

Developing an Interprofessional Communication Model for a
Substance Use Risk Reduction Program

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Signature Page

This capstone project, Developing an Interprofessional Model of Communication for a Substance Use Risk Reduction Program was prepared under the direction of the faculty mentor and practice partner. It is accepted by the faculty mentor, practice partner, and director of the program in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice at the University of Southern Indiana.

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Dedication and Acknowledgement

*For I know the plans I have for you, declares the Lord, plans to prosper you
and not to harm you, plans to give you hope and a future.*

-Jeremiah 29:11

This capstone project is dedicated to my incredible husband Randy, he is my rock through all things and has given me encouragement when I thought I could not go forward. My sons, Aaron and Alex, have piled on their encouragement also and I am grateful for their love.

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Executive Summary

Problem

A serious problem in the healthcare setting for patients who inject drugs (PWID) has been a lack of consistent screening for substance use, misuse of the vascular access device and the absence of an interprofessional communication plan designed to care for the patients primary presenting issue and the underlying addiction.

Purpose

The purpose of this capstone project was to develop an interprofessional communication model to facilitate improved care for the whole patient with a history of injectable drug use (IDU).

Objective

The objective of this project was to build and employ an interprofessional communication model to increase safety, decrease risks and improve outcomes for patients with a history of IDU requiring intravenous therapy.

Plan

The plan was to measure the interprofessional communication self-assessment, as it relates to serving PWID, prior to the implementation of a novel screening assessment tool and 90 days after initiation of the assessment to detect possible improvement in communication.

Results

Analyzing the results for all respondents pre- and post-intervention did not show significant change. Narrowing the analysis to RNs only for pre- and post-intervention in the interaction domain $p = 0.023$ shows a significant change in this domain. Focusing on the RNs only interaction domain the size of the effect was calculated using Eta Squared. The result for this group was $\eta^2 = 0.051$ which is considered a small effect but close to a moderate effect. Calculating a Cohen's d, the result was a moderate effect at Cohen's $d = 0.061$.

Recommendations

An Interprofessional Communication Model is foundational to collaboration of care for PWID. Increasing safety, increasing successful completion of intravenous medication and decreasing cost begins with identification of the problem and communication to professionals involved in the care of the whole patient.

Developing an Interprofessional Communication Model for a
Substance Use Risk Reduction Program

Introduction to Problem

According to the National Institute on Drug Abuse (NIDA), 52 million people over the age of 12 in the United States (US) have used prescription drugs in ways not prescribed to them in their lifetime (National Institute on Drug Abuse, 2010). Of the 8.76 million prescription drugs that were misused in 2010; the top three categories were stimulants, tranquilizers and opioids. By far the highest abuse is noted with opioids at 5.1 million (NIDA, 2010). The abuse of pain killers is significant because 73% of people addicted to opioids will switch to the less expensive and highly available version of pain control namely, heroin (NIDA, 2018).

A trend observed from 2008 to 2014 exposed that as prescribers worked diligently to decrease opioid prescriptions, people who are already addicted to the pain killers sought alternative methods to obtain the opioids. This is quantifiable in that as prescriptions for opioids declined by 6.1% the use of both prescription opioids and heroin had a steady increase over the same period by 10.3%, and an underlying upward trend with heroin only (Cicero, Ellis & Harney, 2015).

The Substance Abuse and Mental Health Services Administration (SAMHSA) (2016), reports the number of injectable drugs used increased in every age group with the inclusion of injectable methamphetamine in 2015 compared to only heroin and cocaine in the previous year. Injectable drugs including cocaine, heroin and methamphetamine have caused a multitude of health issues that lead the users to a hospital setting for treatment.

Needs Assessment

People who inject drugs (PWID) have encountered the health system with issues related to injectable drug use (IDU) such as intramuscular or intravenous site infections, endocarditis, internal and external abscesses, septicemia, overdose, and blood-borne infections (Akselrod, Grau, Barbour, & Heimer, 2014; Cicero, Ellis & Harney, 2015; Garber & Glauser, 2015; Mittapolli, Velineni, Rae, Howd & Suttie, 2015; Russel, et al., 2012; Zibbell, et al., 2018). It is likely that this population enters the health system for reasons previously listed and not directly related to their addiction. No matter which issue brought the patient to the hospital, it has been at this crisis point that healthcare professionals have a small window to intervene and address both the presenting health issue and underlying addiction.

The intravenous delivery system (IVDS) consists of the following components; the infusate, intravenous (IV) tubing and the vascular access device (VAD) (Hadaway, 2010). A question raised by D' Couto, et al. (2018), is described as; what is the risk of the patient misusing the IVDS to continue, or enhance, their current substance addiction if the patient is admitted to the hospital with an infection requiring intravenous access ? This project manager found no definitive answers. The reality is that it starts with identifying patients at risk for IVDS misuse. Once identified communication between professionals to work in concert to optimize patient outcomes is essential.

Literature Review

Searching in ProQuest, Med-Line, and CINAHL databases as well as Healthy People 2020, National Institute on Drug Abuse (NIDA), and Substance Abuse and Mental Health Services Administration (SMAHSA) websites, the following search terms were used; injectable drug use, opioid use, intravenous (IV) drug use, people who inject drugs, health risks of

injectable drug use (IDU), substance use disorder screening, risk assessment, substance abuse, vascular access device, tampering, tamper evident devices, in-patient or out-patient IDU risks, parenteral medications and interprofessional communication, interprofessional collaboration.

Articles from 2010 to 2019 were included if they were English language peer reviewed journals, US government websites associated with drug and mental health issues, subjects 12 years of age or older. Exclusion criteria were foreign language journals, non-peer reviewed articles, and data related to countries other than the US, Europe, Canada and Australia.

The search revealed a plethora of articles addressing the epidemic of injectable drug use across the US. There were approximately 150 articles discussing the health risks of injectable drug use. A variety of risk assessment tools dealing with mental health and substance use disorders were also discovered in the search. More than 200 articles on interprofessional education, communication and collaboration emphasized the necessity of collaboration between disciplines for the best patient outcomes. There were three articles addressing screening related to parenteral medication requirements in PWID. There was only one peer reviewed article found related to tamper evident technology used to decrease risk of IVDS misuse in this patient population.

Trending for injectable drug use in the US from 2002 to 2014 clearly shows a rise in IDU for ages 18 – 25 and a slight downward trend for ages 12- 25 (Cicero, Ellis & Harney, 2015; Lipari & Hughes, 2015). In a study of the rising trend of Hepatitis C Virus (HCV) Zibbell, et al. (2018), compared the dramatically rising HCV with the opioid epidemic, focusing on heroin. The team of researchers noted the two-fold rise in HCV strongly suggests a relation to the increases in IDU. Two of the studies corollate the decrease in opioid prescriptions in ages 18

and older to the increase in injectable heroin use (Cicero & Harney, 2015; Lipari & Hughes, 2015).

Health risks associated with IDU are many and often severe. Some of these health issues include; intramuscular or intravenous site infections, vein sclerosis, endocarditis, abscesses both internal and external, septicemia, overdose, blood-borne infections (Akselrod, Grau, Barbour, & Heimer, 2014; Cicero, Ellis & Harney, 2015; Garber & Glauser, 2015; Mittapolli, Velineni, Rae, Howd & Suttie, 2015; Russel, et al., 2012; Zibbell, et al., 2018). Many of these issues require antimicrobial therapy either oral or parenteral depending on the severity of the infection and the specific micro-organism sensitivity (Fanucchi, Lofwall, Nuzzo, & Walsh, 2018).

There are several risk assessments related to substance use. Hargraves, et al. (2017) described a program of early intervention through primary care practices using the assessment tool, Screening Brief Intervention and Referral to Treatment (SBIRT). This screening focused on identifying at risk patients who enter a primary, or urgent, care facility to identify them early in their need for health care. The goal of this screening was to treat the health issue early and try to get the patient to treatment for their addiction.

In a study by Butler, et al. (2016), the researchers utilized the electronic kiosk styled screening tool Pain Clinical Assessment System, (PainCAS). The goal to capture important data points including aberrant opioid-related behaviors through a validated tool rather than one on one interview and whether the former would impact patient outcomes. The PainCAS group did reveal more in-depth information including opioid use beyond prescribed allotment, but there was no difference in key outcomes; pain, mood or function (Butler, et al., 2016).

Are patients more likely to give an honest account of alcohol and drug use if they enter the information into a kiosk versus the same questions asked in-person by health care

professionals is the research question asked by Hankin, Haley, Baugher, Colber and Houry (2015). The goal of getting the actual history from the patient would then trigger the SBIRT. Although the patients answered more in depth at the kiosk, ($p < 0.0001$), the patients preferred the in-person interview by 73.6% (Hankins, et al. 2015).

A study by Cheatle & Barker (2014), investigated improving the prescription opioid dispensing by ranking patients according to risk of misuse utilizing multiple screening tools including: The Opioid Risk Tool (ORT), the Screening Opioid Assessment for Patients with Pain (SOAPP), Diagnosis-Intractability-Risk-Efficacy (DIRE) and the Drug Abuse Screening Test (DAST). Separate instruments were employed to assess signs of misuse, or abuse, of opioids these included; the Pain Assessment and Documentation Tool (PADT) and the Current Opioid Misuse Measure (COMM).

The level of risk identified by these tools would lead to the determination of restrictions the patient had to comply with in order to receive their prescription opioids. Patient's identified as low risk would return for routine follow up every three months, moderate risk would have monthly visits with pill counts and high risk were referred to an interdisciplinary in-patient pain center (Cheatle & Barker, 2014).

The study concluded that stratifying patient risk of opioid misuse was important when allocating the limited resource of time from the primary care physician and the interdisciplinary team. These researchers emphasize that simply treating pain by limiting the patient's ability to sense it is not the answer. The whole patient needs care not just the primary symptom (Cheatle & Barker, 2014).

Caring for the whole patient requires more than one healthcare professional working towards a goal. Lack of communication, miscommunication or not asking important questions to

begin communication leads to poor patient outcomes (Cheatle & Barker, 2014). Another layer in communication difficulties is the format in which information is being exchanged and the perceived hierarchy between professionals (Foronda, MacWilliams, & McArthur, 2016).

In an article by Costello and Thompson (2015) the authors discuss the importance of collaboration and its effect on patient outcomes. The most common cause of medical errors as reported by the Institute of Medicine (IOM) (2001), is the lack of collaboration and communication between providers. Multiple factors contribute to the communication failure according to Costello and Thompson (2015), those include; social, relational, and organizational structures.

Committee members of the IOM listed ten guiding principles for patient-client relationships in the 21st century (IOM, 2001). All ten are significant in treating the whole patient, but two are directly related to the purpose of this capstone project. The first was “customization based on patient needs and values” an organization’s ability to individualize care of unique patients and the second “cooperation among clinicians” or the collaboration of healthcare professionals to ensure the accurate exchange of information and provide patient centered care (IOM, 2001).

In a systematic review of nine randomized controlled trials (RCTs) the authors concluded that based on the research and interventions to improve interprofessional collaboration may only slightly improve patient outcomes (Reeves, Pelone, Harrison Goldman & Zwarenstein, 2017). The researchers were not concluding that interprofessional collaboration is unnecessary, but rather the interventions, the tracking of outcomes and/or the RCTs need to be improved (Reeves, et al., 2017).

It is difficult to improve patient outcomes when the various professionals are working from different stacks of information with different authority on how to act on that information (Verhaegh, et al. 2017). That is the case when just two disciplines are communicating such as nurses and physicians. Foronda, et al (2016) conducted an integrative review focusing on communication issues between nurses and physicians with the goal of improving interprofessional education and collaboration in medical and nursing schools. The researchers listed frustrations in communication on both sides. The physician frustration can be summed up by their request for facts only, get to the point. The nurse's frustration was more about perceiving the physician's attentiveness to their information and their lack of confidence to provide information to a person who is perceived to have more power (Foronda, MacWilliams, & McArthur, 2016).

In caring for PWID requiring IV medication the number of healthcare professionals involved goes far beyond the nurse-physician communication issues. In a systematic literature review the researchers extracted multiple skills needed for effective communication for healthcare professionals including; pharmacy, nursing, physical/occupational therapy, and physicians (Denniston, Molloy, Nestel, Woodward-Kron, & Keating, 2017). The reviewers concluded that knowledge, as a skill in effective communication, is as important as the skills of content, process and perception proposed in the original work by Kurtz, Silverman and Draper (1998).

Searching for articles addressing screening of in-patients needing IV medications who have a history of IDU produced three publications. Camasari and Libertin (2017) discussed the issues in small midwestern town when trying to serve patients with a history of IDU who required long-term IV antibiotics (IV-ATB) and also needed a place where they could safely

receive infusions. The plan was to stratify the risk of IVDS misuse and place the patient accordingly. The methodology employed allowed low and moderate risk patients to receive outpatient antibiotic therapy (OPAT) with urine drug screens. The high-risk patients were required to be in-patient (Camsari & Libertin, 2017). This assumes that the high-risk patients will not attempt to access their IVDS within the walls of the hospital. In a study by Fanucchi, Lofwall, Nuzzo, and Walsh (2018), their survey of PWID with recent hospitalizations revealed an in hospital use of illicit drugs of at least 43%.

When considering models that stratify the need for IV medicines in a population at risk for misuse of the IVDS, Englander, et al (2018) described a program of Medically Enhanced Residential Treatment (MERT). In this study the authors ranked patients on their ability to complete infusion therapy. They had a difficult time finding residential treatment facilities willing to accept a patient in need of IV-ATB. The project ultimately failed because patients in a treatment center felt they stood out as different (Englander, et al., 2018).

The researchers D'Couto, et al (2018) addressed PWID needing IV-ATB by assessing the discharge location versus likelihood of successful completion of two weeks of therapy between 2010 and 2015. There was no contract with the patient, no protection for the line and the criteria for success was no relapse, no line infection, no loss to follow-up and completion of two weeks of IV-ATB. The authors concluded that patients discharged to a skilled nursing facility (SNF) were more likely to have a line infection (16%) compared to discharge to home (5%). According to the Centers for Disease Control and Prevention (CDC) line infections 5% or higher are considered a serious issue requiring analysis of the root cause and corrective action (CDC, 2011).

One article has been published about a case study in which a patient with a history of IDU required 42 days of OPAT. In this case study the patient received a peripherally inserted

central catheter (PICC) with tamper evident technology (TET) placed on the device. A contract between the patient and the hospital delineated the expectations and consequences of tampering with the PICC. The patient in this study completed the course of antibiotics without difficulty and without a catheter related blood stream infection (CRBSI) (Hawes & Willegal, 2017). No publications were found related to identifying risks associated with misuse of the IVDS for inpatients.

The first steps to improving interprofessional communication for patients with a history of IDU, either inpatient or outpatient, is identification of a history of substance use disorder (Van Leijen-Zeelenberg, et al., 2015). Communication cannot happen until the professional recognizes the risk this patient population poses to the hospital and to themselves.

Problem Statement

A serious problem in the healthcare setting for PWID has been a lack of consistent screening for substance abuse risk, misuse of the IVDS and the absence of a specific and operational communication plan for healthcare professionals from different backgrounds designed to care for the whole patient. Keeping a vital piece of patient health history secured in the Licensed Independent Practitioner's (LIP) history and physical or other discipline's notes left unread by other professionals is substandard care no matter the patient population.

Purpose Statement

The purpose of this capstone project was to develop an interprofessional communication model to facilitate improved care of the whole patient with a history of injectable substance use.

Theoretical Framework

In a presentation by Ernestine Wiedenbach in 1962 the theorist succinctly described dynamic nursing as goal directed, intentional in its delivery and centered on the patient. (Wiedenbach, 1962). It was at this presentation, Professor Wiedenbach described the art of clinical nursing in a diagram of concentric circles with the experiencing individual, i.e. the patient, at the center, see Appendix A (1962).

Foundational concepts for this capstone project included identification and communication. These two concepts lead to collaboration of care for the patient. In Wiedenbach's theory of clinical practice, she includes four components that define the art of nursing; identification, ministrations, validation and coordination (1964).

Identification is defined by Wiedenbach as the individual's need for help according to the patient's perception of their need and their ability to utilize the help offered (1963). This is in accordance with a capstone project that attempted to identify patients with a history of IDU to decrease risk of tampering with a vascular access device, and offer treatment to confront the underlying substance use disorder (SUD). According to Wiedenbach, identification of the problem cannot be one-sided but must include the patient's perception of their need for help along with the clinician's assessment (1963).

Ministrations is the intervention applied to the identified problem and validation is the assessment of the outcome of the applied ministrations (Wiedenbach, 1963). This circle of three components; identification, ministrations and intervention, are clinical nursing components and closest to the experiencing individual as depicted in the model of dynamic nursing practice described by Wiedenbach, see Appendix A, (1962).

The next layer of dynamic nursing practice is the component of coordination depicted by three parts; coordination, collaboration and consultation (Wiedenbach, 1962). These three components hinge on communication, either written or verbal, and an understanding of the perception of power held by each healthcare professional. (Dickoff & James, 1968; Geese & Dombro, 2001). The power dynamic discussed by Wiedenbach (1964) and her fellow Yale professors Dickoff and James (1968) observed that coordination between professionals requires both the deliverer and recipient understand their personal comfort with their role and an appreciation of the role of the person with which they are collaborating.

For the purposes of this capstone project, identifying the patient's perceived problem and their willingness to receive help along with communication between healthcare professionals and the patient were emphasized. Patient centeredness, identification, communication and collaboration are all central components to Wiedenbach's theory of dynamic nursing (1964). This capstone project was patient centered, initiated by identification of patients with a history of IDU, once identified, the information is communicated to key stakeholders so that collaboration of care for the whole patient could occur.

This project managers concept of an Interprofessional Communication Model (ICM) based on Wiedenbach's dynamic nursing model can be viewed in Appendix B. In this model the patient is the center of activity, dynamic nursing is constantly interacting with the patient through identification, actions, assessment and patient feedback. This capstone project focused on the interprofessional communication of vital information about the patient's a drug history. Without communication collaboration cannot happen. The base of the ICM are the key stakeholders who received notification in multiple formats of the Substance Use Risk Assessment (SURA) level. This auto-notification allowed various healthcare professionals to begin to coordinate care within

the hospital and plan for possible transition to post-acute care if long-term IV antibiotics are required.

Project Goals and Objectives

Short-Term Objectives

1. Form an interprofessional Substance Use Risk Assessment work group to build and evaluate screening tool to be utilized on every admission by September 15, 2018.
2. Obtain supplies necessary to apply Tamper Evident Technology for the outpatient and inpatient settings by September 15, 2018.
3. Develop procedures for nursing to follow once an IDU patient is identified by October 1, 2018.
4. Obtain site approval for surveys of interprofessional collaboration by September 14, 2018 see Appendix C.
5. Obtain USI IRB approval by December 13, 2018, see Appendix D.
6. Obtain approval from lead researchers of IPEC tool by September 14, 2018 (Dow, et. al., 2014; Lockeman, et al., 2016) see Appendix E.
7. IPEC refined tool to be entered into Survey Monkey platform by December 5, 2018. IPEC Data Key and IPEC Self-Assessment Tool, see Appendixes F and G.
8. Develop the Substance Use Risk Assessment to capture patients with a history of IDU early in the admission process by November 1, 2018.
9. Construct organizational policies to guide interprofessional communication model after identification of risk level by November 1, 2018

10. Disseminate Interprofessional Education Collaboration (IPEC) survey to key healthcare professionals and certified technicians involved in the care of patients with a history of IDU requiring parenteral medication before December 17, 2018.

Long-Term Objectives

1. Increase the number of behavioral health consults resulting in treatment admissions for IDU by the end of 2019.
2. Decrease length of stay for patients with a history of IDU by allowing out-patient and SNF transfers with tamper evident technology in place as evidenced by Social Workers ability to discharge the patient by the end of 2019.
3. Assess statistically significant improvement in interprofessional communication by comparing pre and post survey results as it relates to identifying and caring for patients with a history of IDU by the end of June 2019.

Detailed Project Plan

The opioid epidemic, among other substance use issues, is at a crisis point on many levels requiring fundamental change in caring for these patients. needs to take place. At the point the patient intersects with the healthcare system the professionals treating the presenting problem often ignore the root cause.

Scope of Change

The scope of the change begins with assessing every patient for substance use risk, communicating that risk between professionals and finally collaborating to achieve a better outcome that addresses both the primary and substance use disorder diagnoses. Putting the proposed project into action began the necessary change.

Setting

The setting for this project was a 143-bed rural hospital in Southwestern Indiana, providing critical care, medical, surgical, out-patient, rehabilitation, long-term post-acute care, home health, oncology, cardiac, obstetrics, pediatrics, behavioral health and emergency care services. The hospital employs more than 1,700 people. Annually the hospital treats 6,600 inpatients, 254,000 outpatients and 29,000 emergency department visits (Persohn, 2018).

Human Subjects and Protection

The medical professionals that were surveyed before and after the intervention included; physicians, nurse practitioners, nurses, certified nursing assistants, social workers, behavioral health social workers, patient safety officer, managers and directors. These were unpaired samples obtained during a two-week period prior to the intervention and a two-week period after the 90-day pilot of the SURA and interprofessional communication model (ICM).

Self-assessment through survey will be voluntary and the professionals entering the information will not be identified. Age of the participants will be 18 years or older. As part of the demographic information gender and healthcare role in addition to age will be required.

A recruitment letter, via email, was sent to the directors of the patient services departments prior to the initial survey period and 90 days after the intervention, see Appendix H. Assent was indicated by the participants choosing in login to the survey and complete the self-assessment.

There are no known risks to the participant who completed the survey and no issues were reported. No participant was forced, or tracked by name, on their choice to login or complete the self-assessment. Participants are not required to complete both the pre- and post-intervention

survey. Participants had the right to not complete the survey. Demographic information and survey answers did not allow the possibility to identify the participant.

Tools and Measures

The project utilized the interprofessional education collaborative (IPEC) competency self-assessment tool (CSAT), see Appendix G (Lockeman, et. al., 2016). Permission for use of the tool was obtain from both the original researcher and the researcher who refined the original tool, see Appendix E. The refined assessment is the tool was employed for this research.

The IPEC expert panel (2011), established four domains necessary to improve collaboration.

- Teams and teamwork
- Values and ethics
- Interprofessional communication
- Roles and responsibilities

Reliability was established by test-retest. Dow, Diaz-Granados, Mazmanian & Retchin (2014), performed an exploratory study of a tool developed from the domains established by the IPEC expert panel. In this study Dow, et. al. (2014), created a survey including 42 items derived from the IPEC domains and surveyed 3,236 students enrolled in a clinical health science degree.

Lockeman, et. al. (2016) refined the assessment tool by combining the domains from four to two.

- Interaction Domain
- Values Domain

Lockeman, et. al. (2016) conducted a three-part study to test the assessment tool created by Dow, et. al. (2014) and refined the 42 items down to 16 items. By completing the three-part study Lockeman, et. al. (2016) further established reliability, validity and usability of the tool based on the IPEC competencies.

Utilizing the refined tool this project manager used the total of the Likert scale scores from the eight interaction domain items and the eight values domain items. By totaling the scores, as was done in the Lockeman, et. al. (2016) study, an Independent t-test was employed to assess effect of the intervention on self-assessment of interprofessional communication.

Resources and Supports

This capstone project is part of a larger program supported by the hospital currently referred to as the Substance Use Risk Reduction Program (SURRP). In its development since 2015 the hospital has invested time and money into presentations and product development. In turn the hospital has been able to move multiple patients with a history of IDU to outpatient status, or skilled nursing facilities, to receive the remainder of their IV medication saving the hospital thousands of dollars (Memorial Hospital and Health Care Center (MHHCC), 2019).

A second resource is the supply of product from the biomedical engineering department at the University of Tennessee (UT) at no charge. Mathew Mensch, product developer, first contacted this project manager about the use of a 3-D printed lock box originally designed to limit infections by protecting manipulation of the vascular access device (Mensch, 2018). After a publication about a case study in 2017 the focus of the UT product changed to protection from misuse of the vascular access device (Hawes & Willegal, 2017).

A third resource developed just before a presentation at the Association of Vascular Access National Scientific Meeting when a product developer contacted this project manager

about specialized clamp that would allow tampering with the line to be detected (Eastridge, Hawes and Nord, 2018). Lloyd Rucker (personal communication, March 18, 2018), has supplied the hospital with product at no charge in exchange for continued research on the use of the product.

An interprofessional research council at Memorial Hospital and Health Care Center (MHHCC) was begun in 2015 as a resource to support interprofessional collaboration. This group is led by Dr. Kate Willegal who is this project managers practice partner. According to the Interprofessional Research Council's bylaws the council's purpose is:

The Interprofessional Research Council serves as an advisory body to review research proposals and to foster the advancement and utilization of interprofessional performance improvement (PI), evidence-based practice (EBP) and research at Memorial Hospital and Health Care Center (MHHCC, 2016).

The hospital administration supports the SURRP program and its efforts to identify patients early, protect their IVDS, decrease risk for the hospital, increase safety for the patient and decrease length of stay when possible. Although ICM is key to the success it is only one part of a larger program.

Risks and Threats

The ICM begins with staff who have different licensures, goals and levels of autonomy. Effective communication requires mutual respect, whether real or perceived, power hierarchies exist between healthcare professionals (Reeves, et. al., 2012).

There are many parts of the SURRP that are untested. Even the TET devices are either brand new, not on the market as of today or completely created by this project manager to serve

the purpose of making tampering evident. There are no guarantees that this combination of devices will be able to detect tampering of the IVDS by the patient 100% of the time.

The SURA is a new unvalidated risk assessment that may, or may not, assist in the detection of IDU patients. The level of risk assigned as low, moderate or high and the actions assigned to each level may not reduce the risk appropriately. Further research and testing is required to validate this new tool.

Improving the communication of identified risk to professionals who are aware of a patient with a history of IDU, may not improve actual collaboration or improve outcomes for the patients. The biggest risks are that a patient would overdose or acquire a blood stream infection through a vascular access device placed to help and not harm the patient.

Timeline

The action plan and timeline for this capstone project can be found in Appendix I. The projected timeline and the actual completion of the actionable items were very close to accurate. The initiation of the study was delayed by one month. Multiple factors contributed to this delay. First, a separate IRB for the SURA was submitted. Approval for the SURA IRB was obtained on December 10, 2018. Second, the IRB for this capstone project was not obtained until December 13th, 2018. Last, prepping the staff and completing two weeks of surveys during the holidays created a small delay and the launch of the new program began January 2, 2019.

Marketing Plan

The product to be marketed in this capstone project is a model of interprofessional communication focused on patients with a history of IDU. Opioid hospitalizations and deaths are at an epidemic level throughout the United States (Ronan & Herzig, 2016; Song, 2017). To improve the communication between professionals related to this vulnerable population is, in

itself, not enough. To communicate only, with no actionable objectives or goals to treat the whole patient, is ineffective. There needs to be an interprofessional plan to treat the primary presenting problem and the underlying problem of a substance use disorder (Eastridge, et. al., 2018; MHHCC, 2019). The intrahospital marketing plan and timeline in consideration of the interprofessionals involved in the program can be found in Appendix J.

The larger program at this rural facility, included a novel substance use risk assessment (SURA) the goal of which is to identify patients with a substance use history during the admission process, regardless of their presenting problem (Eastridge, et al., 2018). Once identified, communication of the issue is relayed to all pivotal individuals in order to prepare for discharge (Hawes, 2018, MHHCC, 2019).

The feasibility of the project is in planning for the disposition of this patient population as early in their stay as possible. The options for discharge and disposition can begin to move this patient to an appropriate location with tamper evident technology (TET) if necessary to complete the prescribed IV therapy plan.

Sustainability will be reinforced by tracking the patient outcomes, identifying risks, limiting exposure to those risks and calculating financial advantages of treating this population with a unique program. Sustainability is also a matter of interprofessional communication of the success of the program, without continual reinforcement of the purpose of the SURRP and the outcomes of professionals working towards the same goals it will fade overtime.

Dissemination of the SURRP, even in the early stages, has not been difficult. The opioid epidemic has pushed the issues of patients needing parenteral medication with a history of IDU. Appendix K, shows the presentations scheduled in 2018 and 2020 showing both the progress of the project and the hopeful fruition. Further dissemination by presentation on the

interprofessional communication model as a part of the SURRP will be pushed out after publication of the study in 2020 -2021.

Budget

Budget plan table appropriate to meet objectives, with rationale for expenditures and a description of funding sources, see Appendix L. Expenditures were at, or below, estimated costs. There were no funding sources not previously identified and no unexpected issues during the project period.

Evaluation Plan

Evaluation of the effectiveness of the ICM will be the statistical analysis of the preintervention and postintervention via the IPEC CSAT surveys (Lockeman, et. al., 2016). The communication of the patient's risk level of moderate or high based on the SURA will initiate the auto notification of key stakeholders. The expectation is the use of the ICM will improve collaboration between professionals caring for patients with significant substance use issues.

If the ICM leads to an increase in collaboration and goal directed action to treat the whole patient, then there should be an increase in the number of patients identified as having a history of IDU. This identification should trigger more behavioral health consults in the hope that more patients with a history of IDU will choose inpatient treatment for their addiction after their initial health crisis is resolved. The number of patients choosing inpatient treatment was recorded prior to, during and after the initiation of the ICM.

The collaboration should improve the throughput of the patient by alerting the medical social work staff to possible disposition issues if the patient requires long term IV medications. Licensed Independent Practitioners (LIPs) may choose a treatment with less inherent risk, such as oral medication. Social work professionals will have the more time to work with Skilled

Nursing Facilities (SNFs) or Long-term Acute Care (LTAC) facilities for potential transfer of patients with safety protocols in place. Early collaboration and feasibility of outpatient placement will decrease inpatient financial losses. The number of transfers of patients with a history of IDU to SNFs, LTACs, outpatient centers or other accepting facilities was recorded prior to, during and after the initiation of ICM.

With early identification, communication and action the nursing staff on the patient's unit will have the opportunity to lower risk and increase the safety of infusing medications into this vulnerable population. The number of patients with a SURA level of moderate or high will be tracked from the time of initiation of the program, during and after its implementation. The number of successful infusion therapy completions without incident and the number of incidents will also be recorded.

In summary, evaluation of the success of the ICM, as it relates to PWIDs will include analysis of the pre-intervention and post-intervention surveys. Aspects of the larger program that will be assessed for an increase in the number of patients choosing inpatient addiction treatment, an increase in the number of patients successfully and safely transferred for the completion of their infusion therapy and an increase in incident free infusion care delivery for this patient population. All of these valuable outcomes start with identification of patients with a history of IDU and synchronized communication to key professionals involved in the care of the whole patient.

Results

Total participants in the IPEC CSAT survey included both direct and indirect patient care providers with the vast majority providing direct patient care. Those participants with professional licensure included registered nurses (RN), nurse practitioners, physicians, and social

workers. Also included were certified nursing assistants (CNA) as they are in direct contact with the patient population that was studied.

Including all participants there were 95 completing the pre-intervention survey and 68 for the post-intervention. A majority of the participants were RNs. When assessing RNs only there were 63 completing the pre-intervention survey and 50 for the post-intervention survey. Gender of the participants was a nonfactor as only four people completing the surveys were male. Demographic information on gender, role and age can be found in Appendix M.

The IPEC CSAT tool has 16 questions, eight to assess the participants on the interprofessional interaction domain and eight on the interprofessional values domain, see Appendix F. On a five-point Likert scale the participant assessed their view of their own ability to interact professionally considering patients with a history of substance use. The non-paired groups were surveyed during a two-week period prior to implementation of the ICM and a two-week period after 90 days of the new procedure.

All data were entered into SPSS. Independent samples t-test was used to compare pre and post intervention survey results since the pre-intervention group had different participants than the post intervention group. The alpha was established at 0.05. The independent t-test was used to analyze the two domains using total group scores and RN only scores. The Levine's test for equality of variances for all groups had a Sig value of greater than 0.05 which assumes equal variance between groups.

Analyzing the results for all respondents pre- and post-intervention in the interaction domain $p = 0.157$ showing no significant change in this area. The same group was analyzed for the values domain had a $p = 0.249$ this also showed no significant change in self-assessment.

Narrowing the analysis to RNs only for pre- and post-intervention in the interaction domain $\rho = 0.023$ shows a significant change in this domain. Last, the RNs only questions on the values domain was $\rho = 0.094$ showing no significant change.

Focusing on the RNs only interaction domain the size of the effect was calculated using Eta Squared. A small effect under this formula is $\eta^2 \geq 0.01$, a moderate effect is $\eta^2 \geq 0.06$. The result for this group was $\eta^2 = 0.051$ which is considered a small effect but close to a moderate effect. Calculating a Cohen's d for this domain a medium effect is observed if the Cohen's d ≥ 0.06 . The result for this domain was Cohen's d = 0.061.

Tracking other aspects of the program's initiation in the first six months resulted in eight patients being transferred from inpatient status to SNF, LTAC or outpatient centers with safety protocols in place. Twelve patients ranked at moderate or high risk for tampering with the IVDS had the SURRP protocols in place including TET. One of the 12 patients had a documented disruption of their TET leading to increased observations and a urine drug screen to confirm illicit drug use. An increase in behavior health consults have yet to document a patient entering inpatient drug treatment.

Discussion

The results indicate that there was a moderate effect of improved competency in the interactive domain according to self-assessment of the RNs as it relates to patients with a history of IDU. A limitation of this study was the short time period of 90 days between the surveys. At a small hospital the exposure of the staff to a patient at a moderate or high risk for tampering with their IVDS may be infrequent. In order to improve communication in this patient population the staff would need to experience the process.

The time constraints of this study and the non-paired sample limited the size of the effect in this project managers assessment. Further research of the staff one year after implementation may yield a larger positive effect. Specific one-on-one interviews with key stakeholders would also yield information of the effectiveness of the ICM and the larger program.

Another limitation of the study is the unvalidated SURA. As of the time of this projects completion there are no known screening tools attempting to stratify risk of tampering with the IVDS. Further study of reliability and validity of this tool is necessary and expected.

Implications

The implications of this study start with the importance of communication to begin collaboration of care for PWID. In a healthcare environment with overdose patients demanding the attention of staff, it is understandable that the problem of addiction is ignored if it is not the presenting issue. Many patients with a history of IDU present with complicated infections requiring IV antibiotics. The frequency of drugs brought into the hospital is well documented to decrease the risk of complications from tampering with the IVDS the patients at risk must first be identified (Fanucchi, et. al., 2018). Once identified, communication and interprofessional collaboration are necessary to increase the likelihood of safely completing the intravenous therapeutic regime.

Sustainability

Memorial Hospital and Health Care Center (MHHCC) has incorporated the ICM in their larger Substance Use Risk Reduction Program (SURRP). In August of 2019 MHHCC published a guide for other facilities to utilize when starting similar programs (MHHCC, 2019). The ICM is part of the Memorial Hospital (MH) SURRP is part of the hospital's strategic plan and was

highlighted for the 2018 Malcolm Baldrige site visit for innovative programs. The MH-SURRP was part of the 2019 Magnet application.

The administration at MHHCC is committed to continuing the SURRP that includes, at its core, the ICM. In addition, more than 50 hospitals from across the United States including Duke, Mayo and Cleveland Clinic are interested in the program. With the publication of the MH-SURRP guide for facilities to purchase the program should spread across the country and begin to improve interprofessional communication and collaboration targeted to PWID and care of the whole patient.

Conclusion

The problem illuminated by this capstone project was the lack of consistent screening for substance use, misuse of the IVDS and the absence of an interprofessional communication plan designed to care for patients with a history of IDU. The newly developed SURA has begun a screening process for potential misuse and the ICM has begun the communication process that can lead to collaboration.

Focusing on the purpose of this project the development of an ICM was completed and auto notification of key health professionals triggered by the SURA was initiated. The objective to increase safety was addressed through the substance use risk reduction program that included tamper evident technology and frequent observations by the staff. By employing the SURRP protocols the risks of blood stream infection and overdose while a patient in the hospital were reduced. Improving patient outcomes by completing the intravenous therapy, or switching to oral therapy when possible, needs further study secondary to low volumes. Unreimbursed costs were reduced by thousands of dollars by allowing transfer from inpatient to outpatient, SNF or LTAC for the completion of intravenous therapy (MHHCC, 2019).

Identification of a significant substance use history requires communication to key stakeholders, but it can't stop there. Healthcare professionals using their unique role, while working toward a common goal, is paramount to providing compassionate care for the whole patient.

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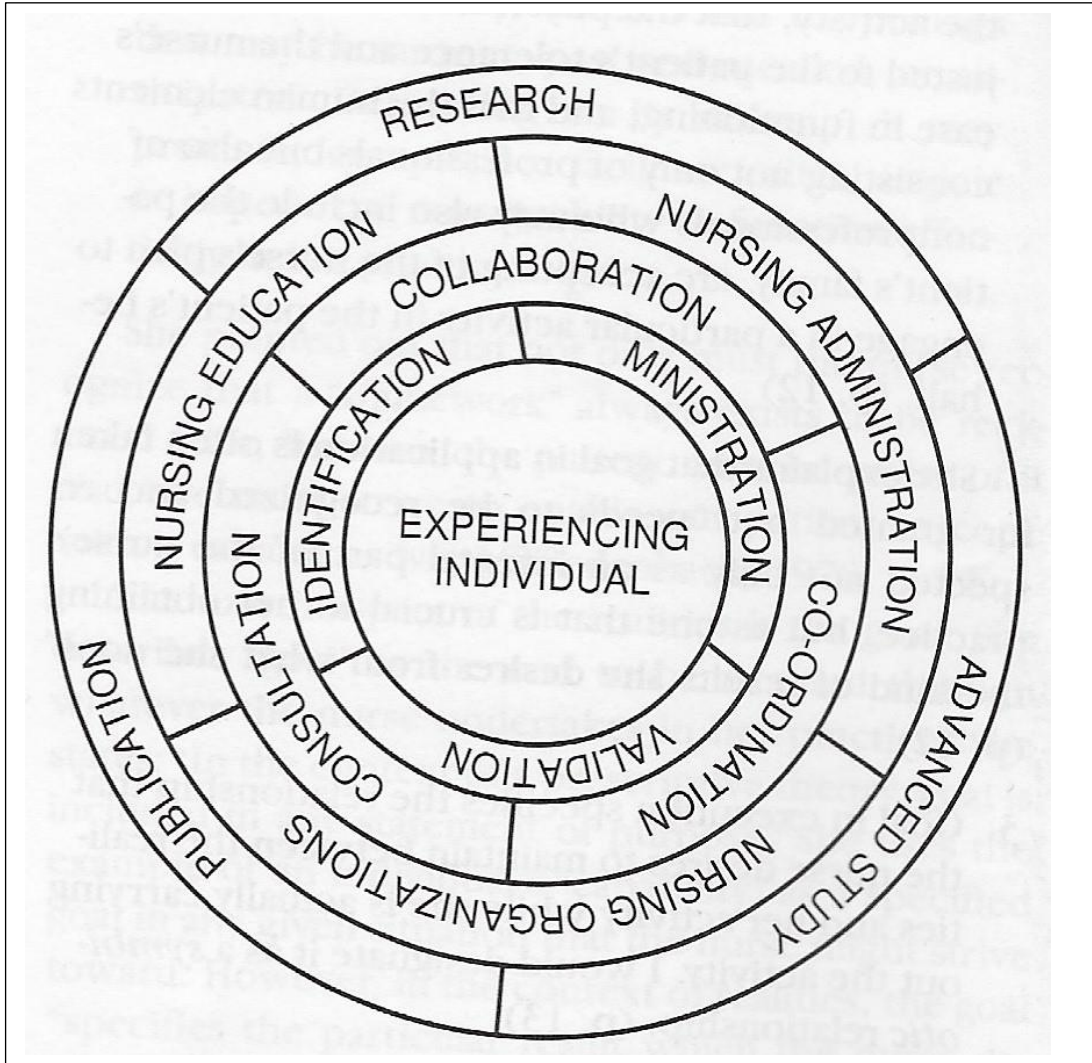
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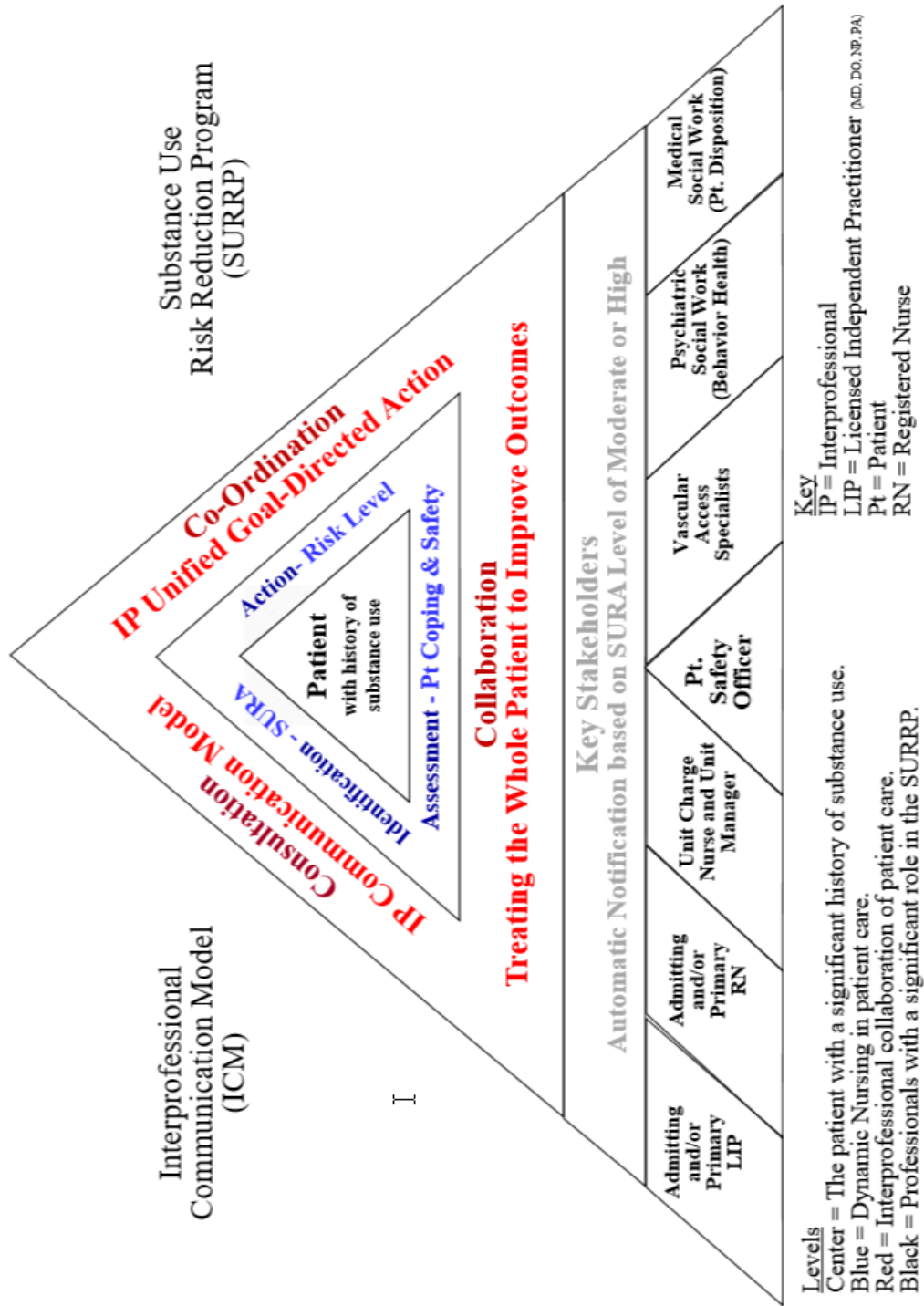
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Appendix A, Wiedenbach's Concept of Dynamic Nursing Model



Wiedenbach, E. (1962)

Appendix B, Interprofessional Communication Model



Appendix C, Research Site Approval Letter



Research Site Approval

This form is to be completed for studies being conducted on any MHHCC campus. The completed form can be submitted before, or concurrently, with IRB submission.

Name of Study: Developing an Interprofessional Model of Communication for a Substance Use Risk Assessment
Study Site: Memorial Hospital and Health Care Center

- 1. Specify the likely duration of the project and where it will be undertaken: The project will begin in the 4th quarter of 2018 and finish in the 4th quarter of 2019.
2. Specify the number and type of patients, or other participants, likely to be involved: The staff will be surveyed regarding their Interprofessional communication prior to the implementation of the SURA embedded in the admission assessment. The professionals included in the survey are delineated on the attached SURA Communication diagram.
3. Please designate what departments will be affected:
1. See attached SURA Communication diagram.
4. Briefly describe the involvement of staff who are not part of the investigative team estimating the number of staff hours involved and the type of instructions they will be given: The staff involvement will be completing two brief surveys on their perception of Interprofessional communication as it relates to patient's with a history of IV drug use who are in need of parenteral medication. The first survey will be given prior to SURA implementation and the second will be initiated 3months after implementation of the program. Each survey is expected to take no longer than 30 min via Survey Monkey.

Lead Investigator: M.L. Hawes, RN, MSN, CRNI, VA-BC

I approve this project to be carried out at Memorial Hospital and Health Care Center after IRB approval.

Signature: Denise Kaezler, MSN, RN Date: 9/13/18
Director of Quality Services: Denise Kaezler (Print Name)

Appendix D, USI-IRB Approval Letter



Office of Sponsored Projects and Research Administration
8600 University Boulevard * Evansville, Indiana 47712 * 812-465-1126
www.usi.edu/ospra - rcr@usi.edu

DATE: December 13, 2018

TO: Michelle Hawes, BS, MSN

FROM: USI Office of Sponsored Projects and Research Administration

PROJECT TITLE: [1337830-1] Developing an Interprofessional Model of Communication for a Substance Use Risk Reduction Program in a Rural Hospital

REFERENCE #: 2019-158-NH

SUBMISSION TYPE: New Project

ACTION: APPROVED

IRB APPROVAL DATE: December 13, 2018

EXPIRATION DATE: April 30, 2019

REVIEW CATEGORY: TYPE 1 RESEARCH - Exempt Category # 2

The above project has been approved by USI's IRB under the provision of Federal Regulations 45 CFR 46.

This approval is based on the following conditions:

1. The materials you submitted to the IRB (through IRBNet) provide a complete and accurate account of how human subjects are involved in your project.
2. You will carry on your research strictly according to the procedures described in the materials presented to the IRB.
3. If any changes are made, you will submit the Amendment Form through IRBNet.
4. You will immediately report to the Office of Sponsored Projects and Research Administration any problems or adverse events encountered while using human subjects.
5. Prior to expiration, you will submit a Continuing Review Form through IRBNet.

This project requires continuing IRB review on an annual basis. Please use the Continuing Review Form for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of April 30, 2019.

To renew this project or make a modification, please see the IRBNet User Manual on our website at usi.edu/ospra for step-by-step instructions on submitting the Continuing Review Form or the Amendment Form.

If you have any questions, please contact us at 812-465-7000 or rcr@usi.edu.

Please include your project title and reference number in all correspondence with this committee.

Dr. Katherine A. Draughon
Executive Director - OSPRA

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within The Office of Sponsored Projects and Research Administration's records.

Appendix E, Permission to Use Tool

Hi Mickey,

Thank you for your interest in the IPEC Competency Self-Assessment tool. As Alan mentioned, we have an updated version of the survey that was originally described in:

Dow, A. A., DiazGranados, D., Mazmanian, P. E., & Retchin, S. M. (2014). An exploratory study of an assessment tool derived from the competencies of the interprofessional education collaborative. *Journal of Interprofessional Care*, 28, 299–304. doi:10.3109/13561820.2014.891573

Attached is the newest version and a key for scoring. This shortened version measures two domains: Interprofessional Interaction and Interprofessional Values. The survey revision process was described in:

Lockeman, K. S., Dow, A. W., DiazGranados, D., McNeilly, D. P., Nickol, D., Koehn, M., & Knab, M. S. (2016). Refinement of the IPEC competency self-assessment survey: Results of a multi-institutional study. *Journal of Interprofessional Care*, 30(6), 726-731. doi: 10.1080/13561820.2016.1220928

This version resulted from a series of studies that were conducted over a 3-year time frame. Responses from the first administration of the survey (Dow et al., 2014) were analyzed using a data reduction strategy that forced 4 factors, which generally corresponded to the four IPEC competency domains. In further studies, we used exploratory and confirmatory factor analysis to allow the factors to emerge from the responses, and we found that there were consistently only 2 strong factors. We used the results of these analyses to shorten the survey, with a focus on items with the strongest factor loadings. We also revised a number of the items to clarify wording and eliminate double-barreled statements.

We tested this shorter version in the spring of 2015 and made a few minor revisions to arrive at the 16-item, 2-factor tool that is attached. Another paper is under review that focuses on the instrument's final revision, its performance with new samples, and some additional validity evidence.

If it seems like this version is measuring the constructs that you want to assess, you are welcome to use it, and I would be happy to answer any questions you have.

Kelly

Kelly Lockeman, PhD
Assistant Professor, School of Medicine
Director of Evaluation and Assessment
Center for Interprofessional Education and Collaborative Care
Virginia Commonwealth University

Appendix E, Permission to Use Tool (continued)

Mickey,

Sure! Kelly Lockeman (cc'd) can send you the short version if you don't already have it. Best of luck!

Alan

Alan Dow, MD, MSHA
Asst Vice President of Health Sciences for
Interprofessional Education & Collaborative Care
President and CEO, UHS-PEP, Professional Continuing Education for VCU
Seymour and Ruth Perlin Professor of Medicine and Health Administration
Virginia Commonwealth University
<http://ipe.vcu.edu>

From: Hawes, Michelle L [<mailto:mlhawes@eagles.usi.edu>]

Sent: Wednesday, August 29, 2018 2:32 PM

To: awdow@vcu.edu

Cc: kwillega@mhhcc.org

Subject: [EXTERNAL] IPEC Survey Permission

Dr. Dow,

I am working on my Doctorate in Nursing Practice (DNP) and will be developing an interprofessional model of communication for a specific program implementation at the hospital where I am employed.

I am seeking your permission to utilize the IPEC Competency Survey Instrument for pre- and post-intervention assessment.

Respectfully,

Mickey

Michelle L. Hawes, RN, MSN, CRNI, VA-BC
University of Southern Indiana

Appendix F, IPEC Refined Tool, Data Key

IPEC Competency Self-Assessment Tool VERSION 3 (July 2015)

DATA KEY

Questionnaire Instructions: Based on your education or experience in the health care environment, select/circle the number that corresponds with your level of agreement or disagreement on each item.

Scale: 1 = Strongly Disagree 2 = Disagree 3 = Neither Agree nor Disagree 4 = Agree 5 = Strongly Agree	
Interaction	1. I am able to choose communication tools and techniques that facilitate effective team interactions.
Values	2. I am able to place the interests of patients at the center of interprofessional health care delivery.
Interaction	3. I am able to engage other health professionals in shared problem-solving appropriate to the specific care situation.
Values	4. I am able to respect the privacy of patients while maintaining confidentiality in the delivery of team-based care.
Interaction	5. I am able to inform care decisions by integrating the knowledge and experience of other professions appropriate to the clinical situation.
Values	6. I am able to embrace the diversity that characterizes the health care team.
Interaction	7. I am able to apply leadership practices that support effective collaborative practice.
Values	8. I am able to respect the cultures and values of other health professions.
Interaction	9. I am able to engage other health professionals to constructively manage disagreements about patient care.
Values	10. I am able to develop a trusting relationship with other team members.
Interaction	11. I am able to use strategies that improve the effectiveness of interprofessional teamwork and team-based care.
Values	12. I am able to demonstrate high standards of ethical conduct in my contributions to team-based care.
Interaction	13. I am able to use available evidence to inform effective teamwork and team-based practices.
Values	14. I am able to act with honesty and integrity in relationships with other team members.
Interaction	15. I am able to understand the responsibilities and expertise of other health professions.
Values	16. I am able to maintain competence in my own profession appropriate to my level of training.

Scoring:

- Odd-numbered items comprise the Interprofessional Interaction Domain
- Even-numbered items comprise the Interprofessional Values Domain
- Responses for items in each domain should be averaged to arrive at a domain score.

For more information, contact Kelly Lockeman, PhD, Virginia Commonwealth University (kslockeman@vcu.edu).

Appendix G, IPEC Refined Tool, Items

IPEC Competency Self-Assessment Tool VERSION 3 (July 2015)

INSTRUCTIONS: Based on your education or experience in the health care environment, select/circle the number that corresponds with your level of agreement or disagreement on each item.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I am able to choose communication tools and techniques that facilitate effective team interactions.	1	2	3	4	5
2. I am able to place the interests of patients at the center of interprofessional health care delivery.	1	2	3	4	5
3. I am able to engage other health professionals in shared problem-solving appropriate to the specific care situation.	1	2	3	4	5
4. I am able to respect the privacy of patients while maintaining confidentiality in the delivery of team-based care.	1	2	3	4	5
5. I am able to inform care decisions by integrating the knowledge and experience of other professions appropriate to the clinical situation.	1	2	3	4	5
6. I am able to embrace the diversity that characterizes the health care team.	1	2	3	4	5
7. I am able to apply leadership practices that support effective collaborative practice.	1	2	3	4	5
8. I am able to respect the cultures and values of other health professions.	1	2	3	4	5
9. I am able to engage other health professionals to constructively manage disagreements about patient care.	1	2	3	4	5
10. I am able to develop a trusting relationship with other team members.	1	2	3	4	5
11. I am able to use strategies that improve the effectiveness of interprofessional teamwork and team-based care.	1	2	3	4	5
12. I am able to demonstrate high standards of ethical conduct in my contributions to team-based care.	1	2	3	4	5
13. I am able to use available evidence to inform effective teamwork and team-based practices.	1	2	3	4	5
14. I am able to act with honesty and integrity in relationships with other team members.	1	2	3	4	5
15. I am able to understand the responsibilities and expertise of other health professions.	1	2	3	4	5
16. I am able to maintain competence in my own profession appropriate to my level of training.	1	2	3	4	5

For more information, contact Kelly Lockeman, PhD, Virginia Commonwealth University (kslockeman@vcu.edu).

Appendix H, Letter to the Directors

Dear < **insert desired participants here** > i.e. Nurses, Physicians...,

Most of you are aware that I am a Doctor of Nursing Practice student at USI. For my capstone project I am developing an Interprofessional Model of Communication for a Substance Use Risk Reduction Program here at MHHCC. Because the clinical staff of your department has, or will in the future, care for a patient who has a history of substance use, I am asking them to participate in this research study by completing the interprofessional education collaborative (IPEC) competency self-assessment tool. The link to the survey is provided below.

The survey will require approximately 5 minutes to complete. All information will remain confidential. There is ~~no~~ compensation for responding nor is there any known risk. If you choose to participate in this project, please answer all questions as honestly as possible. Participation is strictly voluntary and you may refuse to participate at any time.

Thank you for taking the time to assist me in my educational endeavors. The data collected will provide valuable information regarding our interprofessional communication and collaboration regarding this vulnerable population. If you have any questions, please contact me at <**insert email address**>

Link to survey: <**insert link to survey here**>

Sincerely,

Appendix I, Action Plan Timeline

Action	Rationale	Setting or Group	Tool or Measurement	Projected Timeline	Actual Timeline
Form an inter-professional Substance Use Risk Assessment (SURA) work group.	To look at the issue of IVDA from multiple angles, departments and licensure.	Members: Patient Safety Officer, Vascular Access Clinical Specialist, Medical Unit Manager, Behavior Health Director, Manager of Social Work.	Group will convene as necessary.	September 2018	September 2018
Obtain supplies necessary to apply Tamper Evident Technology (TET) to vascular access devices appropriate to patient need.	To reduce misuse of vascular access devices based on SURA and physical assessment of IDU.	Each patient entering MHHCC through admissions.	SURA used for initial screening. This is not a validated scale. SURA was developed by the work group.	Implement by December 1, 2018.	January 1, 2019
Create procedures for nursing to follow in the application of TET.	To give nursing direction on the application of TET when necessary.	All nurses working with patients in need of parenteral medication will receive training and education about the procedure before implementation.	Procedures developed by the workgroup.	November 2018	Procedures approved December 1, 2018.
Obtain Site Approval	Necessary to begin the process of conducting a study at MHHCC.	Approval acquired from Director of Quality Services.	Site approval form built by this project manager for MHHCC.	August 2018	Signed approval obtained September 13, 2018.
Obtain approval for use of for the use of the Interprofessional	To be able to utilize a validated tool to survey	Alan W. Dow and Kelly S. Lockeman	IPEC-CSAT	August 2018	Approval to use the tool was obtained on August 29,

Education and Collaborative Practice (IPEC Competencies) for the researchers.	MHHCC professionals involved in SURA program.				2018.
Create and implement the SURA within the Meditech computerized charting system.	Test the assessment before implementation, adjust and go live.	SURA work group and System Analyst.	Work group to test prototype admission assessment of IDU and implement when ready.	December 1, 2018	Go live January 1, 2019.
Create a policy for all health care professionals to refer to as it relates to serving patients with a history of IDU at MHHCC.	To give healthcare professionals the information necessary to effectively serve the patients.	All healthcare professionals working with patients in need of parenteral medication will receive training and education about the SURA program implementation.	Policies developed by the workgroup.	October 1, 2018	Effective date December 1, 2018.
Obtain USI and MHHCC IRB before implementation of the program.	To properly conduct a study worth of publication.	USI IRB members and MHHCC IRB committee members.	Based on USI IRB standards.	November 1, 2018	IRB approved December 13, 2018.
Set up Survey Monkey with IPEC Self-Assessment for professionals included in the SURA communication diagram.	To assess interprofessional collaboration prior to implementation of a new model for communication.	The group includes individuals all areas described in the SURRP communication diagram among other licensed professionals.	New communication diagram created by this project manager.	December 14, 2018	December 1, 2018.
Increase the number of behavior health consults resulting in treatment admissions for	To increase the rate of treatment for patients with a history of IDU.	Patients identified as Level II or III on the SURA receive partial or full assessments by behavior	SURA is an unvalidated tool created by this work group.	By the end of December 2019.	TBA

Appendix I, Action Plan Timeline (continued)

IDU.		health.			
Decrease the length of stay for patients with a history of IDU requiring long term parenteral medication.	Patients may be discharged to an out-patient center or a skilled nursing facility.	Social work and case management.	The number of patients transitioned from in-patient care and other options will be followed.	By the end of December 2019.	TBA
Set up Survey Monkey with IPEC Self-Assessment for professionals included in the SURA communication diagram.	To assess interprofessional collaboration 90 days after implementation of a new model for communication.	The group includes individuals all areas described in the SURRP communication diagram among other licensed professionals.	New communication diagram created by this project manager.	Approximately March, 2019	Survey closed April 5, 2019
Complete data analysis for IPE Communication and validity of new tool.	Provide evidence of successful implementation of communication model.	Project manager and Dr. K. Willegal	IBM SPSS	September 15, 2019.	November 14, 2019

Appendix J, Intrahospital Marketing Plan and Timeline

Target Audience or Stakeholders	Message	Vehicle or Location	Timeline	Cost
CEO, CNO, CMO, Dir of Quality Dir of Critical Care	Need for Interprofessional Communication Model as part of the SURRP	Face to face meetings and emails and	Began in 2018 and is ongoing	All involved are Salaried Employees of MHHCC, time invested in the program is
SURRP Core Team Members: Vascular Access Patient Safety Medical Manager	Need for Development of the SURRP including the Interprofessional Communication Model	Meetings as necessary 1-2 times a month. Multiple Emails.	Began in 2018 and is ongoing	At an average hourly rate of \$35. Approximately 4 hours per week for each individual. Starting in September 2018 until April of 2020 the approximate cost in wages would equal \$11,200
Direct Care Health Professionals	The SURRP goals and expectations and the interprofessional communication model (ICM)	Nursing: On-line instructions with post-test on the use.	December 1, 2018	Development of the course is part of the Core group's responsibility. Nursing time will be 30 minutes, average wage of \$25/hour Total nursing staff
Direct Care Health Professionals	The SURRP goals and expectations and the interprofessional communication model (ICM)	Medical Staff. ICM information at Med Exec Committee. Hospitalist meeting.	December 1, 2018	Minimal time and minimal cost.

Appendix J, Marketing Plan and Timeline (continued)

		Medical staff bulletin.		
Direct Care Health Professionals	The SURRP goals and expectations and the interprofessional communication model (ICM)	Social Work, Behavioral Health & Security face to face meetings by SURRP Core Team	December 1, 2018	Minimal time and minimal cost.

Appendix K, Marketing by Presentation and Dissemination Schedule

Date of Event	Location	Event	Presentation Title	Presenter(s)
6/7/18	Springfield, MO	Ozark Vascular Access Network	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes
7/29/18	Alexandria, VA	DC, Maryland, Virginia Vascular Access Network	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes
9/7/18	Jasper, IN	Southwestern Indiana Organization of Nurse Executives	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes
9/18/18	Columbus, OH	National Scientific Meeting of the Association for Vascular Access	A Collaborative Approach to IV Therapy in Patients with a History of IV Substance Abuse	T. Eastridge, M.L. Hawes, & B. Nord
10/11/18	Indianapolis, IN	2018 Public Health Conference	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes
10/20/18	Kansas City, MO	Missouri & Kansas Regional Vascular Access Network	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes
12/1/19	Portland, ME	Maine Vascular Access Network	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes
1/12/19	Albuquerque, NM	New Mexico Vascular Access Network	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes

Appendix K, Marketing by Presentation and Dissemination Schedule

2/2/19	Tampa, FL	Gulf Vascular Access Network	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes
3/27/19	Indianapolis, IN	Indiana Vascular Access Network	Responsible Compassionate Care: Meeting the Needs of Patients with a History of IDU	M.L. Hawes
1/19/20	Chicago, IL	Podium Presentations	Communication, Collaboration and Care of the Patient with a history of injectable drug use.	M.L Hawes
3/27/20	Phoenix, AZ	Podium Presentation	Communication, Collaboration and Care of the Patient with a history of injectable drug use.	M.L Hawes
April 2020	Evansville, IN	Presentation at the USI Evidence Based Practice Conference	Interprofessional Communication Model for Care of Patients with a History of IDU	M.L Hawes
Sept. 2020	Southbend, IN	Podium Presentation	Communication, Collaboration and Care of the Patient with a history of injectable drug use.	M.L Hawes
Fall 2021	NA	Peer-Reviewed Journal Publication	Title related to ICM research results.	M.L. Hawes & A. White

Appendix L, ICM Estimated Budget Plan 2018-2020

CATEGORY	BUDGETED AMOUNT	IN KIND DONATION	FUNDING SOURCE	TOTAL ESTIMATED COST	TOTAL ACTUAL COST
Project Manager Salary rate: 600 hrs @ \$34.80/br	\$20,880	MHHCC	In Kind Donation	\$20,880	\$20,880
Benefits (30%)	\$6,264	MHHCC	In Kind Donation	\$6,264	\$6,264
Practice Partner Salary Rate: 96 hrs @ \$48.50/br	\$4,656		Hospital Budget	\$4,656	\$4,656
Benefits (30%)	\$1,396.80		Hospital Budget	\$1,396.80	\$1,396.80
Substance Use Risk Reduction Program Core Team Salary Rate X 3 additional members. 96 @ \$38.05/br	\$3,696/ member \$11088		Hospital Budget	\$11,088	\$11,088
Benefits (30%)	\$3,326.4		Hospital Budget	\$3,326.40	\$3,326.40
SUPPLIES & EQUIPMENT	BUDGETED AMOUNT	IN KIND DONATION	FUNDING SOURCE	TOTAL ESTIMATED COST	
Copy Paper @ \$0.10 per copy for 2000 copies (will be used during auto-generated communication, flyers, brochures, and miscellaneous educational materials.	\$200		Hospital Budget	\$200	\$0
Computers/Copy Machinge		In Kind			
Poster Production Material: \$25/each	\$25		Hospital Budget	\$25	\$0

TRAVEL	BUDGETED AMOUNT	IN KIND DONATION	FUNDING SOURCE	TOTAL ESTIMATED COST	
Travel to USI Campus for a total of six times during the <u>three year</u> project. Round trip is 244 miles @ \$0.55/mile	\$134.20/trip \$805.20		Project Manager	\$805.20	\$805.20
Hotel accommodations for USI intensive sessions and conferences for six events during <u>three year</u> project. Two nights for each event. \$140/night.	\$280/event \$1,680		Project Manager	\$1,680	\$1500
Presentation Travel: Average two-night hotel stay @ \$360/trip. Average round-trip flight cost: \$480/trip Average taxi, food, etc: \$150/trip	\$990/presentation 12 presentations \$11,880		Organizations requesting presentation	\$11,880	\$9,500
EVALUATION					
Measurement tool permission to use at no cost entered into Survey Monkey Account for one year.	\$68/year		Project Manager	\$68	\$68
Editor @ \$20/hour for 10 hours	\$200		Project Manager	\$200	\$0
Statistician @ \$40/hour for 10 hours	\$400		Project Manager	\$400	\$0

Appendix M, Survey Demographics

Category	Pre-Intervention	Post-Intervention	Totals
Gender – Female	94	65	159
Male	1	3	4
Total	95	68	163
Role – Registered Nurse	63	50	113
Other Health Professionals	32	18	50
Total	95	68	163
Age – 18 -24	12	4	16
25 -34	21	17	38
35 - 44	32	26	58
45 - 54	16	11	27
55 – 64	14	7	21
65 +	0	2	2
Total	95	67	162