs/db81.htm.

Centers for Disease Control and Prevention. (2012*). CDC's Primary Care and Public Health Initiative. Prescription drug abuse and overdose: Public health perspective*. Retrieved from http://www.cdc.gov/primarycare/materials/opoidabuse/docs/pda-phperspective-508.pdf.

Centers for Disease Control and Prevention. (2013). *Common elements in guidelines for prescribing opioids for chronic pain.* Retrieved from http://www.cdc.gov/homeandrecreationalsafety/pdf/Common_Elements_in_Guidelines_for_Prescribing_Opioids-a.pdf

Centers for Disease Control and Prevention. (2014). *Morbidity and Mortality Weekly Report. Vital Signs: Variation among states in prescribing of opioid pain relievers and benzodiazepines in the United States, 2012, 63*(26), 563-568. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6326a2.htm.

Chen, L., Hedegaard, H., & Warner, M. (2014). *Drug-poisoning deaths involving opioid analgesics: United States, 1999-2011. NCHS data brief,* (166), 1-8. Retrieved from http://zp9vv3zm2k.scholar.serialssolutions.com.ezproxy1.library.arizona.edu/?sid=google&auinit=LH&aulast=Chen&atitle=Drugpoisoning+Deaths+Involving+Opioid+Analgesics:+United+States,+1999-2011.&id=pmid:25228059.

Chou, R., Fanciullo, G. Fine, P. G., Adler, J., Ballantyne, J., Davies, P., . . & Miaskowski, C. (2009). Clinical Guidelines for the Use of Chronic Opioid Therapy in Chronic Non-cancer Pain. *The Journal of Pain, 10*(2), 113-130.e122. doi: http://dx.doi.org/10.1016/j.jpain.2008.10.008

Chou, R., Turner, J., Devine, E., Hansen, R., Sullivan, S., Blazina, I., . . . & Deyo, R. (2015). The Effectiveness and Risks of Long-Term Opioid Therapy for Chronic Pain: A Systematic Review for a National Institutes of Health Pathways to Prevention Workshop Effectiveness and Risks of Long-Term Opioid Therapy for Chronic Pain. *Annals of Internal Medicine, 162*(4), 276-286. doi: 10.7326/m14-2559

Damschroder, L., Aron, D., Keith, R., Kirsh, S., Alexander, J., & Lowery, J. (2009). Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implementation Science, 4*(1), 50. Retrieved from http://www.implementationscience.com/content/4/1/50

Department of Health and Human Services, Office of Human Research Protections, 2004. *Human subjects regulations decision charts. Chart 1: Is an Activity Research Involving Human Subjects?* Retrieved from http://www.hhs.gov/ohrp/policy/checklists/decisioncharts.html#c1

Dunn, K., Saunders, K., Rutter, C., Banta-Green, C., Merrill, J., Sullivan, M., . . . & Von Korff, M. (2010). Opioid Prescriptions for Chronic Pain and Overdose: A Cohort Study. *Annals of Internal Medicine, 152*(2), 85-92. doi: 10.7326/0003-4819-152-2-201001190-00006

Durlak, J. & DuPre, E. (2008). Implementation Matters: A Review of Research on the Influence of Implementation on Program Outcomes and the Factors Affecting Implementation. *American Journal of Community Psychology*, 41(3-4), 327-350. doi: 10.1007/s10464-008-9165-0

Eccles, M. & Mittman, B. (2006). Welcome to Implementation Science. *Implementation Science, 1*(1), 1-3. Retrieved from http://www.implementationscience.com/content/1/1/1 doi:10.1186/1748-5908-1-1

Federation of State Medical Boards. (2004). *Model policy for the use of controlled substances for the treatment of Pain.* Federation of State Medical Boards of the United States, Inc. Retrieved from http://library.fsmb.org/pdf/2004_grpol_Controlled_Substances.pdf

Federation of State Medical Boards. (1998). *Federation of State Medical Boards of the U.S. Model guidelines for the treatment of pain: A policy document of the Federation of State Medical Boards of the United States, Inc*. pp. 1- 4. Retrieved from http://www.painpolicy.wisc.edu/sites/www.painpolicy.wisc.edu/files/model_0.pdf

Fine, P. (2011). Long-term consequences of chronic pain: Mounting evidence for pain as a neurological disease and parallels with other chronic disease states. *Pain Medicine, 12*(7), 996-1004. doi: 10.1111/j.1526-4637.2011.01187.x

Franklin, G. M., Mai, J., Wickizer, T., Turner, J. A., Fulton-Kehoe, D., & Grant, L. (2005). Opioid dosing trends and mortality in Washington State workers' compensation, 1996–2002. *American Journal of Industrial Medicine, 48*(2), 91-99. doi: 10.1002/ajim.20191

Franklin, G. M. (2014). Opioids for chronic noncancer pain: A position paper of the American Academy of Neurology. *Neurology, 83*(14), 1277-1284. Retrieved from doi:10.1212/wnl.0000000000000839

Gagliardi, A., Marshall, C., Huckson, S., James, R., & Moore, V. (2015). Developing a checklist for guideline implementation planning: review and synthesis of guideline development and implementation advice. *Implementation Science, 10*(1), 19. Retrieved from http://www.implementationscience.com/content/10/1/19

Gatchel, R. & Okifuji, A. (2006). Evidence-based scientific data documenting the treatment and cost-effectiveness of comprehensive pain programs for chronic nonmalignant pain. *The Journal of Pain, 7*(11), 779-793. doi: 10.1016/j.jpain.2006.08.005

Gilson, A., Maurer, M., & Joranson, D. (2007). State Medical Board Members' Beliefs About Pain, Addiction, and Diversion and Abuse: A Changing Regulatory Environment. *The Journal of Pain, 8*(9), 682-691. doi: http://dx.doi.org/10.1016/j.jpain.2007.05.012

Glasgow, R. E., Vinson, C., Chambers, D., Khoury, M. J., Kaplan, R. M., & Hunter, C. (2012). National Institutes of Health approaches to dissemination and implementation science: current and future directions. *American Journal of Public Health*, 102(7), 1274-1281. doi:10.2105/AJPH.2012.300755

Glasziou, P. & Haynes, B. (2005). The paths from research to improved health outcomes. *Evidence Based Nursing, 8*(2), 36-38. doi: 10.1136/ebn.8.2.36

Hutchinson, K., Moreland, A., Williams, A., Weinman, J., & Horne, R. (2007). Exploring beliefs and practice of opioid prescribing for persistent non-cancer pain by general practitioners. *European Journal of Pain, 11*(1), 93. Retrieved from doi: 10.1016/j.ejpain.2006.01.003

Implementation Science and Global Health Meeting Report (2010). *Implementation Working Group, Fogarty International Center of the National Institutes of Health.* Retrieved from http://www.fic.nih.gov/News/Events/implementation-science/Documents/implementationscience-meetingreport_2010.pdf

Institute of Medicine, 2001. *Crossing the quality chasm: A new health system for the 21st century*. Washington: Institute of Medicine. Retrieved from https://www.iom.edu/Reports/2001/Crossing-the-Quality-Chasm-A-New-Health-System-for-the-21st-Century.asp

Jackman, R., Purvis, J., & Mallett, B. (2008). Chronic nonmalignant pain in primary care. *American Family Physician, 78*(10), 1155-1162. Retrieved from http://zp9vv3zm2k.scholar.serialssolutions.com.ezproxy1.library.arizona.edu/?sid=google&auinit=RP&aulast=Jackman&atitle=Chronic+nonmalignant+pain+in+primary+care&title=American+family+physician&volume=78&issue=10&date=2008&spage=1155&issn=0002-838X

Kalso, E., Allan, L., Dellemijn, P., Faura, C., Ilias, W., Jensen, T., . . . & Zenz, M. (2003). Recommendations for using opioids in chronic non-cancer pain. *European Journal of Pain, 7*(5), 381-386. doi: 10.1016/s1090-3801(02)00143-x

Leverence, R., Williams, R., Potter, M., Fernald, D., Unverzagt, M., ... & Pace, W. (2011). Chronic Non-Cancer Pain: A Siren for Primary Care. *Family Medicine, 24*(5), 551-561. doi:10.3122/jabfm.2011.05.110030

Lincoln, L., Pellico, L., Kerns, R., & Anderson, D. (2013). Barriers and facilitators to chronic non-cancer pain management in primary care: A qualitative analysis of primary care providers' experiences and attitudes. *Palliative Care and Medicine, 3*. Retrieved from doi:10.4172/2165-7386.S3-001

Malone, S. (2013a). *The Arizona Rx Drug Misuse and Abuse Initiative*. Arizona Criminal Justice Commission website. Retrieved from http://azcjc.gov/acjc.web/rx/

Malone, S. (2013b). *How is Arizona Affected by the Rx Drug Misuse and Abuse Epidemic*. Arizona Criminal Justice Commission website. Retrieved from http://www.azcjc.gov/ACJC.Web/Rx/Rx%20Fact%20Sheets%20-%20Web.pdf

Manchikanti, L., Abdi, S., Atluri, S., Balog, C., Benyamin, R., Boswell, M., . . . & Wargo, B. (2012). American Society of Interventional Pain Physicians (ASIPP) guidelines or responsible opioid prescribing in chronic non-cancer pain: Part 2--guidance. *Pain Physician, 15*(3 Suppl), S67-116. Retrieved from http://www.painphysicianjournal.com/linkout_vw.php?issn=15333159&vol=15&page=S67

Manchikanti, L., Atluri, S., Hansen, H., Benyamin, R., Falco, F., Helm, S., . . . & Hirsh, J. (2014). Opioids in chronic noncancer pain: Have we reached a boiling point yet? *Pain physician, 17*, E1-E10. Retrieved from http://www.painphysicianjournal.com/2014/january/2014;17;E1-E10.pdf

Manchikanti, L., Boswell, M. V., & Hirsch, J. A. (2013). Lessons learned in the abuse of pain-relief medication: A focus on health care costs. *Expert Review of Neurotherapeutics, 13*(5), 527-544. DOI: 10.1586/ern.13.33

Mickan, S., Burls, A., & Glasziou, P. (2011). Patterns of ‘leakage’ in the utilisation of clinical guidelines: A systematic review. *Postgraduate Medical Journal*, 87(1032), 670-679. doi: 10.1136/pgmj.2010.116012

Mularski, R. A., White-Chu, F., Overbay, D., Miller, L., Asch, S. M., & Ganzini, L. (2006). Measuring pain as the 5th vital sign does not improve quality of pain management. *Journal of General Internal Medicine, 21*(6), 607-612. Retrieved from doi:10.1111/j.1525-1497.2006.00415.x

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*. Retrieved from the Department of Health and Human Services website: hhs.gov/ohrp/humansubjects/guidance/belmont.html

Nwokeji, E. D., Rascati, K. L., Brown, C. M., & Eisenberg, A. (2007). Influences of attitudes on family physicians' willingness to prescribe long-acting opioid analgesics for patients with chronic nonmalignant pain. *Clinical Therapeutics, 29* Suppl, 2589-2602. Retrieved from doi:10.1016/j.clinthera.2007.12.007

Phillips, D. M. (2000). JCAHO pain management standards are unveiled. Joint Commission on Accreditation of Healthcare Organizations. *Journal of American Medical Association, 284*(4), 428-429. doi: 10.1001/jama.284.4.428

Potter, M., Schafer, S., Gonzalez-Mendez, E., Gjeltema, K., Lopez, A., Wu, J., . . . & Croughan-Minihane, M. (2001*).* Opioids for chronic nonmalignant pain. Attitudes and practices of primary care physicians in the UCSF/Stanford Collaborative Research Network. University of California, San Francisco. *Journal of Family Practice, 50*(2), 145-151. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11219563

Portenoy, R. K. & Foley, K. M. (1986). Chronic use of opioid analgesics in non-malignant pain: Report of 38 cases. *Pain, 25*(2), 171-186. doi: http://dx.doi.org/10.1016/0304-3959(86)90091-6

Rutkow, L., Turner, L., Lucas, E., Hwang, C., & Caleb Alexander, G. (2014). Most primary care physicians are aware of prescription drug monitoring programs, but many find the data difficult to access. *Health Affairs*, 34(3). 484-492. doi 10.1377/hlthaff.2014.1085.

Rubenstein, L. V. & Pugh, J. (2006). Strategies for Promoting Organizational and Practice Change by Advancing Implementation Research. *Journal of General Internal Medicine,* 21(S2), S58-S64. doi: 10.1111/j.1525-1497.2006.00364.x

Sehgal, N., Colson, J., & Smith, H. S. (2013). Chronic pain treatment with opioid analgesics: benefits versus harms of long-term therapy. *Expert Review of Neurotherapeutics*, Informa Healthcare. doi:10.1586/14737175.2013.846517

Sinatra, R. (2006). Opioid Analgesics in Primary Care: Challenges and New Advances in the Management of Noncancer Pain. *The Journal of the American Board of Family Medicine, 19*(2), 165-177. doi:10.3122/jabfm.19.2.165

Smith, S. M., Dart, R. C., Katz, N. P., Paillard, F., Adams, E. H., Comer, S. D., . . . & Dworkin, R. H. (2013). Classification and definition of misuse, abuse, and related events in clinical trials: ACTTION systematic review and recommendations. PAIN®, 154(11), 2287-2296. doi.org/10.1016/j.pain.2013.05.053

Stetler, C. B., Legro, M. W., Wallace, C. M., Bowman, C., Guihan, M., Hagedorn, H., . . . & Smith, J. L. (2006). The Role of Formative Evaluation in Implementation Research and the QUERI Experience. *Journal of General Internal Medicine*, 21(Suppl 2), S1-S8. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2557128/ doi:10.1111/j.1525-1497.2006.00355.x

Stevenson, P. (2014). *The Problem of Misuse and Abuse of Rx Medications in Arizona and a Multi-Systems Approach to Addressing the Problem.* PowerPoint presented at the Arizona Opioid Prescribing Summit, Scottsdale, AZ. Retrieved from www.azdhs.gov

Substance Abuse and Mental Health Services Administration. (2012). *Enhancing access to prescription drug monitoring programs using health information technology: Work group recommendations.* Retrieved from https://healthitgov./sites/default/files/work_group_document_integrated_paper_final_0.pdf

Trescot, A. M., Helm, S., Hansen, H., Benyamin, R., Glaser, S. E., Adlaka, R., . . . & Manchikanti, L. (2008). Opioids in the management of chronic non-cancer pain: An update of American Society of the Interventional Pain Physicians' Guidelines. *Pain Physician, 11*(2 Suppl), S5-S62. Retrieved from http://painphysicianjournal

Trust for America's Health, (2013). *Prescription drug abuse: Strategies to stop the epidemic.* Retrieved from http://healthyamericans.org/reports/drugabuse2013/

University of Wisconsin-Madison. (2010). Survey Fundamentals: A guide to designing and implementing surveys. Retrieved from https://d2l.arizona.edu

Weisz, G., Cambrosio, A., Keating, P., Knaapen, L., Schlich, T., & Tournay, V. (2007). The emergence of clinical practice guidelines. *Milbank Quarterly, 85*(4), 691 - 727. Retrieved from doi:10.1111/j.1468-0009.2007.00505.x

Wenghofer, E. F., Wilson, L., Kahan, M., Sheehan, C., Srivastava, A., Rubin, A., & Brathwaite, J. (2011). Survey of Ontario primary care physicians' experiences with opioid prescribing. *Canadian Family Physician, 57*(3), 324-332. Retrieved from http://www.cfp.ca/content/57/3/324.long

Westfall, J. M., Mold, J., & Fagnan, L. (2007). Practice-based research - "Blue Highways" on the NIH roadmap. *Journal of the American Medical Association, 297*(4), 403-406. Retrieved from \10.1001/jama.297.4.403

Wolfert, M. Z., Gilson, A. M., Dahl, J. L., & Cleary, J. F. (2010). Opioid analgesics for pain control: Wisconsin physicians' knowledge, beliefs, attitudes, and prescribing practices. *Pain Medicine, 11*(3), 425-434. doi: 10.1111/j.1526-4637.2009.00761.x

Woolf, S. H. (2008). The meaning of translational research and why it matters. J*ournal of American Medical Association, 299*(2), 211-213. Retrieved from http://dx.doi.org/10.1001/jama.2007.26 doi:10.1001/jama.2007.26

Zerhouni, E. (2003). The NIH roadmap. *Science, 302*(5642), 63-72. Retrieved from http://www.teschi.edu.mx/TESCHI-web/TESCHI-papelera/%20cevm/diapositvas/Anexos%20Modelos/Anexos%20Modelo%20Empresa/Roadmap/The%20NIH%20Roadmap.pdf