Evaluation of Processes and Procedures for Care of the Opioid Recipient Patient in the Primary Care Setting

Annie Sproat, BSN, RN
DNP Project Final Defense
April 11, 2019
Acknowledgements

• Advisor
  – Amy Manderscheid DNP, RN, CMSRN

• Team Members
  – Becky Davis PhD, RN
  – Kimberly Lanning, DNP, MSN, FNP-BC, APRN
Objectives for Presentation

• Review Clinical Problem: Opioid Crisis
• Review Organizational Assessment
• Review Current Literature
• Present Project Plan
• Review the Results, Dissemination, and Sustainability
• Discuss Implications for Practice and DNP Essentials
Introduction

• As many as 25% of patients in the primary care setting receiving opioid prescriptions for a prolonged period struggle with addiction
• The US makes up 5% of the world’s population and consumes approximately 80% of the world’s prescription opioid drugs
• Prescription opioid drugs contribute to 40% of all US opioid overdose deaths

(CDC, 2016)
Assessment of Organization

• Large Midwestern Health System
  – Framework: Burke & Litwin
  – IRB approval
  – Current state of site
  – Stakeholders
  – Clinical Practice Questions
  – SWOT Analysis
Framework: Burke & Litwin
IRB Approval

DATE: October 31, 2018

TO: Amy Manderscheid
FROM: IRBRC
STUDY TITLE: Quality Improvement Project: Evaluation of Processes and Procedures for Care of the Opioid Recipient Patient in the Primary Care Setting
REFERENCE #: IRB# 18-1619-3
SUBMISSION TYPE: IRBRC Initial Submission
ACTION: Not Human Subjects Research
EFFECTIVE DATE: October 31, 2018
REVIEW TYPE: Administrative Review

Thank you for your submission of materials for your planned scholarly activity. It has been determined that the project does not meet the definition of research as defined by the federal regulations. The project, therefore, does not require further review and approval by the Human Research Review Committee (IRBRC).

A summary of the rendered project and determination is as follows:

This quality improvement project will assess use of evidence-based practice guidelines regarding the care being delivered to opioid recipient patients in tandem with recommendations for further improvement among stakeholders. While this is a systematic investigation, it is not designed to contribute to generalizable knowledge as the project seeks to improve the care of a single local institution. Therefore, it does not meet the federal definition of research and IRB oversight is not needed.

An archived record of this determination form can be found in IRB Manager from the Dashboard by clicking the "_forms" link under the "My Documents & Forms" menu.

If you have any questions, please contact the Office of Research Compliance and Integrity at (616) 558-3597 or research@grvc.edu. Please include your study title and study number in all correspondence with our office.

Sincerely,
Office of Research Compliance and Integrity

*Research is a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge (45 CFR 46.102[a]).

*Human subject means a living individual about whom an investigation (whether professional or student) conducting research obtains data through intervention or interaction with the individual, or identifiable private information (45 CFR 46.102[f]).

Scholarly activities that are not covered under the Code of Federal Regulations should not be described or referred to as research in materials to participants, sponsors, or in determination of findings.

NOTICE OF CLINICAL QUALITY IMPROVEMENT MEASUREMENT DESIGNATION

To: Anne Spreat, RN, BSN
8420 Corvette Ct
Jenison, MI 49428
Re: IRB# 18-1619-3
Quality Improvement Project: Evaluation of Processes and Procedures for Care of the Opioid Recipient Patient in the Primary Care Setting
Date: 10/25/2018

This is to inform you that the Mercy Health Regional Institutional Review Board (IRB) has reviewed your proposed research project entitled "Quality Improvement Project: Evaluation of Processes and Procedures for Care of the Opioid Recipient Patient in the Primary Care Setting". The IRB has determined that your proposed project is not considered human subjects research. The purpose and objective of the proposed project meets the definition of a clinical quality improvement measurement. All publications referring to the proposed project should include the following statement:

"This project was undertaken as a Clinical Quality Improvement Initiative at Mercy Health and, as such, was not formally supervised by the Mercy Health Regional Institutional Review Board per their policies."

The IRB requests careful consideration of all future activities using the data that has been proposed to be collected and used "in order to assess the use of evidence-based practice guidelines regarding the care delivered to opioid recipient patients."

The IRB requests resubmission of the proposed project if there is a change in the current clinical quality improvement measurement design that includes testing hypothesis, asking a research question, following a research design or involves overriding standard clinical decision making and care.

Please feel free to contact me if you have any questions regarding this matter.

Sincerely,
Tiffany VanTilburg, CIC
Office of the IRB

Copy: File


Office of Research Compliance and Integrity / 100 Compass Drive / 219 Founders Hall / Grand Rapids, MI 49503
P: 616.543.2799 / Email: research@grvc.edu / www.grvc.edu/irb
Current State

• The organization has recently made changes regarding opioid prescription as a direct result of Michigan law changes:
  – Checking MAPS for each controlled substances refill
  – Limiting re-fills to 28 day supply
  – Requiring signed treatment agreement
  – Requiring signed start talking form
Stakeholders

• Healthcare providers
  – Physicians, Nurse Practitioners, Physician Assistants

• Nursing Staff
  – RNs, LPNs, MAs

• Office Leaders
  – Office manager, office practice leads

• Pharmacists

• Patients
Clinical Practice Questions

• What evidence-based guidelines have been published that address opioid prescribing in primary care, and what effect do they have?

• What are management strategies for patient issues relating to opioid safety, efficacy, misuse, and aberrant related behavior?

• What interventions improve confidence with opioid prescription in primary care?

• Are providers at the XXX primary care setting utilizing evidence-based practice when caring for opioid recipient patients?
SWOT

**Strengths**: Strong leadership, support of larger health system, positive culture, strong emphasis on evidence-based practice

**Weaknesses**: Perceived adverse attitudes, varying practices, no evaluation process

**Opportunities**: Political attention, new laws, opioid taskforce

**Threats**: Disapproving reactions from patients, electronic health system changes
Literature Review

– Review Method
– Results
– PRISMA Figure
– Summary of Table
– Model to Examine Phenomenon
Review Method

• Comprehensive electronic search conducted in PubMed, CINAHL, and Web of Science Core Collection

• Limited to reviews in English during the period of 2014-2018

• Keywords were drug monitoring, guideline, opioid, and primary care. Similar search terms were used by utilizing Boolean operators
Results: Literature Review

• Systematic Review
• Case Studies (series of 3)
• Pre and Post intervention patient cohorts
• Critically appraised topic-evidence synthesis and guidelines
• Prospective longitudinal controlled trial
• Multi-pronged quality improvement intervention
PRISMA Figure

Identification
- Articles identified through 3 databases (n=332)
  - Articles after duplicates removed (n=323)

Screening
- Articles screened (n=323)
  - Articles excluded after Title/Abstract screen (n=257)

Eligibility
- Full-text articles assessed for eligibility (n=69)
  - Articles excluded because of population, setting, and intervention (n=63)

Included
- Articles included (n=6)
Primary Source

• Dowell, Haegerich, & Chou (2016)
  – Creation of guidelines for prescribing opioids for chronic pain
  – Checklist for providers to use when prescribing opioids for chronic pain
Summary of Additional Evidence

• Argoﬁf, Kahan, & Sellers (2014)
  – Weak to moderate evidence supports the value of thorough patient assessment, risk-screening tools, controlled-substance agreements, careful dose titration, opioid dose ceilings, compliance monitoring, and adherence to practice guidelines

• Becker, Merlin, Manhapra, & Edens (2016)
  – With respect to assessment, the cases represent making the diagnosis of opioid use disorder, allowing the patient space, identiﬁcation of co-occurring hazardous alcohol use, and recognizing barriers to multimodal pain care.
  – With respect to treatment, the cases represent changes in treatment with which the patient may not agree, effectiveness of buprenorphine/naloxone for treatments of chronic pain and making continued opioid therapy contingent on engagement with substance abuse treatment
• Chen, Hom, Richamn, Asch, Podchiyska, & Johansen (2016)
  – Guideline dissemination intervention
    • Reduction in percentage of opioid prescription
    • Increased rate of urine drug screening
• Jamison, Scanlan, Matthews, Jurcik, & Ross (2016)
  – Incorporation of structured opioid therapy protocol
  – Created compliance checklists
  – Improvement in identifying patients at risk for misuse
  – Increased confidence in prescribing opioids for pain
  – Increased communication with pain specialists
• Zgierska, Vidaver, Smith, Ales, & Nisbet (2018)
  – Implemented a quality improvement intervention at primary care office
  – Guideline-driven recommendations
  – Intervention incorporated end-user feedback and accounted for the needs of clinic team members
Evidence for Project

• Quality measures have been identified in the literature that are measurable and guide best practice
Model to Examine Phenomenon

• Donabedian Model  (Donabedian, 1988)

**Structure:** How is care organized?
The start talking form
The treatment agreement
The documentation of MAPS being checked

**Process:** What is done?
Are urine drug screens being completed?
Are referrals being made?
Are opioid risk tools being used?
Are patients being screened for depression?
Are MMIs being documented?

**Outcome:** What happens to the patient’s health?
Health status
Functional status
Overdose
Addiction
Project Plan

- Purpose: project type, design, setting, subjects, resources
- Framework for implementation
- Project Plan Objectives & Implementation Strategies
- Measures to evaluate clinical questions
- Analysis plan
- Implementation steps
Project Purpose & Objectives

• Assess the current state of evidence-based practice by completing a gap analysis
• Implement a quality improvement program for standards of care in tandem with designing an evidence-based toolkit for improvement and sustainment
Design

• Quality Improvement Project
  – Evaluate whether current practice is following evidence-based practice recommendations
  – Translate evidence based literature into practice
Setting & Participants

• Where:
  – Primary care office

• Who:
  – Staff (primary care providers, support staff, office leaders)
  – Patients
Implementation Model

• The Plan-Do-Study-Act Model
Determine Project Success
Communicate Results
Project Sustainment
Project Documented

PDSA MODEL

PLAN

DO

STUDY

ACT

Project Planning

Determine Project Results

Project Implementation

GRAND VALLEY STATE UNIVERSITY
KIRKHOFF COLLEGE OF NURSING
Implementation Steps

1. Perform chart audits at the clinic between Nov. 2018 and February 2019

2. Collaborate with IT personnel in order to obtain reports that address measures outlined in step one.

3. Assess the use of evidence-based practice guidelines by analyzing the gathered data using descriptive statistics.

4. Communicate findings with leaders, providers, and office staff.
5. Collaborate with leaders, providers, and office staff to design improvement strategies.

6. Develop a toolkit with evidence-based improvement and sustainment recommendations.

7. Share recommendations with leaders, providers, and office staff.
8. Deliver an evidence-based toolkit to primary care office leaders, providers, and office staff.

9. Ensure a sustainment plan is in place.
Evaluation & Measures

- Data was mined retrospectively for the calendar year of 2018 for all measures except the depression screening score, which was taken from the patient’s most recent visit.

- Descriptive statistics summarized assessment findings.
Analysis Plan

• Descriptive statistics
  – Overall statistics for office (No individual)
  – Frequency and percentage statistics
  – Data displayed using tables and pie charts
Timeline

• Project planning and Prospectus: Spring 2018
• Organizational Assessment and Literature Review: Summer 2018
• Project planning and IRB submissions: Fall 2018
• Proposal Defense: November 5, 2018
• Data Collection: November 5, 2018-February 31, 2019
• Provider Meeting: March 13, 2019
• Final Project Defense: April 11, 2019
Resources & Budget

• Revenue
  – Project Manager Time (in-kind-donation)
  – Team Member Time
  – Consultations
  – Cost of space

• Expenses
  – Project Manager Time (in-kind-donation)
  – Team Member Time
  – Consultations
  – Laptop
  – Cost of space
  – Cost of printed education/toolkit material
Results

- Third step of the PDSA model
  - Studying and analyzing the data, and the process, to determine results
Results

• **Objective One:** Complete a Gap Analysis for Opioid Prescription Evidence-based Practice in the Primary Care Setting for Adult Patients Receiving Opioids

• Outcome measures from 366 patients were obtained through chart audits and data reports that were generated by IT personnel
Results

• Urine Drug Screening
  – 59% of the sample did not have a documented urine drug screen on file
  – 41% of the sample did have a documented urine drug screen on file
Urine Drug Screen

- 59% Urine Drug Screen Completed
- 41% No Urine Drug Screen Completed
Results

• Diagnoses associated with opioid prescription
  – 151 unique diagnoses identified in association with an opioid prescription
  – Top five diagnoses:
    • Chronic pain/chronic pain syndrome
    • Low back pain
    • Opioid dependence
    • Lumbar disc degeneration
    • Dorsalgia
    • Cervicalgia
Top Five Diagnoses Associated with Opioid Prescription

- Chronic Pain/Chronic Pain Syndrome: 58%
- Low Back Pain: 23%
- Opioid Dependence: 6%
- Lumbar Disc Degeneration: 6%
- Dorsalgia: 4%
- Cervicalgia: 3%
Results

• Concurrent benzodiazepine Prescription
  – 28% were being prescribed a benzodiazepine concurrently
  – 72% were never prescribed a benzodiazepine concurrently
CONCURRENT BENZODIAZEPINE PRESCRIPTION

- Concurrent Benzodiazepine Prescription: 28%
- Never Concurrently Prescribed a Benzodiazepine: 72%
Boxplot for Concurrent Benzodiazepine Use and Average Daily MME
Results

• Depression Screening
  – 1.9% of patients were not screened using the PHQ-9 screening tool
  – Scores ranged from 0-27:
    91.7% scored 0-5 (no depression)
    3.0% scored 5-10 (mild depression)
    1.7% scored 10-15 (moderate depression)
    1.9% scored 15-20 (moderately severe depression)
    1.7% scored >20 (severe depression)
Depression Scores Histogram

Distribution of score

Percent

score

Distribution of score
Results

• Calculated Daily MME
  – Daily MMEs varied a great deal, from 0.33 to 830.76
  – Mean daily MME = 23.52
  – Median daily MME = 7.5
  – Extreme outliers with high daily MMEs
### The UNIVARIATE Procedure

**Variable: avg_daily_mme**

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### Basic Statistical Measures

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<td>Variance</td>
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<tr>
<td>Interquartile Range</td>
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Histogram of Calculated Daily MMEs
Results

• **Objective Two:** Communicate findings from gap analysis with leaders, providers, and office staff.

• **Nominal Measurement**

• Communication of results was completed during the March 2019 provider/staff meeting
Results

• **Objective Three:** Collaborate with leaders, providers, and office staff to design improvement and/or sustainment strategies

• **Nominal Measurement**

• Collaboration occurred during the duration of the project

• Improvement strategies discussed at provider/staff meeting

• Interprofessional collaboration with addiction medicine physician at provider/staff meeting
Results

• **Objective Four:** Design a toolkit with evidence-based improvement and sustainment recommendations

• **Nominal Measurement**
• A provider toolkit was created based on current evidence and needs
• All providers received a toolkit
• All providers were encouraged to download free app called Opioid Guideline
Discussion

• For this quality improvement project, the clinical practice question was: Are the providers at the XXX primary care setting utilizing evidence-based practice when caring for opioid recipient patients?
  – There are several practices within the office that have the opportunity for improvement, which include:
    • utilizing the urine drug screen more frequently
    • using the diagnosis of chronic pain for patients on long-term opioid therapy
    • abstaining from concurrently prescribing a benzodiazepine
    • calculating daily MMEs
    • consistently screening for depression
Limitations

• Measures were removed from the project during the IRB process
• Inability to incorporate deliverables within the electronic health record
Implications for Practice

• Organizational policies that address treatment practices outlined in this project
• Opioid and substance abuse assessment tools
  – Webster’s Opioid Risk Tool
  – Screener and Opioid Assessment for Patients in Pain
Conclusions

• A quality improvement project was planned based on the needs identified during the organizational assessment
• A literature review identified current evidence-based practice measures
• A gap analysis was completed through chart audits and data reports
• A provider toolkit was created to meet the needs identified in the gap analysis
• Communication and collaboration activities took place during the duration of the project
Sustainability Plan

• Final step of the Plan-Do-Study-Act model
• Providers and staff members supported practice improvements within the chronic pain opioid recipient population
• Lead practice provider has agreed to continue to work towards improving the care within this population
• The toolkit creates sustainability by acting as a reliable everyday reference
Dissemination

• Presentation of toolkit at primary office provider meeting (3/13/2019)
• Final Project Defense (4/11/2019)
DNP Essentials

• Essential I: Scientific Underpinnings
  ✓ Research on evidence-based care for chronic pain
  ✓ Use of conceptual frameworks and theories from nursing and non-nursing disciplines

• Essential II: Organizational and Systems Leadership
  ✓ Organizational assessment
  ✓ Communication with key stakeholders
  ✓ Presentation of provider toolkit
DNP Essentials

• Essential III: Clinical Scholarship and Analytical Methods for EBP
  ✓ Literature review
  ✓ Analyze evidence-based care measures data
  ✓ Evaluation of results

• Essential IV: Information Technology
  ✓ Electronic health record to gather project data
  ✓ Worked closely with IT personnel to obtain data reports
  ✓ E-mail communication
  ✓ Excel – organize data
DNP Essentials

• Essential V: Healthcare Advocacy
  ✓ Analyzed current organizational policies
  ✓ Worked with Pain Clinical Nurse Specialist to create literature review that will be used in the formation of organizational policy

• Essential VI: Interprofessional Collaboration
  ✓ Nursing
  ✓ Providers
  ✓ Medical Assistants
  ✓ Office Manager
  ✓ Pain CNS
  ✓ Statistician
  ✓ Opioid Task Force
  ✓ Information Technology Personnel
DNP Essentials

**Essential VII: Clinical Prevention and Population Health**
- Evaluation of care being delivered to the opioid recipient population
- Health promotion within the chronic pain opioid recipient population
- Creation of toolkit that addresses disease prevention within this population

**Essential VIII: Advanced Nursing Practice**
- Development and implementation of a quality improvement project
- Developed inter-professional partnerships
- Project created an opportunity for improvement in health outcomes
References

References