

Drug Diversion and Abuse Education in Undergraduate Bachelor of Science in Nursing Students

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NURS 785 DNP Project III

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### **Abstract**

Nursing schools must incorporate drug diversion and substance abuse education into curriculums to provide nursing students with early intervention and education regarding the risks, signs and symptoms, consequences, and resources available. The purpose of this DNP scholarly project was to provide education and increased knowledge regarding substance abuse and drug diversion to bachelor level nursing students. Does the institution of a drug diversion education program increase knowledge base and awareness using a pre- and post-test model in undergraduate BSN students? This educational intervention was implemented at the University of Saint Francis in Fort Wayne, Indiana, utilizing PowerPoint presentation with lecture and prerecorded video. Pre- and post-tests and a post-presentation survey via Survey Monkey were utilized. A paired samples *t*-test was conducted to analyze the scores of the pre-test and post-test. The average pretest score was 73% (13.8/19 points). The lowest score was 42% and the highest score was 95% (SD 12%). The range was 71-80%, with the median being 74% on the pretest. The average post-test score was 92% (17.5/19 points). One outlying score was 11%, however this score is suspected to be intentional. The scores ranged from 42%-100%, with the standard deviation of 12%. The range was 91%-100%, with 95% being the median score on the post-test. Nursing students need drug diversion and abuse education within their curriculum. Future recommendations include continuing education such as this for nursing students at all levels.

*Keywords:* drug diversion, substance abuse, nursing, nursing students, anesthesia, Survey Monkey, pre-test, post-test

**DNP Scholarly Project Final Approval Form**

**University of Saint Francis  
Institutional Review Board  
Human Subjects Review Committee/ACUC/IBC  
Institutional Review Board Approval Form**

**Protocol Number:** 1569363-HSFC Review by (underline one): **HSRC** ACUC      **IBC Date**  
**Reviewed:** 10/09/2019; **Review resubmission addendum** 12/04/2019 **Principal Investigator:** Sara Saylor

**Faculty Advisor:** Dr. Megan Winegarden

**Protocol Title:** Drug Diversion and Abuse Education in Undergraduate Bachelor of Science in Nursing Students

**Study Site(s):** University of Saint Francis BSN Program

Items submitted for review:

- ☒ CITI Certification
- ☒ Initial protocol
- ☒ Abstract
- ☐ Informed Consent Form (if applicable)
- ☒ Approval letter from outside institution - University of Saint Francis
- ☒ Other – explain: **Submitted Addendum to address IRB concerns**

Type of Review:

- ☒ Full Review
- ☐ Expedited Review
- ☐ Exempt Review

Approval:

- ☐ Approval granted on \_\_\_\_\_
- ☐ Approval granted on \_\_\_\_\_ for a period of one year.
- ☒ Conditional approval\* granted on 12/04/2019.
- ☐ Not approved\*
- ☐ Other

Comments: Address the following concerns and then resubmit to IRB for approval:

1. Potential for emotional distress of participants – clearly describe plan to provide appropriate resources to participants in the event emotional distress is experienced.
2. Potential for breach in data security – clarify the plan for data security including who will collect and have access to completed surveys and data.
3. Potential for breach in confidentiality – clarify how and when pre/post data will be collected, who has access to that data, and how data will be analyzed. Consider if ID numbers are necessary for planned analyses (aggregate descriptive vs individual pre/post).
4. Voluntary participation – clarify if participation in data collection and educational intervention is voluntary and if students have an opportunity to decline participation without penalty.

The concerns should be submitted in an addendum via email to [soetting@sf.edu](mailto:soetting@sf.edu)

**12/04/2019 Review of Addendum:**

- Concerns 2, 3, and 4 are sufficiently addressed. In your presentation to students, be clear that your pre-test and post-test data will only be analyzed and reported in the aggregate.

IRB Committee Approval Form sjo 10/15/2019

- Concern 1 – While the IRB appreciates that you noted University sources and policies in your response, you must provide your participants with the information about available assistance if emotional distress occurs, including clearly citing university policies and their access. The IRB prefers that information about helpful sources be provided in print format.

You may begin your project once concern 1 is fully addressed. You do not need to submit further documentation to the IRB.

The committee performing this review is duly constituted and operates in accordance and compliance with local and federal regulations and guidelines.

Stephanie Oetting

Printed Name (Chair or designee)

*Stephanie Oetting*

Signature

12/04/2019

Date



### **Executive Summary**

The focus of this Doctor of Nursing Practice (DNP) educational intervention was to provide education regarding substance abuse and drug diversion to bachelor level nursing students. Providing a streamlined, uniform educational opportunity for students to learn about the realities, risks, consequences, and support systems was a goal of this project. An estimated 10 to 15 percent of healthcare providers will misuse drugs and alcohol at some point during their career, opioids being the most commonly diverted (Ahlstrom, 2018; Berge, Dillon, Sikkink, Taylor & Lanier, 2012; Stone, Rice, & Hledin, 2016). The position of the Emergency Nurses Association (ENA) and the International Nurses Society on Addictions (Strobbe & Crowley, 2017) is that nurses and nursing students are aware of the risks associated with substance use, impaired practice, and drug diversion, and have the responsibility and means to report suspected or actual concerns.

The major accrediting bodies for nursing programs were evaluated for their requirements and/or recommendations for drug diversion and substance abuse education. The Accreditation Commission for Education in Nursing (ACEN), Commission on the Collegiate Nursing Education (CCNE), American Association of Colleges of Nursing (AACN), and the American College of Nurse-Midwives Division of Accreditation (ACNM) all lacked standards for drug diversion and substance abuse education. The Council for Accreditation of Nurse Anesthesia Programs (COA) was the only exception.

The Knowledge-to-Action (KTA) theory provides an opportunity for change at multiple different levels. Steps of the KTA framework include identifying a problem that needs to be addressed, adapting knowledge relevant to the problem, assessing barriers to knowledge use, selecting and implementing interventions, monitoring knowledge use, evaluating outcomes, and sustaining knowledge use (White et al., 2016). The project design type used for this DNP

scholarly project was an educational intervention of best practice and was guided by Malcolm Knowles's theory of andragogy. Knowles believed that adults learn differently than children, thus forming his theory of andragogy. Knowles's andragogical theory is comprised of six crucial principles that assume the characteristics of adult learners are different from the theories of child learners (Knowles, 1984; Smith, 2002). These six principles include self-concept, foundation, readiness, orientation, motivation, and need-to-know.

This scholarly project was implemented on Friday January 17<sup>th</sup> of 2020 at 1:00pm at the University of Saint Francis' North Campus Auditorium in Fort Wayne, Indiana. Approximately 130 BSN students participated in this two-hour BSN seminar. Prior to beginning the presentation, the students completed the pre-test in Survey Monkey using their electronic devices. A PowerPoint presentation was utilized to present the drug diversion and abuse education material. Throughout the PowerPoint presentation, students participated in quiz questions on Kahoot!, a free educational game-based learning platform used in educational institutions. Mr. Rodrigo Garcia MSN, APN-CRNA, MBA, provided a prerecorded video that was then presented to the students. Lastly, students completed a post-test and post-presentation survey on Survey Monkey.

A paired samples *t*-test conducted to analyze the scores of the pre-test and post-test and evaluate whether a statistically significant difference existed between scores. Each of the 11 questions were compared to quantitatively determine if learning had been achieved. The mean increase between the pre-test and post-test was 2.67 with a 95% confidence interval stretching from a lower bound of 3.68 to an upper bound of 1.66. The probability value of 0.000 ( $p < .05$ ) concludes that there was a significant difference between the pre-test and post-test scores ( $t=5.24$ ,  $df=10$ ). The power analysis concluded a sample size of 95 was needed to achieve statistical significance, based on a confidence level of 95% and 5% margin of error.

Nursing students need drug diversion and abuse education. Future recommendations include continuing this education for nursing students at all levels and that this education be implemented for students in other healthcare professions. This project has the ability to be adapted and continued, however it is advised to target a specific audience.

Dissemination of project findings to BSN faculty was virtual due to COVID-19 quarantine and social distancing. A written report was submitted to faculty in place of a meeting. Due to this, further discussion or questions between BSN faculty and the Project Manager were unable to take place. Unfortunately, the Nurse Anesthesia program at the University of Saint Francis will not continue, as this project would have grown and adapted, and could been a beneficial addition to drug diversion and abuse education within the nursing curriculum. However, the PowerPoint and video will be shared with university nursing faculty to enhance their teachings.

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## **Chapter 1: Introduction**

### **Problem**

#### **Problem statement**

Students in all levels of nursing education are at risk for substance abuse problems (Maher-Brisen, 2007). Undergraduate nursing students are at risk for substance abuse problems due to having a lack of education in substance abuse coupled with inadequate monitoring of behaviors and inconsistent policies and procedures for following up with suspected substance abuse (McCulloh Nair, Nemeth, Sommers, & Newman, 2015). Common practice for students who are discovered to have a substance abuse problem is to be dismissed from the program without receiving the appropriate treatment thus denying them a path to recovery and safe entry into practice in the future (Strobbe & Crowley, 2017). Students and healthcare professionals who do not receive treatment and rehabilitation place themselves and their patients at risk for harm (Baldisseri, 2007). Therefore, it is imperative that drug diversion and abuse education starts early, at home and in the classroom (Baldisseri, 2007).

#### **Background and Literature**

An estimated 10 to 15 percent of healthcare providers will misuse drugs and alcohol at some point during their career, opioids are the most commonly diverted substances (Ahlstrom, 2018; Berge, Dillon, Sikkink, Taylor & Lanier, 2012; Stone, Rice, & Hledin, 2016). Despite significant advancements made to address drug abuse and diversion, such as requiring specific training in medical programs and education at health care facilities, drug diversion and abuse continues to be a problem within the nursing profession (Baldisserri, 2007).

The AANA (2015) asserts that one out of every ten Certified Registered Nurse Anesthetists (CRNA) is misusing drugs within the workplace. Due to direct access to potent drugs and knowledge of pharmacology, anesthetists present unique challenges for treatment and



recovery (AANA, 2019). Substance abuse, thus addiction, is an illness that is difficult to understand and is a disease that spans out entire economic and social spectrums (AANA, 2015). BSN graduates may choose to pursue a career as an Advanced Practice Registered Nurse (APRN), including the Nurse Anesthesia field. Providing drug diversion and abuse educational early is essential to the future APRN.

Nursing schools must incorporate drug diversion and substance abuse education into curriculums to educate nursing students early regarding the risks, signs and symptoms, consequences, and resources available to them. The position of the Emergency Nurses Association (ENA) and the International Nurses Society on Addictions (Strobbe & Crowley, 2017) is that nurses and nursing students are aware of the risks associated with substance use, impaired practice, and drug diversion, and have the responsibility and means to report suspected or actual concerns.

The participation of expert speakers in educating nursing students on the topics of drug diversion and abuse is highly supported. Baldisseri (2007) suggests using formerly impaired healthcare providers to educate students in medicine, nursing, and pharmacy as they may be an effective tool used early for substance abuse prevention. Speakers with a personal story play a key role in capturing the attention and engaging nursing students in learning about drug diversion and abuse (Baldisseri, 2007).

### **Practice and Knowledge Gap**

According to the National Council of State Boards of Nursing (NCSBN, 2011), studies have shown that substance abuse in nursing begins before or during nursing school, and that state boards of nursing do not monitor substance use disorders (SUD) among nursing students. SUD is a major issue within nursing programs, as substance abuse can compromise the learning environment and impair judgment and skills (NCSBN, 2011).

Nurses and nursing students must have awareness and know what to do if a suspected diversion situation arises. Abuse and diversion often go unnoticed or ignored due to lack of education (Bryson & Silverstein, 2009). The individuals may not know what steps to take to bring the incident to light. Colleagues may be the first to notice changes in their coworker, however without the proper education, colleagues may not feel equipped to recognize that what they are seeing may be associated with the signs and symptoms of substance abuse, thus lack empowerment in reporting such situations (AANA, 2018; Ahlstrom, 2018).

The major accrediting bodies for nursing programs were evaluated for their requirements and/or recommendations for drug diversion and substance abuse education. The Accreditation Commission for Education in Nursing (ACEN) accredits associate, diploma, baccalaureate, and graduate level nursing programs. No drug diversion and substance abuse education standards were found within the ACEN. The Commission on the Collegiate Nursing Education (CCNE) accredits Bachelor of Science in Nursing (BSN) and graduate level programs, as well as post-graduate Advanced Practice Registered Nurse (APRN) certificates and residency programs. The CCNE standards for BSN programs are listed in the Essentials of Baccalaureate Education for Professional Nursing Practice through the American Association of Colleges of Nursing (AACN). These essentials, along with the Standards for Accreditation of Baccalaureate and Graduate Nursing programs through the AACN were found to have no drug diversion and substance abuse education standards or recommendations. In addition, the American College of Nurse-Midwives Division of Accreditation (ACNM) lacked standards for drug diversion and substance abuse education.

Traditionally, there has been no standard for substance abuse education in medical schools or nurse anesthesia programs, and the education provided therein varies (Wright, et al., 2012). In October of 2018, the Council for Accreditation of Nurse Anesthesia Programs (COA,

2018) updated their standards to include wellness and substance abuse disorder education. COA standards state this curriculum must be an evidence-based program of study that should include five key conceptual components. These conceptual components include the importance of wellness to healthcare professionals, healthy lifestyle choices, coping mechanisms, identification and intervention of SUD and reentry into the workplace after treatment for SUD (COA, 2018). However, the COA does not provide specific guidelines or tools for schools to reference to make sure consistent education about substance abuse is followed (Roberts, 2018).

### **Needs Assessment**

**Project necessity.** A thorough review of literature provided evidence to support the need for diversion and substance abuse education to undergraduate nursing students. However, there lies a gap in requirements, recommendations, and dissemination of this information as evidenced by the lack of inclusion criterion by nursing's major accrediting bodies. This project is supported by faculty within the University of Saint Francis (see Appendix A).

To decrease the occurrence of drug diversion and substance abuse in healthcare workers, early education, vigorous educational programs, and continuous screening can assist (AANA, 2018; Berge et al., 2012; Roberts, 2018). Diversion impacts not only the abuser, but the abuser's loved ones, patients, coworkers, and healthcare facilities. According to the North Carolina Healthcare Association (NCHA, 2018), if diversion education informs healthcare workers on how to recognize drug diversion and respond appropriately, as well as the consequences of substance abuse, diversion may be identified early or prevented altogether.

### **Project Overview**

**Scope of project.** The scope of this DNP scholarly project was to provide education and increased knowledge regarding substance abuse and drug diversion to bachelor level nursing students. The educational intervention covered many domains within the topic of drug diversion

and abuse such as: statistics of diversion and abuse, physiology of addiction, risk factors for addiction, signs and symptoms of addiction (how to recognize), and how to find help. Providing a streamlined, uniform educational opportunity for students to learn about the realities, risks, consequences, and support systems was a goal of this project. This project also served to create an open and honest environment in which students can learn, ask questions, and become familiar with student help resources such as the Wellness Center available to them within the University of Saint Francis.

This project did not include any deception, physical studies, major risk to participants, participant costs, or participant compensation. Compensation was not awarded to participants and there was no direct benefit to students for participating. Information learned from this session may help enhance wellness, as well as guide their practice and personal decisions, and impact the future of nursing and the opioid epidemic. There was no intended use of deception.

**Stakeholders.** Key stakeholders included the project manager, Sara Saylor BSN, RN-BC, CCRN, DNP-CRNA student, project advisor Dr. Megan Winegarden DNP, EdM, RN, CNE, Associate Professor, project mentors Dr. Lisa Osborne DNP, CRNA, Nurse Anesthesia Program Director, and Professor Gregory Louck MSN, CRNA, Assistant Professor of Nurse Anesthesia, keynote speaker Mr. Rodrigo Garcia MSN, APN-CRNA, MBA, and the University of Saint Francis faculty and staff. Other key stakeholders imperative to this project included Professors Rachel Gilson and Whitney Gradeless, Dr. Dave Johnson PhD, RN, LMFT, as well as support from Drs. Angela Harrell, Dean of the School of Health Sciences, Lance Richey, Vice President of Academic Affairs, and Dr. Carolyn Yoder, BSN Program Director and Associate Professor.

### **Budget and Resources**

**Cost.** Anticipated costs for this scholarly project included in-kind contributions graciously provided by the faculty and staff at the University of Saint Francis. Direct costs were

associated with the price of Survey Monkey and gift cards to students. Survey Monkey is an online survey development service company that provides free or paid customizable surveys that includes data analysis, sample selection, and data representation tools. Survey Monkey services cost approximately \$276. Three \$10 gift cards were purchased by the Project Manager for students, including Starbucks, Target, and DeBrand Fine Chocolates. In total, the Project Manager paid \$306 in direct costs (Appendix B).

**Description of resources.** The North Campus auditorium at the University of Saint Francis in Fort Wayne, Indiana was utilized for this educational intervention. Nurse Anesthesia faculty, nursing faculty, and the content expert speaker were invaluable resources for the success of this project. The University of Saint Francis information technology team was also utilized. A two-hour educational intervention occurred during the BSN seminar, which is a mandatory class held quarterly for BSN students. Typically, this event is held in the auditorium and is attended by approximately 140 undergraduate BSN nursing students. Students were asked to bring their electronic devices and have Survey Monkey links ready. Prior to beginning the presentation, the students completed the pre-test in Survey Monkey. A PowerPoint presentation was utilized to present the drug diversion and abuse education material and lasted approximately 45 minutes. Throughout the PowerPoint presentation, students participated in quiz questions on Kahoot!, a free educational game-based learning platform used in educational institutions. Their cell phones were also necessary to participate in Kahoot!. At the end of the presentation, the top three scores in Kahoot! were awarded one of the three gift cards. A 20-minute break was then provided for the students. Following the break, a content expert presented his story via pre-recorded video. This video was approximately half an hour. Students were expected to complete a post-test and survey on Survey Monkey prior to leaving. Survey Monkey was used to collect statistical data regarding scores between pre and posttests.

## Process and Outcomes

**General timeline.** This project began in September of 2018 (Appendix C). The clinical question was developed and refined throughout the following three semesters in core doctoral coursework. CITI training was completed in July of 2019. In July of 2019, BSN nursing program faculty were contacted to determine the need and feasibility of the project. Faculty found it was necessary and supported drug diversion and abuse education in undergraduate nursing students. A thorough review of literature was collected in the summer of 2019. Also during this time, a gap analysis, needs assessment, risk assessment, budget and timeline were formed. The scholarly project team was solidified, and in September of 2019 a keynote speaker was scheduled to speak during the educational intervention. This expert speaker provided pre and posttests that were approved for use and revision. Unfortunately, a scheduling conflict occurred that did not allow the keynote speaker to attend, thus a pre-recorded video was used. Permission to edit the pre-recorded video was given on December 5<sup>th</sup>, 2019 (Appendix D).

**Setting and target population.** The location designated for this project was the University of Saint Francis. The University of Saint Francis is a small, non-profit Catholic institution in Fort Wayne, Indiana. The North Campus auditorium was utilized as the primary setting, where approximately 140 BSN students participated. This educational presentation was intended for undergraduate nursing students attending the BSN seminar. Participants were excluded if they were not within this specific group or if they were under the age of 18 years old.

**Expected outcomes.** Prior to beginning the presentation on January 17<sup>th</sup> of 2020, the student participants completed a pretest via Survey Monkey on their electronic devices. After the seminar, they completed a posttest and survey also via Survey Monkey on their electronic devices. The pre and posttest (Appendix E) were designed to measure knowledge gained by participation in this educational intervention. A 10 percent increase on post test scores from

pretest scores was expected. Students were also expected to be able to state or describe how to get assistance for themselves and others as evidenced by survey results.

### **Risk Analysis**

**Risk analysis.** No physical risks existed. There may have been times that students felt uncomfortable with the information being discussed. The subject of drug diversion and abuse can cause feelings of anxiety, sadness, anger, or guilt. Students may have gotten tired or bored during the discussion or when they were completing the pre and posttest. BSN students did not have to answer any questions they did not want to answer.

Strategies to mitigate any risks to the participant were considered. Due to the potential to cause some emotional risks, students were introduced to the multiple resources located at the University of Saint Francis during the educational intervention such as the Safe Harbor Program and Health and Wellness clinic counseling services which are discussed in Chapter 3. Pre and post tests were deidentified and anonymous via Survey Monkey. No name or other specific identifying information was necessary. Pre and posttest data remained confidential and anonymous. Data was stored in aggregate form.

## Chapter 2: Synthesis of Supporting Evidence and Project Framework

### Relevant Theories and Concepts

The project design type used for this DNP scholarly project was an educational intervention of best practice and was guided by Malcolm Knowles's theory of andragogy. Knowles believed that adults learn differently than children, thus forming his theory of andragogy. Knowles's andragogical theory is comprised of six crucial principles that assume the characteristics of adult learners are different from the theories of child learners (Knowles, 1984; Smith, 2002). These six principles include self-concept, foundation, readiness, orientation, motivation, and need-to-know.

**Self-concept.** Adults are self-directed learners who are responsible for the decisions in their education (Knowles, 1984; Smith, 2002). Undergraduate nursing students are prime examples of self-directed adult students, as they must navigate on-campus classes, on-line classes, clinical rotations, personal lives, multiple variations in subject presentation, and time management to be successful.

**Foundation.** Adults accumulate experiences that become the basis for their learning (Knowles, 1984; Smith, 2002). Adults have a vast array of life experiences that they draw on to conquer life's circumstances and obstacles, as opposed to children who are still growing and experiencing. These experiences are both positive and negative, as both mold how we perceive the world. BSN students can vary greatly in age, from the young adult to the older adult. Each age group brings their own set of unique life experiences with them as they complete their education and gain additional experience.

**Readiness.** Adults are interested in learning topics that have relevance to their work (Knowles, 1984; Smith, 2002). Undergraduate nursing students are eager to learn the specifics about their field.



**Orientation.** Adults want immediate application of knowledge (Knowles, 1984; Smith, 2002). Drug diversion and abuse education is immediately applicable as it can be used by the undergraduate nursing student immediately following the educational intervention. Knowledge gained can be utilized once the educational intervention has concluded.

**Motivation.** Adults tend to be more internally motivated as opposed to externally motivated; this ties in with self-concept and self-direction (Knowles, 1984; Smith, 2002). Undergraduate nursing students must hold themselves accountable and motivate themselves to participate in clinicals, study, and maintain time management skills.

**Need-to-know.** Adults need to know the rationale behind learning a topic (Knowles, 1984; Smith, 2002). Much like evidence-based practice, adult undergraduate nursing students need to know the why behind the how to function as wise, knowledgeable nurses.

### **Knowledge-to-Action Framework**

The KTA model was developed by Dr. Ian Graham and colleagues from the University of Ottawa. White, Dudley-Brown, and Terhaar (2016) state that the KTA model is a visual representation of the translation process. KTA is conceptualized as a funnel whereas new information advances through stages until it is adopted and utilized. The Centers for Disease Control and Prevention (CDC, 2014) also describes the KTA framework as one that depicts a high-level of processes needed to move forward from detection into action by using the translation of evidence-based practices. According to White, et al (2016), the steps of the KTA framework include identifying a problem that needs to be addressed, adapting knowledge relevant to the problem, assessing barriers to knowledge use, selecting and implementing interventions, monitoring knowledge use, evaluating outcomes, and sustaining knowledge use.

The first step of the KTA model includes identifying a problem that needs to be addressed. This problem is drug diversion and abuse in nursing, and the lack of education within

educational institutions to recognize and prevent diversion. The literature supports educating healthcare students and professionals in the prevention, detection, and reporting of diversion to decrease substance abuse thus protecting the victim, patients, employees, and facilities. Barriers to knowledge use include the learner's preconceived biases about drug abuse, a lack of understanding on how to address an impaired provider, and not wanting to be a part of the issue (Berge et al., 2012). The education provided must be carefully selected and tailored to the audience who is to receive it. Knowledge gained can be monitored by use of a pre and post-test model. Outcomes and sustained knowledge use can be evaluated by following up in the future on diversion reporting, maintaining up-to-date policies and procedures, and doing annual educational in-services.

### **Literature Review**

This DNP project included an exhaustive review of the current literature. Databases searched and utilized included: American Association of Nurse Anesthetists (AANA), Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews (DARE), Dynamed, Essential Evidence Plus, Evidence-Based Summaries, EBSCO's Nursing Reference Center Evidence Based Summaries, TRIP Database (USF Library), National Institute of Health and Clinical Excellence (NICE), CINAHL Plus, EBSCO Open Dissertations, Emcare (Ovid), ERIC (Education Resources Information Center), Google Scholar, Proquest Nursing and Allied Health, Proquest Dissertations & Theses Global, PubMed (Medline), and Directory of Open Access Journals. Key search words included: Substance abuse, substance abuse disorder, drug diversion, addiction, anesthesia AND addiction, CRNAs AND addiction, CRNAs AND diversion, substance abuse AND nursing, substance abuse AND nursing students, substance abuse disorder AND nursing, substance abuse disorder AND nursing students, drug diversion

and nursing, drug diversion AND nursing students, addiction AND nursing, addiction AND nursing students, physiology of addiction, risk factors for addiction, and addiction resources.

The subject of drug diversion and abuse is taboo in many schools and healthcare facilities across the United States. The first step in removing this stigma requires an understanding that substance abuse is a medical illness that necessitates recognition and treatment (Dunn, 2005). According to the AANA (2018), there is strong evidence that SUD is a disease of the brain; there is no cure, but it is possible to achieve short term and lifelong recovery.

The opioid epidemic has taken the lives of many, and nurses are not exempt from this. An estimated 10 to 15 percent of healthcare providers will misuse drugs and alcohol at some point during their career, opioids being the most commonly diverted (Ahlstrom, 2018; Berge, Dillon, Sikkink, Taylor & Lanier, 2012; Stone, Rice, & Hledin, 2016). Significant advancements have been made to address this issue, such as requiring specific training in medical programs and education at health care facilities (Baldeserri, 2007). Despite this and other improvements, the opioid epidemic continues to be a problem. Substance abuse, thus addiction, is an illness that is difficult to understand and is a disease that spans out entire economic and social spectrums (AANA, 2015).

The AANA (2015) asserts that one out of every ten CRNAs is misusing drugs within the workplace. Due to direct access to potent drugs and knowledge of pharmacology, anesthetists present unique challenges for treatment and recovery (AANA, 2019). Chemical dependency in the anesthesia provider has been shown to occur within the first five years of practice (AANA, 2015). The leading cause of death among young anesthesia providers is substance abuse, noting that misuse is high in nurse anesthesia students in their formative educational years (Bozimoski, Groh, Rouen & Dosch, 2014; Tetzlaff, 2011). Nursing students are at risk for substance abuse

problems; however anesthesia providers are at a disproportionately higher risk for substance abuse when compared to other healthcare professionals (ANA, 2015; Wright et al., 2012).

Even with system-wide initiatives that prevent and identify diversion, diversion and abuse continue. According to the NCSBN (2011), “a lack of education about the addictive process and how to recognize the signs and symptoms remains one of the more profound risk factors for nurses” (p. 17). After a review of evidence in healthcare systems, it was found that early education, vigorous educational programs, and continuous screening can assist in decreasing the occurrence of drug diversion and substance abuse in healthcare workers (AANA, 2018; Berge et al., 2012; Roberts, 2018).

### **Physiology of Addiction**

Historically, drug addiction has been widely thought of as a choice rather than a disease. Current evidence and research suggest that addiction is more than a choice; it is a highly individualized, multifactorial problem that is exhibited in some more than others (Berge, et al., 2012; Roberts, 2018; Sinha, 2009). Drug addiction can be described as a chronic relapsing disease of the brain that is characterized by compulsive drug seeking and use in spite of detrimental consequences, and includes three stages: Binge/intoxication, preoccupation/anticipation, and withdrawal/negative affect (Herman & Roberto, 2015; NIDA, 2008). The binge/intoxication stage gives the user the initial acute positive reinforcement and pleasure (Koob & LeMoal, 2008). Following intoxication is preoccupation/anticipation. This stage is characterized by an overwhelming craving to obtain more of the substance of choice. Withdrawal occurs when the user is unable to obtain these substances.

The use of controlled substances affects the limbic system located deep within the brain that controls arousal and pleasure-seeking activities (Herman & Roberto, 2015; Sinha, 2010). As neurotransmitter impulses caused by intoxication from mind-altering substances travel from the

limbic system to the forebrain, brain activity is modulated (Herman & Roberto, 2015; Sinha, 2010; Volkow & Morales, 2015). Dopamine is a key neurotransmitter that is released in excessive amounts during drug abuse (Sinha, 2009; Volkow & Morales, 2015). It causes feelings of euphoria, thus continuing the rewards system within the brain.

### **Contributing Factors to Addiction**

Stress, genetics, and access are major contributing factors to the disease of addiction. Other causative factors include occupational stress and exposure, accessibility, liability issues, burnout, irregular work hours, and sleep deprivation (Bozimowski, Groh, Rouen & Dosch, 2012; Lord, Magro & Zwerling, 2010; Sinha, 2009). Individuals with increased genetic susceptibility experiencing persistent and uncontrollable stressful situations create an interaction that alter synthesis, expression, and signaling in stress-related pathways (Bryson & Silverstein, 2008; Sinha, 2009). These pathways include corticotropin releasing factor, glucocorticoids, norepinephrine, gamma-aminobutyric acid (GABA), serotonin, glutamate, and dopamine. The interactions between these factors thereby result in individual differences in stress response which heighten the susceptibility to addiction (Sinha, 2009). Drug addiction alters normal brain circuitry, which results in long term drug-induced neuroplastic changes (Koob & Volkow, 2010).

The National Institute of Drug Abuse (NIDA, 2008) estimates that genetics accounts for 40 to 60 percent of an individual's vulnerability to addiction, including the projected effects of environmental exposure on gene expression and function. Genetics plays a large role in the predisposition to transition from chronic substance use to addiction and dependence (Hiroi & Agatsuma, 2005). The significant degree of autonomy, easy access to drugs in addition to having extensive knowledge of pharmacology and a variety of potent psychoactive medications are factors in the development of drug addiction (Thomas & Carter, 2006; Baldisseri 2007). Drug diversion and abuse is a multifaceted issue that requires a multifaceted approach.

Exposure to anesthetics in the operating room has been suggested to increase the risk of addiction in the already stressed and genetically susceptible anesthesia provider. Anesthesia providers may become addicted through minute exposure and sensitization in the operating room and may continue to use the agents to alleviate withdrawal symptoms they may experience when away from the agent (Bryson & Silverstein, 2008; Gold, 2004). Genetics plays a large role in the predisposition to transition from chronic substance use to addiction and dependence (Hiroi & Agatsuma, 2005). Association of Nurse Anesthetists (AANA, 2018) states that:

Substance use disorder is an occupational hazard of disproportionately greater risk among the anesthesia profession than in other practice specialties due in part to stresses of working in a demanding profession, increased availability of highly addictive medications, and possible environmental sensitization to the effects of such medications.

### **High Risk Medications**

The fields of nursing and anesthesiology are of high stress and high-risk situations. Anesthesia providers such as CRNAs and anesthesiologists in whom psychotropic drug use and addiction is considered an occupational hazard (Berge et al., 2012). Due to this, and due to the ease of access to controlled substances by nurses and CRNAs, drug misuse and abuse has been labeled an occupational hazard (Berge et al., 2012; Kristof, 2018). The significant degree of autonomy, easy access to drugs in addition to having extensive knowledge of pharmacology and a variety of potent psychoactive medications are factors in the development of drug addiction (Thomas & Carter, 2006; Baldisseri 2007).

Bell, McDonough, Ellison, and Fitzhugh (1999) state that 9.8% (167 out of 1,709) of nurse anesthetists admitted to misusing medications at some point in their career. The most abused substances were opioids (3.2%), propofol (2.5%), benzodiazepines (4.9%), and nitrous oxide (4.1%). An unpublished report reveals contrasting drug diversion and substance abuse in

2006 found that the only difference was an increase in opioid and propofol use (Bell, McDonough, Ellison, & Fitzhugh 2002). Opioid abuse skyrocketed to 9%, while propofol abuse reached 5% (Bell, McDonough, Ellison, & Fitzhugh 2006).

### **Nurse Characteristics and Drug Abuse**

The likelihood of substance abuse varies across nursing specialties (NSCBN, 2011). Psychiatric nurses were found to have higher rates of smoking, and critical care nurses were found to have the highest rates of cocaine use when compared to other specialties (NSCBN, 2011). Oncology nurses were more likely to drink five or more alcoholic drinks per occasion. General pediatric, women's health, and school and occupational health nurses were least likely to report substance abuse (NSCBN, 2011). The AANA (2017) reports that addiction in CRNAs and anesthesiologists exceeds 15 percent, and an anonymous survey among CRNAs found that 10 percent reported abuse within their practice (Bell, McDonough, Ellison, & Fitzhugh, 1999).

The NCSBN (2011) also lists the top four risk factors for substance abuse as access, attitude, stress, and a lack of education about substance abuse disorder which leads to a lack of awareness of the signs and symptoms. Nurses also lack the information they need about how to recognize or intervene with a suspected substance abuser, which makes education a priority for nurses (Dunn, 2005; Copp, 2009). Additional research conducted on nursing students reveals that many risk factors appear during nursing school including abuse of prescription drugs, and opportunities for recognition and intervention for these students are deficient (Monroe & Pearson, 2009; NCSBN, 2011).

### **Recognizing Impairment and Diversion**

One of the first indicators of substance abuse is overdose and/or death (Stone, Rice, & Hledin, 2016). Nurses must know the signs and symptoms of SUD if addiction is to be recognized and treated before it is too late (AANA, 2018; Stone, Rice, & Hledin, 2016). The

signs and behaviors of dependence are often ignored due to denial and the individual being respected and intelligent, as well as being successful in disguising their problem (AANA, 2018; Bryson & Silverstein, 2009). Workers in the healthcare field seem to be good at hiding the signs and symptoms of substance and may believe they are immune to developing a substance use disorder (Baldisseri, 2007).

Table 1 lists signs and symptoms of substance abuse in the workplace, physical symptoms of substance abuse, and behavioral symptoms of substance abuse and dependency. In addition, the abuser may withdraw from family and friends, have financial difficulties, and an increase in medical problems (Baldisseri, 2007; Stone, Rice & Hledin, 2016). Intelligent, autonomous healthcare providers may struggle to admit that they have a problem controlling their addiction because they are used to controlling many aspects of their occupation (Baldisseri, 2007; Bryson & Silverstein, 2009).

Table 1

*Behaviors and signs associated with SUD and drug diversion (AANA, 2018)*

Impairment <sup>3,17,22,23</sup>	Drug Diversion <sup>*4,16,23,24</sup>
<p><b>Behaviors</b></p> <ul style="list-style-type: none"> <li>• Severe mood swings, personality changes</li> <li>• Frequent or unexplained tardiness, work absences, illness or physical complaints</li> <li>• Elaborate excuses</li> <li>• Underperformance</li> <li>• Difficulty with authority</li> <li>• Poorly explained errors, accidents or injuries</li> <li>• Wearing long sleeves when inappropriate</li> <li>• Confusion, memory loss, and difficulty concentrating or recalling details and instructions</li> <li>• Visibly intoxicated</li> <li>• Refuses drug testing</li> <li>• Ordinary tasks require greater effort and consume more time</li> <li>• Unreliability in keeping appointments and meeting deadlines</li> <li>• Relationship discord (e.g., professional, familial, marital, platonic)</li> </ul> <p><b>Signs</b></p> <ul style="list-style-type: none"> <li>• Physical indications (e.g., track marks, bloodshot eyes)</li> <li>• Signs indicative of drug diversion* (see right column)</li> <li>• Deterioration in personal appearance</li> <li>• Significant weight loss or gain</li> <li>• Discovered comatose or dead</li> </ul>	<p><b>Behaviors</b></p> <ul style="list-style-type: none"> <li>• Consistently uses more drugs for cases than colleagues</li> <li>• Frequent volunteering to administer narcotics, relieve colleagues of casework, especially on cases where opioids are administered</li> <li>• Consistently arrives early, stays late, or frequently volunteers for overtime</li> <li>• Frequent breaks or trips to bathroom</li> <li>• Heavy wastage of drugs</li> <li>• Drugs and syringes in pockets</li> </ul> <p><b>Signs</b></p> <ul style="list-style-type: none"> <li>• Anesthesia record does not reconcile with drug dispensed and administered to patient</li> <li>• Patient has unusually significant or uncontrolled pain after anesthesia</li> <li>• Higher pain score as compared to other anesthesia providers</li> <li>• Times of cases do not correlate when provider dispenses drug from automated dispenser</li> <li>• Inappropriate drug choices and doses for patients</li> <li>• Missing medications or prescription pads</li> <li>• Drugs, syringes, needles improperly stored</li> <li>• Signs of medication tampering, including broken vials returned to pharmacy</li> </ul>



In addition, a healthcare provider under the influence may volunteer to work on days off, sign up for overtime, have narcotics discrepancies, lack witnesses while wasting narcotics, and may frequently offer to administer medications (Berge et al., 2012; NCSBN, 2011). Colleagues often hesitate to report these signs and behaviors due to many reasons such as denial, not believing it is their responsibility, fear of retribution, and fear of excessive punishment for the individual under question (AANA, 2019; NCSBN, 2011). Baldisseri (2007) also states that there may be fear in over-reacting, losing friendship, fear of occupational and financial retaliation, or labeling someone as a drug addict.

### **Prevention**

Diversion and abuse affect not only the abuser, but the abuser's loved ones, patient safety and coworkers as well (Berge et al., 2012; Kristof, 2018). Coworkers must recognize the signs and symptoms of diversion and impairment, and not hesitate to report their suspicions to the correct authorities. Early intervention is critical. Intervention includes highlighting how nurses were initially identified as abusing substances, and how these nurses succeeded through intervention programs by exposure to speakers who have experienced SUD (Baldisserri, 2007; NCSBN, 2011). The NCSBN (2011) also suggests that nursing programs present formal workshops that "provide information on such topics as the risks and signs of a substance use disorder in nurses, referral, retention in the workplace and relapse" (p. 202). By providing the proper training and education, lives can be saved.

Outreach regarding what SUD is and promoting a healthy work-life balance should be considered for nursing students and nursing faculty and administration, and specific strategies that are aimed to match the needs of the nursing student significantly increases the positive results of SUD and drug diversion education (NCSBN, 2011). The National Student Nurses Association (NSNA, 2002) and the American Nurses Association (ANA, 2002) called for an

increase in education about the risks of substance abuse and addiction for nursing students. The NSNA and ANA also support student nurses having access to interventional programs in the event of abuse and addiction. The North Carolina Healthcare Association (2018) states that:

Prevention and identification of diversion begins with awareness. By educating employees about the consequences of substance abuse and diversion, how to recognize diversion in peers, and the appropriate response to take if it occurs, diversion may be prevented or identified early (p. 4).

The American Society of Health-System Pharmacists (ASHP) has delineated guidelines in preventing the diversion of controlled substances. These guidelines include providing annual healthcare worker education programs in diversion awareness, prevention, and substance abuse to specifically include signs of possible diversion, the employees' role in recognizing diversion, and consequences of diversion (ASHP, 2017). Depending on the specific role of the healthcare worker and their access to controlled substances, different levels of training should be provided (Brummond, et al., 2017).

The Joint Commission (2015) has stated that healthcare facilities need to provide continuing staff education and encouragement to come forward to report suspicious activity. This requires that the nurses understand just how serious drug diversion is, requiring mandated education. Possible effects of drug diversion include substandard patient care, denial of pain medications thus inadequate pain control, and the risk of infection from injecting medications that have been tampered with (The Joint Commission, 2015). The Joint Commission (2015) standards also require facilities to have programs in place that minimize diversion, such as keeping controlled substances locked, requiring discrepancy checks, and auditing patient charts.

The AANA (2016) supports system-wide initiatives that prevent and identify diversion by incorporating close cooperation between multiple stakeholders such as pharmacy,

anesthesiology, nursing, human resources, legal, administration, and safety and security. The AANA (2016) advocates for policies that are fair and uniform in the treatment of providers with SUD to help create a safe environment for reporting, receiving appropriate treatment, and the potential for reentry into clinical practice (AANA, 2016).

According to the NCSBN (2011), outreach and SUD education are imperative for nursing programs and state boards to fulfill. The Council on Accreditation (COA, 2012) recommends that curriculums contain an evidence-based program of study that may include five key conceptual components: Importance of wellness to healthcare professionals, healthy lifestyle choices, coping mechanisms, identification and intervention of substance abuse disorder, and reentry into the workplace after treatment for substance abuse disorder.

### **Summary of the Evidence**

Even with system-wide initiatives that prevent and identify diversion, diversion and abuse continue within the nursing profession, and is at an even greater risk for anesthesia professionals. This risk is higher for CRNAs due in part to the high-stress profession, demanding work environment, easy access to highly addictive medications, and multifactorial characteristics such as genetics, sensitization, and predispositions (AANA, 2018; Stone, Rice and Hledin, 2016). After a review of evidence in healthcare systems, it was found that early education, vigorous educational programs, and continuous screening can assist in decreasing the occurrence of drug diversion and substance abuse in healthcare workers (AANA, 2018; Berge et al., 2012; Roberts, 2018). Beginning this education early with BSN students will help prevent drug diversion and abuse in their careers, including those that pursue higher education in advanced practice nursing.

Diversion impacts not only the abuser, but the abuser's loved ones, patients, coworkers, and healthcare facilities. According to the NCHA (2018), if diversion education informs

healthcare workers on how to recognize drug diversion and respond appropriately, as well as the consequences of substance abuse, diversion may be identified early or prevented altogether.

## **Chapter 3: Project Design**

### **Methodology**

#### **Project Design Plan**

The project design plan used for this DNP scholarly project was an educational intervention of best practice. The educational intervention included drug diversion and abuse education for undergraduate BSN students, with the inclusion of an expert speaker. Mr. Rodrigo Garcia, MSN, APN-CRNA, MBA is the founder and owner of Parkdale Addiction Treatment for Professionals in Chesterton, Indiana. Mr. Garcia and his wife Claudia Garcia founded Parkdale after his own struggle and success with drug diversion and abuse. Mr. Garcia now runs this facility and speaks publicly about SUD and drug diversion. Best practice on the subject of drug diversion and abuse education is to incorporate education early, however, there lies a gap in this process as evidenced the lack of formal requirements made by nursing accreditation agencies.

#### **Ethical Considerations**

Ethical considerations were reflected upon throughout the creation of this project. This project was approved by Dr. Angela Harrell, Dean of the School of Health Sciences and Dr. Lance Richey, Vice President for Academic Affairs. Support for the project was also given by the BSN faculty and Nurse Anesthesia Program.

Students may have felt uncomfortable or got bored listening to the Project Manager discuss the statistics, risks, and signs and symptoms of drug diversion and abuse. The subject of drug diversion and abuse can cause a vast array of emotions that may or may not have caused distress to the BSN students. BSN students were told that they did not have to answer any question they did not want to answer and could choose not to participate.

Due to the potential to cause some emotional risks, students were introduced to the resources available at the University of Saint Francis during the educational intervention. The

University of Saint Francis Health and Wellness center was available to all-currently enrolled students. Services offered are appointments for medical complaints, as well as counseling services. The Health and Wellness Center offers a full range of confidential counseling services for students to seek support for a variety of mental health concerns such as stress, depression and anxiety, substance abuse, anger, loneliness, poor habits, life trauma, grief, and other personal concerns. LaDonna Hayden, MA, LMHC, Student Assistance Program Specialist, provided pamphlets from the Health and Wellness Center and the Student Assistance Program.

Educational pamphlets were available to students to take with them (Appendix F). Dr. David Johnson, PhD, RN, LMFT, was available at the seminar for students who may desire emotional support or guidance.

In addition to counseling services, the University of Saint Francis also has a Safe Harbor rule for students. The University of Saint Francis believes that if a student has a drug or addiction problem, that they deserve help (University of Saint Francis, 2019). If the student in need voluntarily brings forward their use, addiction, or dependency issue to the attention of college officials, the university will not file a complaint against the student (University of Saint Francis, 2019). A written action plan will be created between the student and the University of Saint Francis to track cooperation to obtain help (University of Saint Francis, 2019). However, if the student fails to follow the action plan, this invalidates Safe Harbor protection and the university can then file a formal complaint (University of Saint Francis, 2019).

To ensure the highest of ethical quality, the Project Manager completed the Collaborative Institutional Training Initiative (CITI) program (Appendix G). Full disclosure was given to the BSN student participants as to the purpose of this project. Consent was obtained from student participants in their pre-test. By completing the pre-test, students gave their consent to participate in the educational intervention. Taking part in this educational session was voluntary.

The student could choose to not take part or leave at any point. If a student chose not to take part in this educational intervention portion of the BSN seminar, they had to discuss this with their instructor and an alternate assignment/requirement was determined. No compensation was awarded to the students for participating in this educational intervention during the BSN seminar.

Pre and post test data were kept confidential. No identifying data was required of the participating BSN students. Pre and posttests were administered via Survey Monkey, allowing the students to utilize their mobile devices. The pre and posttest data in Survey Monkey is only accessible by the project manager.

Survey Monkey guarantees confidentiality by allowing the creator to collect anonymous responses and the ability to not collect IP addresses. Survey Monkey provides the tools for the creator to obtain the information needed; Survey Monkey employees do not read participant responses unless given permission by the creator. Survey Monkey complies with applicable laws and regulations such as General Data Protection Regulation (GDPR) and Health Insurance Portability and Accountability Act (HIPAA). In addition, Survey Monkey has physical security controls at their data centers that includes security monitoring twenty-four hours a day, seven days a week, cameras, visitor logs, and strict entry requirements. The Survey Monkey team also receives ongoing customer privacy and security training to preserve these high standards.

### **Project Schedule and Work Breakdown**

As stated in Chapter 1, this project evolved over a period of one year from September 2018 to September 2019. Further refinement of the pre and posttest and post-educational survey occurred throughout the Fall 2019 semester. These components were finalized by the end of the Fall 2019 semester to be incorporated into Survey Monkey in time for the presentation on January 17<sup>th</sup>, 2020.

Confirmation of the keynote speaker's participation in the project intervention was obtained on October 10<sup>th</sup> of 2019. Mr. Garcia's pre-recorded presentation focused on his life circumstances that led to drug diversion and abuse, and how he and his wife overcame diversion and abuse and moved on to help others in similar situations.

The objectives and content of the PowerPoint presentation presented by the Project Manager were discussed with Nurse Anesthesia faculty, BSN faculty, and Mr. Garcia. These discussions ensured that necessary content was covered, as key stakeholders have differing knowledge bases and views that add depth and breadth to the subject of drug diversion and abuse education. Further discussion continued as to what the Project Manager discussed and what Mr. Garcia discussed to create a well-rounded, organized, thoughtful presentation. The presentation was completed by the end of the Fall 2019 semester. This educational intervention was scheduled to occur on January 17<sup>th</sup> for approximately two hours in the North Campus auditorium at the University of Saint Francis in Fort Wayne, Indiana.

### **Implementation Methods**

This scholarly project was approved on December 12<sup>th</sup>, 2019 by Drs. Megan Winegarden, Susan Lown, and Carolyn Yoder (Appendix H). Implementation occurred during the January 17<sup>th</sup>, 2020 BSN seminar at the University of Saint Francis. Approximately 130 students gathered in the North Campus auditorium for the seminar. BSN students were required to complete a pretest prior to the educational intervention as part of their regularly assigned seminar prework. The pretest was completed anonymously on Survey Monkey. The educational intervention began with a PowerPoint presentation presented by the DNP Project Manager. Throughout the presentation, students participated in Kahoot! questions pertaining to content within the PowerPoint slides. Following the PowerPoint presentation, students were allowed a 15-minute break. Following the break, the keynote speaker, Mr. Garcia, discussed his personal experience



with drug diversion, abuse, and recovery as a CRNA via prerecorded video. Mr. Garcia's video lasted approximately 30 minutes. When the educational intervention was completed, time was allowed for the BSN students to ask questions. The students were then required to complete a posttest and survey (both on Survey Monkey) which was encouraged to be completed prior to leaving the BSN seminar.

### **Teaching Plan**

This educational intervention was presented via PowerPoint presentation by the Project Manager (Appendix I). The 45-minute-long PowerPoint presentation included two short videos, visual aids, and audience participation strategies via Kahoot! to keep the students engaged. The effectiveness of this educational intervention was assessed by pre and posttest scores as well as survey results.

The following educational intervention learning objectives were centered around knowledge pertaining to drug diversion and abuse gained by the BSN students. At the conclusion of this educational intervention, undergraduate BSN students were able to:

- Define drug diversion in nursing and healthcare
- Discuss basic data related to drug diversion and abuse in nursing
- Discuss critical data related to nursing and addiction
- Review key concepts related to the physiology of addiction
- Discuss professional implications of diversion and abuse
- Recognize signs/symptoms and behaviors of diversion and abuse
- Identify how to get help for self and others

### **Measures, Tools, and Instruments**

Permission to use and adapt the pre and posttest was given by Mr. Garcia on September 22nd of 2019 (Appendix J). Instruments used for this educational intervention included a pre-

test comprised of four demographic questions and 11 quiz questions. The posttest excluded the demographic questions and included the same 11 quiz questions from the pre-test. The survey consisted of four Likert-scale questions and one section for comments. The pre and posttests were brief, multiple choice question-based documents designed to evaluate the BSN students' baseline knowledge and knowledge gained after the educational intervention. The pre and posttest were originally created by Mr. Garcia for a conference held by Parkdale Center for Professionals (Appendix K). The pre and posttest created by Mr. Garcia were aimed at CRNAs and nurse anesthesia students. The pre and posttest were adapted for BSN students by removing some questions, rewording some questions, and adding questions pertaining to this specific presentation. The survey questions (Appendix L) were designed by the project manager to gain qualitative data. The questions were tailored to align with the aim of this project by determining the BSN students' personal feelings about how this educational intervention impacted their knowledge and opinions about drug diversion and abuse, as well as their feelings on their own ability to handle a drug diversion situation.

### **Evaluation Plan**

The population targeted for this educational intervention included approximately 140 undergraduate BSN students. Student variables collected include age, year in school, and any prior healthcare experience. Age (continuous data) has a possible range of 18 years old plus. Year in school (nominal data) had four possible values: Freshman, Sophomore, Junior, and Senior. Previous healthcare experience (dichotomous data) was either a yes or a no, and included areas such as aide experience, associate level nursing, licensed practical nursing, phlebotomy, and technologists. These variables were collected as aggregate pretest demographics.

The event was the educational intervention for undergraduate BSN students at the BSN seminar. Variables collected at the educational intervention included baseline knowledge, awareness/competence, knowledge gained, and general feedback. Baseline knowledge data was collected as pretests prior to the presentation. The mean percentage scores of the pretests were collected, based on the number of questions answered correctly. Awareness/competence and general feedback information was collected as qualitative surveys filled out by the BSN students prior to leaving the seminar. Knowledge gained data was collected from posttest results completed prior to leaving the seminar. The aggregate mean percentage from posttest scores was compared to the aggregate mean percentage scores of the pretests. The educational intervention is determined effective if there is at least a 10 percent increase in the mean percentage. An effective educational intervention has qualitative feedback that demonstrates students feel the education was adequate in teaching them the necessary qualities to recognize the signs and symptoms of drug diversion and abuse and the confidence to seek assistance.

Data from pre and posttest scores was collected as anonymous aggregate data by Survey Monkey. Baseline scores were compared to posttest scores to evaluate the effectiveness of the educational intervention in terms of knowledge gained. There should be an increase of correct answers on the posttest of at least 10 percent. The overall goal is for BSN student participants to glean knowledge and understanding of drug diversion and abuse within the nursing culture.

### **Dissemination Plan**

After the educational intervention was completed, and test and survey results were analyzed, a formal presentation was to take place to disseminate the outcomes to BSN faculty, NAP faculty, DNP faculty, and NAP cohorts. Dr. Carolyn Yoder, BSN Program Director and Associate Professor, requested that the Project Manager follow-up via written report or by attending the spring BSN Committee meeting. Evaluation of the data outcomes provides

important information for other stakeholders and it is imperative that data collected be shared with these constituents (Titler et al., 2001). Continuation of the project can also be accomplished through future projects and presentations, adoption of presented material by other parties (such as other nursing or medical programs), or by publication in scholarly journals. Future SRNAs may elect to continue this educational intervention as their DNP project, adding to the breadth and depth of teachings, and furthering statistical findings.

## **Chapter 4: Results and Outcomes Analysis**

### **Data Collection Techniques**

Data for this scholarly project was collected via Survey Monkey in electronic format. Links to the Survey Monkey pre-test, post-test, and post-presentation survey were distributed by BSN faculty via student e-mail. Students completed the pre-test on their electronic devices before the BSN seminar or upon arrival to the BSN seminar. The post-tests were requested to be taken before leaving the seminar, as was the post-presentation survey. The post-test and survey were also completed on electronic devices. No incentive was given to complete the pre-test, post-test, or survey.

According to Survey Monkey's timeline, pretests were taken on January 17<sup>th</sup>, 2020 between the hours of 11:44am and 1:09pm with an average response time of two minutes and 39 seconds. There were 124 respondents. The post-tests were completed on January 17<sup>th</sup>, 2020 between the hours of 2:30pm and 9:42pm with an average response time of 34 seconds. There were 113 respondents. The post-presentation survey had 99 respondents. The survey was completed between January 17<sup>th</sup> 2020 at 12:41pm and January 18<sup>th</sup> 2020 at 3:02pm. Once completed, the data from Survey Monkey was exported into IBM's SPSS Statistics 25 for further analysis. Data was analyzed on a sample size of 124 pre-test participants and 113 post-test participants. The power analysis concluded a sample size of 95 was needed to achieve statistical significance, based on a confidence level of 95%, sample size of 126, and 5% margin of error.

Student test results were to be excluded if the student was younger than 18 years old. No students were under the age of 18 (table 2). 93.5% (116) of students were between the ages of 18-24. 6.5% (8) of students were between the ages of 25-34. There were no students older than 35. Of these students, 1.6% (2) were freshman, 33.87% (42) were sophomores, 33.06% (41) were juniors, and 31.45% (39) were seniors (table 3). 63.7% (79) had prior healthcare

experience (LPN, nurse's aide, phlebotomist, etc.) and 36.3% (45) did not have any prior healthcare experience (table 4).

Table 2

*Survey Monkey Pre-test Question 2*

Q2 How old are you?

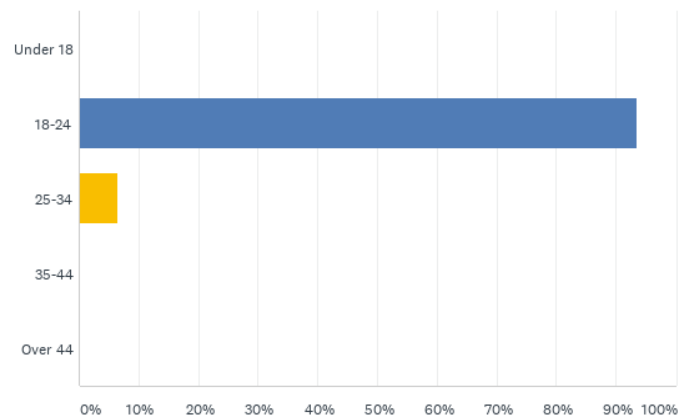


Table 3

*Survey Monkey Pre-test Question 1*

Q1 What year are you in the nursing program?

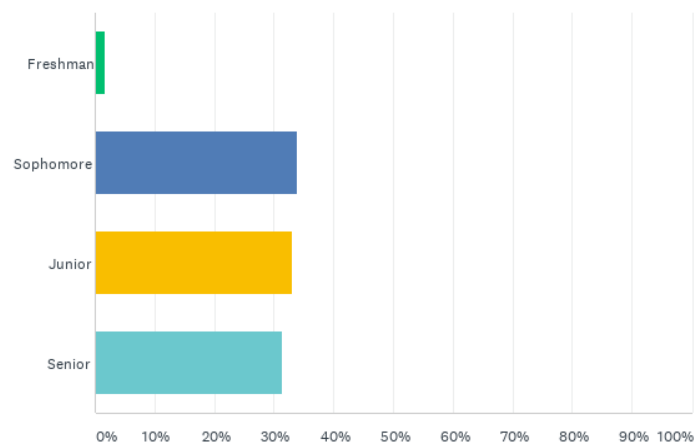
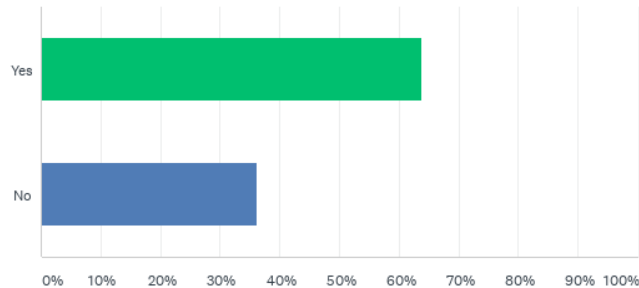


Table 4

*Survey Monkey Pre-test Question 3*

Q3 Do you have any prior healthcare experience (LPN, nurse's aide, phlebotomist, etc)?

**Measures/Indicators**

This scholarly project presentation was evaluated based on its ability to meet the learning objectives and proposed project outcomes. The average pretest score was 73% (13.8/19 points). The lowest score was 42% and the highest score was 95% with a standard deviation of 12%. The average range was 71-80%, with the median being 74% on the pre-test. The most missed question was question five with an average correct score of 23%. In contrast, the question answered the most correct was question eight at 94%.

The average post-test score was 92% (17.5/19 points). One outlying score was 11%, however this score is suspected to be intentional. The scores ranged from 42%-100% with a standard deviation of 12%. The average range was 91-100%, with 95% being the median score on the post-test. The most missed question was question six with an average score of 86%. In contrast, the questions answered the most correct were questions three, five, and nine at 99%. Appendix N displays the output graphs from Survey Monkey.

99 students completed the five question post-presentation survey. Of those 99 students, 84 provided written sentiments regarding the presentation (Appendix P). The aims set to be met by students for this project included:

- Increase student knowledge of drug diversion and abuse in nursing and healthcare
- Understand basic concepts related to physiology of addiction
- Recognize signs and symptoms and behaviors of drug diversion and abuse
- Increase student awareness and ability to report suspected diversion/abuse behavior and seek help for self and others.

The proposed outcomes for these aims were as follows:

- Pre-tests administered before the educational intervention will exhibit a need for intervention as evidenced by scores >60%.
- Post-tests administered after the educational intervention will exhibit a 15% higher score than pretest scores.
- Qualitative data will demonstrate student's ability to get assistance for self and others as evidenced by post-test and survey results after the educational intervention.

### **Data Analysis Inferences**

A paired samples *t*-test was then conducted to analyze the scores of the pre-test and post-test and evaluate whether a statistically significant difference existed between them. Each of the  $N=11$  questions were compared to quantitatively determine if learning had been achieved. The mean pre-test score was 58.9% ( $SD = 21.9$ ), while the mean post-test score was 90.5% ( $SD=12$ ). The mean increase between the pre-test and post-test was 31.6% with a 95% confidence interval stretching from a lower bound of 45.1 to an upper bound of 18.1. The probability value of 0.000 ( $p < .05$ ) concludes that there is a significant difference between the pre-test and post-test scores



( $t=5.21$ ,  $df=10$ ). Specific statistical data for each pre and post-test question is provided in Appendix Q.

### **Gaps**

No incentive was offered to the students to complete the pre-test, post-test, or post-presentation survey. Most students completed the pre-test because they were asked to before the Project Manager began the presentation. Fewer students responded to the post-test and post-presentation survey, therefore there is a gap in acquiring accurate data on learning achieved.

Another noted gap were the timeframes in which some students took the pre-test, post-test, and survey. Some of the post-tests were completed before the presentation was over, or before the presentation had even begun (both pre-tests and post-tests). Future projects would benefit from creating a time lock on quizzes and surveys to prevent this from occurring.

### **Unanticipated Consequences**

The Project Manager was unaware that Survey Monkey would be unable to compare the responses from two separate surveys directly on their platform (the pre-test and post-test scores). Results from the pre-test, post-test, and post-presentation survey could be exported to Excel and SPSS, however these files were exceptionally large and took up quite a bit of space on the Project Manager's device. Survey Monkey suggests creating separate collectors for the same survey so that pre and post-tests can be compared directly on their platform.

Results of the pre-test, post-test and post-presentation survey were collected anonymously. While that gave students confidentiality, it made Survey Monkey and the Project Manager unable to link respondents scores between all three of the surveys. The consequence of this was not having the ability to exclude the results from one student who was suspected of answering all questions negatively and incorrectly, therefore there was the possibility of skewed data analyses. One student also left a negative comment relating to the presentation itself on the

post-presentation survey. Another noted consequence was the number of students taking the pre-test and post-test were not equal, as well as the post-presentation survey. Therefore, it was impossible to link students who had taken the pre-test but did not take the post-test to exclude their pre-test scores during data analysis.

**Expenditures**

Survey Monkey was the only expenditure associated with data collection and outcomes analysis. The Advantage Annual Plan was purchased for \$276 (\$23/month) annually. Additional expenditures included three individual \$10 gift cards from DeBrand Fine Chocolates, Target, and Starbucks for the top three Kahoot! winners during the presentation, totaling \$306 as out-of-pocket costs to the Project Manager.

## **Chapter 5: Leadership and Management of the Project**

### **Organizational Culture**

The University of Saint Francis (USF) was founded by the Sisters of Saint Francis of Perpetual Adoration in 1890. Since then, the university has been formed and guided by its Catholic mission and Franciscan values (USF, 2019). Rooted in Catholic and Franciscan traditions of Faith and Reason, the mission of the University of Saint Francis is to engage a diverse community in learning, leadership, and service (USF, 2019). The culture of USF is sustained by the values of Saint Francis: “Reverence the unique dignity of each person; encourage a trustful, prayerful community of learners; serve one another, society, and the Church; foster peace and justice; respect creation” (USF, 2019).

The School of Health Sciences chain of command (Appendix M) is headed by the Dean and Chief Nurse Administrator (CNA). Program directors from the Nurse Anesthesia Program, Graduate Program director, RN-BSN Program, BSN program, Associate degree programs in Fort Wayne and Crown Point, fall under the Dean and CNA. The Nursing Clinical Director, Nursing Resource Center Director, and Nursing Department Coordinator also fall under the Dean and CNA. Assistant directors, graduate assistants, faculty, adjunct faculty, and secretaries are next, followed by students.

### **Change Strategy**

This project utilized the KTA model which provides an opportunity for change at multiple different levels. The steps of the KTA framework include identifying a problem that needs to be addressed, adapting knowledge relevant to the problem, assessing barriers to knowledge use, selecting and implementing interventions, monitoring knowledge use, evaluating outcomes, and sustaining knowledge use (White et al., 2016). By applying the KTA framework, the first and foremost projected outcome change includes the basic drug diversion and abuse

education of BSN students. Information about the subject of drug diversion and abuse was adapted to the BSN student target audience. With increased education and awareness, their comfort level with the topic of drug diversion and abuse improves, thus increasing their ability to recognize and help if such a situation arises. In addition, this education offered the opportunity to change the stigma behind diversion and abuse. Unfortunately, because of these biases, this is a change that will take generations. This is a public health issue that contributes to the increasing rates of overdoses, incarceration, and mental health concerns (Safe Harbor House, 2019). As a consequence of these factors, in addition to the sunseting of the Nurse Anesthesia program, monitoring knowledge use and sustaining knowledge use may prove difficult. Evaluating outcomes was accomplished by pretest, posttest, and post-educational survey.

### **Leadership Style**

The leadership style of the Project Manager is best described as a Situational Leader, as this style encompasses different approaches such as transformational leadership, democratic leadership, and charismatic leadership. Situational leadership encourages leaders to choose the style that fits their goals and circumstances, however it is not based on a specific skill of the leader, instead they change their skills to what benefits the followers (Spahr, 2015). This theory was developed by Kenneth Blanchard and Paul Hersey in 1969 (Spahr, 2015). Situational leadership is a style that refers to a leader who can adapt to their situation and can adjust his or her style to fit the situation they are trying to influence (Oakleaf, 2016).

The leadership style of key stakeholders within the department of nursing can be described as democratic and coaching. Many of the people involved, including the project advisor and anesthesia department, exemplify the characteristics associated with these styles. These individuals allowed the Project Manager to think and lead on her own, while providing valuable feedback, guidance, and input to ensure the success of the Project Manager and the

project itself. According to Saint Thomas University (2018), the democratic leadership style is based mutual respect, and requires collaboration between leaders and the people they guide.

### **Interprofessional Collaboration**

To successfully lead a team, it is important for the leader to be able to put themselves in the shoes of others. “Interdisciplinary collaboration among individuals with different skill sets and knowledge bases may result in creative and practical solutions that would not otherwise occur”, (Lindeke & Sieckert, 2005, para. 13). This project required collaboration from multiple different people and departments. The nurse anesthesia department, BSN faculty, IT department, Student Wellness Center faculty, USF administration, and community CRNAs were essential for the success of this scholarly project.

BSN faculty were highly engaged, as this project pertained to their students. Professors Gradeless and Gilson were crucial to the success of this project. They remained communicative throughout the process and provided feedback and advice along the way. Most communication was done through e-mail, while one meeting was held via live stream one week before project implementation. Likewise, Mr. Garcia was vital to this project. He was communicative via e-mail for any questions and needs. The Student Wellness Center, specifically Ms. Ladonna Hayes, offered resources to the students who may need assistance. Unfortunately, her schedule did not allow her to be present for implementation, however she remained highly supportive of the goal of the project. Similarly, USF administration supported the project’s inception through e-mail, though they were unavailable for further needs. The nurse anesthesia department was consistently available for guidance via e-mail or face-to-face conversation, however they took a more hands-off approach. The IT department was exceedingly helpful before, during, and after the presentation.

The AANA (2018) defines interprofessional collaboration as a “team of a group of healthcare professionals from diverse fields who partner and communicate to share expertise, knowledge, and skills and engage the patient, family and team in implementing the plan of care”. The Doctor of Nursing Practice degree refines and enhances interprofessional collaboration, making the graduate highly suited for working as an integral part of the healthcare team.

### **Conflict Management**

Little conflict transpired during the growth and development of this scholarly project. Professional communication and interaction between all parties occurred. The biggest source of conflict was the scheduling of the intervention itself, coordination of aspects of the presentation, and one BSN student.

Scheduling of the intervention was somewhat complicated to finalize at first. This was due to limited availability of BSN seminars; they are held quarterly. Choices were limited between the time of scheduling and when results should be disseminated. Ultimately, the date was chosen based on the keynotes speaker’s initial availability to participate.

Mr. Garcia was unavailable to attend the first choice BSN seminar. The January 17<sup>th</sup>, 2020 date was chosen based on his ability to participate. In the beginning of December during a routine check in with Mr. Garcia, it was found that there was a scheduling conflict. He had an obligation in the afternoon two hours away and requested to present in the morning. Unfortunately, this was not an option, so he was unable to be present that afternoon for the seminar. The Project Manager and Mr. Garcia were able to develop a plan to present his story via prerecorded video instead.

Most of the BSN students had positive feedback regarding the presentation. Many provided positive reviews and constructive criticism in a professional and tactful manner. One anonymous student had very differing views and was a stark contrast to the rest of the BSN

students. This student felt that the presentation was not pertinent to his/her education, that he/she already knew all of the content, and that it was a waste of time and money. One student also answered all quiz questions incorrectly, as well as all Likert scale questions negatively. Dr. Winegarden was made aware of this, and it was discussed to have these results discarded so as not to skew statistics. Ultimately, the representatives at Survey Monkey stated that those results could not be discarded, as the quizzes and survey were submitted as anonymous.

## **Chapter 6: Discussion**

### **Impact of Project**

This project was very well received by the BSN students and USF faculty. Many students left feedback within Survey Monkey, and many were heard verbalizing their fondness of the presentation itself. Not only does this education impact the individual student, it impacts their healthcare colleagues, their families, and their patients. Drug diversion and abuse education is imperative to the education of healthcare personnel in general, as the opioid epidemic impacts all walks of life.

Generalization of this project is not possible without revising the target audience. Alterations would need to be made if it were to be presented and make an impact on different populations. While it is applicable to BSN nursing students, nursing students at different levels of education would need the educational content to be altered to their level such as with nurses in advanced degree programs. Similarly, it would need to be adapted to different healthcare fields. Overall, projects such as this can impact the lives of many.

### **Decisions and Recommendations**

According to the data, nursing students need drug diversion and abuse education. Future recommendations include education such as this continue for nursing students at all levels and that this education be implemented for students in other healthcare professions. If this project had the ability to be adapted and continued, it would be advised to make it target audience specific.

Allowing to incentivize the completion of pre-tests, post-tests, and post-presentation surveys without the threat of coercion is beneficial in obtaining the greatest number of participants. During the presentation, students were encouraged to participate and stay



interactive by completing Kahoot! questions throughout. Students were excited to potentially win prizes, thus they listened, remained engaged, and learned.

### **Limitations of the Project**

Limitations to this project included the target audience. The audience was limited to BSN students. However, drug diversion and abuse education could easily be implemented with ASN, BSN, and graduate nursing students, as well as other students in the healthcare field (such as physician assistants, nurse practitioners, physical/occupational therapists, and surgical technicians). Adjustments should be made to the level of education, age, and attention span of the audience

An unforeseen limitation included the knowledge of the Project Manager. The Project Manager was enrolled as the first cohort of Nurse Anesthesia students at the University of Saint Francis, thus there was no guidance from previous students or lessons learned from previous students. Limited knowledge included the proper routes to take in contacting potential stakeholders, the correct chain of command within the college, the correct individuals to contact for certain topics related to the project, unknown timing of events and scheduling, and limited time in general. These limitations are synergistic with this being the first cohort of the Nurse Anesthesia program, so while highly educated and knowledgeable, the DNP faculty were going through this for the first time as well.

A limitation that cannot be controlled are the preconceived biases of the audience. Little can be done to immediately resolve this, except for delivering the best, evidence-based presentation in a professional and open-minded manner. Biases take years to overcome even with self-awareness.

COVID-19 created additional limitations due to global pandemic. The project presentation itself occurred prior to the pandemic beginning. However, dissemination to BSN

faculty did not occur face-to-face as originally planned due to quarantine and social distancing. Unfortunately, further discussion or questions between BSN faculty and the Project Manager were unable to take place. A description of findings (Appendix Q) was disseminated to BSN faculty via e-mail.

### **Application to Other Settings**

As previously mentioned, drug diversion and abuse education can easily be applied to other settings such as in healthcare facilities to medical staff. This project could be shared with other colleges, including but not limited to BSN programs and anesthesia programs. In addition, educational information and statistical findings could be shared with the AANA and disseminated to practicing CRNAs for their use.

Projects such as this can also be shared with the public in a more generalized form. The general content of recognizing behaviors, signs and symptoms, and knowing how to get help could potentially save lives. Statistics provided would be in relation to the general population of the United States, and specific to the location in which the project was presented.

### **Strategies for Maintaining and Sustaining**

The goal strategy for maintaining and sustaining this project was for it to continue with following anesthesia cohorts. Ideally, anesthesia students would have taken feedback, strengths, weaknesses, and limitations identified and apply solutions to their version of the project. Each year, this project could have improved and taken on new subjects, activities, speakers, and attendees. Unfortunately, the President's Cabinet within the University of Saint Francis decided to sundown the Doctor of Nursing Practice in Nurse Anesthesia program, leaving few sustainability options.

**Lessons Learned**

Someone will always be displeased with everything that is presented to them. Negativity and displeasure from one individual does not define whether the scholarly project was a success or not. One can hope that they were able to reach and educate these people to some degree and maybe have an impact on their lives later. Not everyone will like what you have to say, but the many that do will outshine the ones that do not.

Keeping as tight a schedule as possible is imperative to a successful and less stressful project course. Difficulty was faced with many confounding factors such as anesthesia clinicals in other states, other DNP courses, a global pandemic, and lack of structure due to the sudden shift to online learning with children at home. The Project Manager found it was necessary to work and study in a different location to maintain a schedule without distraction.

Including individuals who are not involved in your project such as classmates, instructors, family members, and tutors can provide insight on weaknesses and areas for improvement. Other individuals have not been buried in the small details for months on end and are able to stay objective. They can help organize and guide thoughts and ideas. Having someone read through your manuscript to find those little mistakes that you may gloss over is beneficial while editing. Equally as important is to request feedback from your peers, as peers can provide insight and suggestions as to what you may have missed. In addition, ask to read through the manuscripts of your peers. By reading the work of others, you may find ideas that you like or areas that you missed in your own work.

## **Chapter 7: Conclusion**

### **Potential Project Impact on Health Outcomes Beyond Implementation Site**

Many different populations and health outcomes beyond the BSN students at the University of Saint Francis had the potential to be impacted by this educational intervention. The 124 students who participated and learned from this scholarly project will take their knowledge into practice with them. With that knowledge, BSN graduates will impact the lives of patients and other healthcare workers.

The Project Manager was impacted by this educational intervention in multiple ways. Most notably, her best friend of 30 years struggled with addiction during her mid to late twenties. Having someone so close struggle with addiction created the passion that sparked this project. If this education saves one life, then it was successful. On another personal level, the Project Manager gained self-confidence in public speaking. Confidence gained from speaking in front of the BSN students will carry on into the Project Manager's career in Nurse Anesthesia.

Eight essential elements of DNP practice were met with the completion of this educational intervention. According to the AACN (2006), DNP essentials define the curricular elements that must be present in DNP programs, and outline the foundational proficiencies that are fundamental to all Advanced Practice Registered Nurses, including Certified Registered Nurse Anesthetists, Nurse Midwives, Nurse Practitioners, and Clinical Nurse Specialists.

- Essential 1: Scientific underpinning for practice includes integration of nursing science and middle-range nursing theories with organizational, biophysical, psychological, and analytical sciences (AACN, 2006). Essential 1 was met by incorporating Malcolm Knowles' theory of andragogy and the KTA model to educate adults using appropriate teaching techniques as well as the process to translate knowledge gained into action.

- Essential II: Organizational and systems leadership for quality improvement includes key skills such as the development of clinical practice guidelines, evidence-based interventions, and evaluating outcomes (AACN, 2006). Guidelines for nursing education utilizing evidence-based findings and literature supported this educational intervention. Outcomes listed for student learning were met.
- Essential III: Clinical scholarship and analytical methods for evidence-based practice ensures that the skills to facilitate meaningful organization-wide changes are possessed by the doctor of nursing practice (AACN, 2006). While this DNP scholarly project did not take place in a healthcare facility nor did it pertain to patient care, it did create a unique approach to a complex issue and ethical dilemma facing modern healthcare, the impaired provider.
- Essential IV: Information systems technology and patient care technology for the improvement and transformation of health care prepares the doctoral educated nurse to utilize and understand information technologies while evaluating the appropriateness of consumer information and participating in legal and ethical issues (AACN, 2006). Utilization of multiple technologies was vital to the success of this project, including PowerPoint, Microsoft Word, Microsoft Excel, IBM's SPSS Statistics 25, Survey Monkey, Kahoot!, video editing, e-mail, use of technological devices such as laptops and tablets, and Information Technology (IT) services. Legal and ethical issues relating to the use of these technologies with BSN students was fully acknowledged and strategies were implemented to minimize any issues.
- Essential V: Health care policy for advocacy in health care aims to prepare the DNP graduate to critically analyze health policy with the goal of advocating for the nursing

- profession (AACN, 2006). Advocating for nursing profession must start at the grassroots by advocating for the nursing students and the nurses.
- Essential VI: Interprofessional collaboration for improving patient and population health outcomes prepares DNP graduates to take on a leadership role in the development and implementation of standards of care, practice models, and scholarly projects. Again, this project did not pertain to patient care. However it was multifaceted and did require interprofessional collaboration. Nurses from different backgrounds and educational levels were involved, such as DNP and PhD prepared RNs, CRNAs, Master level RNs, in addition to administration, mental health professionals, IT, and students.
  - Essential VII: Clinical prevention and population health for improving the nation's health aims to allow the nurse to assess and interpret epidemiological, biostatistical, occupational, and environmental information needed to improve the health of individuals and communities, as well as the skills to synthesize psychosocial dimensions and cultural influences related to population health (AACN, 2006). Nurses are a part of communities, and have unique epidemiological, biostatistical, occupational, and environmental information specific to their health. Drug diversion and abuse in nursing has major implications within these dimensions.
  - Essential VIII: Advanced nursing practice demonstrates advanced clinical judgement, systems thinking, and delivery of evidence-based care, with attention on mentoring other nurses (AACN, 2006). Drug diversion and abuse education was specifically focused on the BSN student and how to critically think and recognize when a colleague may need help. Students were also mentored in how to get help for themselves and others.

**Health Policy Implications of Project**

Currently, the credentialing bodies for undergraduate and graduate nursing programs do not have specific requirements that state that educational institutions must incorporate drug diversion and abuse education in their curriculums. The only exception is the COA for Nurse Anesthesia programs, which give recommendations and considerably basic descriptions of what anesthesia programs should teach students. When these credentialing and accrediting bodies update their standards and essentials, it is reasonable to believe that drug diversion and abuse education will be listed as a requirement.

**Proposed Future Direction for Practice**

The Project Manager proposes ASN and BSN programs incorporate drug diversion and abuse education into nursing curriculums as soon as possible. Waiting until credentialing and accrediting bodies make the addition of drug diversion and abuse education mandatory is not necessary. Unfortunately, the Nurse Anesthesia program at the University of Saint Francis will not continue, as this project would have grown and adapted, and could be a beneficial addition to drug diversion and abuse education within the nursing curriculum. However, the PowerPoint and video will be shared with the university if nursing faculty felt it would enhance their teachings.

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*Appendix A*

## Faculty Letter of Support



September 16, 2019

University of Saint Francis Institutional Review Board:

This letter is being written in support of University of Saint Francis NAP/DNP student Sara Saylor's Doctor of Nursing Practice Project Scholarly Project entitled *Drug Diversion and Abuse Education in Undergraduate Bachelor of Science in Nursing Students*. We understand that the aim of the DNP Scholarly Project is to educate BSN students about drug diversion and abuse in nurses and nursing students.

The University of Saint Francis is supportive of the aim of the project. We believe that the participation of USF BSN students in this project will be beneficial to the students in their role as students and in their future role as nurses. We support Ms. Saylor's efforts to educate students on issues related to drug diversion and abuse. She has already obtained permission from USF Faculty to present to students in January 2020 during a BSN Seminar session.

We commend Ms. Saylor for her work to help nurses be healthy and safe as they care for patients. Should this proposal receive approval from the IRB, to whose judgment we defer, we look forward to hearing the results of his project.

Sincerely,

Mindy Yoder

Associate Dean, School of Health Sciences and Chief Nursing Officer [myoder@sf.edu](mailto:myoder@sf.edu)

Dr. Angela Harrell

Dean, School of Health Sciences [aharrell@sf.edu](mailto:aharrell@sf.edu)

Dr. Lance Richey

Vice President for Academic Affairs [lrichey@sf.edu](mailto:lrichey@sf.edu)

2701 Spring Street  
Fort Wayne, Indiana 46808

Phone: 260-399-7999 Fax: 260-399-8156 [sf.edu](http://sf.edu)



## Appendix B

## Excel Budget Spreadsheet

DNP Project Budget Template				
Legend		Direct Costs		
		Indirect Costs		
		In-Kind Costs		
Project Expenses (dollars)				
Salaries and Wages	Description	Year 1	Year 2	Total
Rigo Garcia (speaker)	travel and expenses		1,000	1,000
Greg Louck (practice mentor)	time spent advising/emails/phone calls		3000	3,000
BSN Faculty	time spent/emails/attending event		1000	1,000
Dr. Megan Winegarden (advisor)	time spent/meetings/emails/advising		3000	3,000
				0
Total Salary Costs		0	8000	8,000
Startup Costs (dollars)	Description	Year 1	Year 2	Total
Project manager costs	mileage and expenses		3000	3,000
Survey Monkey	web-based survey company		276	276
			0	0
				0
Total Start Up Costs		0	3276	3,276
Supplies and Materials (dollars)	Description	Year 1	Year 2	Total
			100	100
				0
				0
Total Supplies and Materials		0	100	100
Capital Costs (costs >2,000)	Description	Year 1	Year 2	Total
			0	0
				0
				0
Total Capital Costs		0	0	0
Total Expenses		0	11376	11,376
Project Revenue	Description	Year 1	Year 2	Total
				0
				0
				0
				0
				0
Total Project Revenue		0	0	0
Project Benefit/Loss				
Total Revenue		0	0	0
Less Expenses		0	11376	11,376
Total Project Benefit/Loss		0	-11376	-11,376

*Appendix C*

## Gant Chart Timeline

## Drug Diversion and Addiction Education for BSN Students at USF

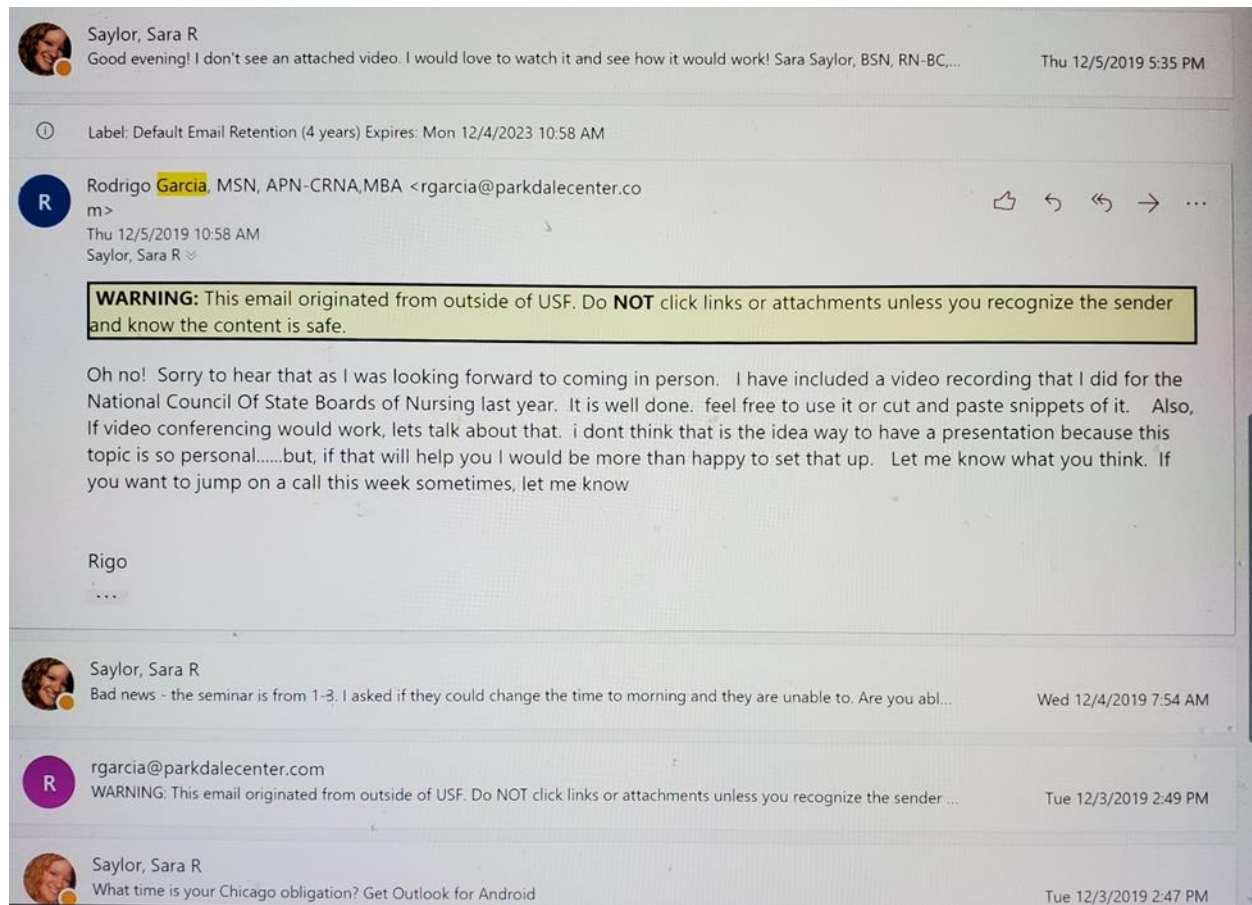
## Activity Timeline June-January 2020

	6/19	7/2019	8/2019	9/2019	10/19	11/19	12/19	1/20			
<b>REVISE LIT REVIEW</b>			Revision of lit review will continue throughout the program								
<b>COMPLETE CITI TRAINING</b>		DONE									
<b>IRB APPROVAL</b>				submitted Sept 24th							
<b>MEET W/BSN PROGRAM TO DETERMINE DELIVERY OF PRESENTATION</b>			Email Rachel Gilson & Whitney Gradeless (back on campus 8/15) Emailed 8/6/19	In contact w/Rachel, time slot assigned; delivery determined							
<b>MEET W/GREG TO DETERMINE DELIVERY OF PRESENTATION</b>			Obtain permission to use as subject matter expert To be done 8/8/19 (DONE)	Continue this process until delivery							
<b>DEVELOP EVALUATION TOOL (IE PRE TEST/POST TEST)</b>			Need this done before presentation date is decided (will be worked on more in Spath's class)	Pre and post test found; obtain permission to use and alter							
<b>CREATE PRESENTATION</b>				Complete by Jan 1 (day and				Have complete by			

				time of presentation to be determined by BSN faculty)				Jan 1 at the latest			
<b>CONTACT RIGO FOR ADDITIONAL RESOURCES</b>			Contact Rigo after confirmation with program directors	<b>DONE</b> Approval given							
<b>GAP ANALYSIS</b>		<b>DONE</b>									
<b>COMPLETE DNP SCHOLARLY TEAM AGREEMENT</b>			<b>8/9/19</b>								
<b>COMPLETE DNP SCHOLARLY PROGRESS REPORT</b>			<b>8/9/19</b>								
<b>UPDATE DNP PRACTICE LOG</b>			<b>8/9/19</b>	Ongoing							
<b>COMPLETE DNP PROJECT BUDGET</b>			<b>8/18/19</b>								
<b>COMPLETE SPATH'S PAPERWORK</b>			<b>8/26/19</b>								
<b>GIVE PRESENTATION</b>								January 17 <sup>th</sup> at USF auditorium			
<b>PROJECT PROPOSAL CH 1 DRAFT 1</b>				<b>Sept 29th</b>							
<b>PEER REVIEW OF PROJECT PROPOSAL</b>					<b>OCT 2nd</b>						
<b>CH 1 INTRO DRAFT 1</b>					<b>OCT 6th</b>						

*Appendix D*

## Garcia Video Editing Permission E-Mail



*Appendix E*

## Revised Pre and Post-Test

## Pre-Test

1. What year are you in the nursing program?
  - a. Freshman
  - b. Sophomore
  - c. Junior
  - d. Senior
2. How old are you?
  - a. Under 18
  - b. 18-24
  - c. 25-34
  - d. 35-44
  - e. Over 44
3. Do you have any prior healthcare experience (LPN, nurse's aide, phlebotomist, etc)?
  - a. Yes
  - b. No
4. As a nursing student, how would you intervene to help a colleague you suspected was impaired or had a substance abuse problem?
  - a. I would report to the program director immediately
  - b. I would notify the authorities
  - c. I would let another colleague know so as to plan an effective and safe intervention
  - d. I would reference the ANA resource information
  - e. I would likely not do anything because I wouldn't want to be wrong
5. What percent of healthcare providers are estimated to misuse drugs and alcohol at some point during their career?
  - a. 5-10%
  - b. 10-15%
  - c. 15-20%
  - d. 20-30%
6. What is the primary neurotransmitter associated with drug and alcohol addiction?
  - a. Serotonin
  - b. Oxytocin
  - c. Dopamine
  - d. Glutamate

7. Addiction is now understood as:
  - a. A personal choice that can be stopped with will power
  - b. A disease of the brain that should be treated as such
  - c. A & B
  - d. None of the above
8. What is the most commonly diverted substance?
  - a. Propofol
  - b. Opiates
  - c. Benzodiazepines
  - d. Barbiturates
9. Risk factors associated with drug diversion and abuse include (select all that apply):
  - a. Stress
  - b. Accessibility
  - c. Genetics
  - d. Lack of education about substance abuse
  - e. Irregular work hours
  - f. Sleep deprivation
10. The likelihood of substance abuse varies across nursing specialties.
  - a. True
  - b. False
11. Research has found that many risk factors for drug and alcohol abuse appear:
  - a. Before starting nursing school
  - b. During nursing school
  - c. After nursing school
12. Impairment signs, symptoms, and/or behaviors include (select all that apply):
  - a. Mood swings
  - b. Track marks
  - c. Wearing long sleeves
  - d. Memory loss and difficulty concentrating
  - e. All of the above
13. Drug diversion signs, symptoms, and/or behaviors include (select all that apply):
  - a. Picking up extra hours, staying late, coming in early
  - b. Always wasting with a colleague
  - c. Loses waste medication
  - d. Consistently uses more drugs for patients than colleagues
  - e. Frequent breaks or trips to the bathroom



14. If you suspect a colleague is diverting and/or using, it is a good idea to confront them yourself to maintain privacy.
  - a. True
  - b. False

Post-Test

1. As a nursing student, how would you intervene to help a colleague you suspected was impaired or had a substance abuse problem?
  - a. I would report to the program director immediately
  - b. I would notify the authorities
  - c. I would let another colleague know so as to plan an effective and safe intervention
  - d. I would reference the ANA resource information
  - e. I would likely not do anything because I wouldn't want to be wrong
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  - a. A personal choice that can be stopped with will power
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  - a. Propofol
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  - d. Barbiturates
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  - a. Stress
  - b. Accessibility

- c. Genetics
  - d. Lack of education about substance abuse
  - e. Irregular work hours
  - f. Sleep deprivation
7. The likelihood of substance abuse varies across nursing specialties.
- a. True
  - b. False
8. Research has found that many risk factors for drug and alcohol abuse appear:
- a. Before starting nursing school
  - b. During nursing school
  - c. After nursing school
9. Impairment signs, symptoms, and/or behaviors include (select all that apply):
- a. Mood swings
  - b. Track marks
  - c. Wearing long sleeves
  - d. Memory loss and difficulty concentrating
  - e. All of the above
10. Drug diversion signs, symptoms, and/or behaviors include (select all that apply):
- a. Picking up extra hours, staying late, coming in early
  - b. Always wasting with a colleague
  - c. Loses waste medication
  - d. Consistently uses more drugs for patients than colleagues
  - e. Frequent breaks or trips to the bathroom
11. If you suspect a colleague is diverting and/or using, it is a good idea to confront them yourself to maintain privacy.
- a. True
  - b. False

## Appendix F

## Health and Wellness Center and Student Assistance Program Pamphlets

## University of Saint Francis Health & Wellness Center

### COUNSELING AND CONSULTATION SERVICES

The Student Assistance Program offers short-term counseling and consultation services are available. Counselors are here to provide support and guidance for students experiencing depression, anxiety, identity issues, anger, stress, relationship problems or substance abuse. All services are confidential and provided in a welcoming, comfortable setting, regardless of race, gender, religion, ethnic background, age, sexual orientation, citizenship or presence of a disability.

### ELIGIBILITY

All currently enrolled University of Saint Francis students are eligible for our services, including up to six full counseling sessions per academic year. Family members and significant others are eligible, when seen with the student.

*Services provided at the University of Saint Francis Health & Wellness Center are no-charge for all currently enrolled USF students.*

1516 Leesburg Road  
Fort Wayne, IN 46808  
**To schedule an appointment, call  
260-266-8060, 800-721-8809  
or visit [my.sf.edu](http://my.sf.edu).**

*Walk-ins are welcome.*

### HOURS

Mon: 10 a.m. – 4 p.m.  
Tues: 9:30 a.m. – 4 p.m.  
Wed: 10 a.m. – 4 p.m.  
Thurs: 9:30 a.m. – 4 p.m.  
Fri/Sat/Sun: Closed  
Closed on holidays.

For more information about the counseling and consultation services available at the University of Saint Francis Health & Wellness Center, visit [my.sf.edu](http://my.sf.edu).



# Hurdling Everyday Challenges

Student Assistance Program





University of Saint Francis recognizes that students are faced with many challenges inside and outside the classroom. At times, circumstances may demand more than everyday abilities and resources.

In challenging times, working with a qualified counselor can help students return to normal levels of functioning and help prevent more serious problems.

### Overview of services

The University of Saint Francis/Parkview Student Assistance Program offers a variety of short-term counseling and consultation services to address the needs of students. All services are confidential and provided in a welcoming, comfortable setting, regardless of race, gender, religion, ethnic background, age, sexual orientation, citizenship or presence of a disability.



### Eligibility

All currently enrolled University of Saint Francis students are eligible for our services, including up to six full counseling sessions per academic year. Family members and significant others are eligible, when seen with the student. There is no charge for these services.

### Services

#### Intake, assessment and referral

The first appointment allows a student and a counselor to get to know one another and formulate a plan of action. This meeting is usually structured, including the completion of initial paperwork. In some cases, the student and the counselor may agree to a referral to a community agency.

#### Individual counseling

Students are able to meet one-on-one with a counselor to discuss a variety of concerns including (but not limited to):

- Depression
- Anxiety
- Identity issues
- Anger
- Stress
- Relationship problems
- Substance abuse



#### Couples counseling

Couples counseling can help couples determine and work through the influences putting stress on their relationships. While the goal is often to help couples repair their relationships, counseling can also help couples end relationships in a healthy and respectful manner.

#### Consultation

Consultation services are offered to meet a variety of student needs, including concerns about another student who may be:

- Experiencing emotional problems
- Displaying behavior that is irrational or out of the norm
- Exhibiting signs of substance abuse

#### Workshops

Workshop presentations are available to student groups or organizations on a variety of topics in the areas of mental health, communication and conflict resolution. Call the Student Assistance Program to discuss your specific interest.

## Confidentiality

We are firmly committed to keeping the information you share confidential, including your attendance and participation in counseling. We do not, and are not legally permitted to, discuss your information with anyone — including university officials, faculty members, parents or outside agencies — without written authorization from you.

Exceptions to this rule are made when:

- You or someone else is in imminent danger of serious harm
- A child or other dependent is being abused
- A court order requires release of records

The office is staffed with licensed professional counselors.

## Hours

Monday and Thursday 10 a.m. – 4 p.m.  
Tuesday and Wednesday 9:30 a.m. – 4 p.m.  
Friday - Closed

Office hours vary during holidays and semester and summer breaks.

Call (260) 266-8060 or (800) 721-8809 to schedule an appointment. Walk-ins are also accepted during normal office hours.

Email: [studentassistance@sf.edu](mailto:studentassistance@sf.edu)

## Location

University of Saint Francis  
Health & Wellness Center  
1516 Leesburg Road  
Fort Wayne, IN 46808

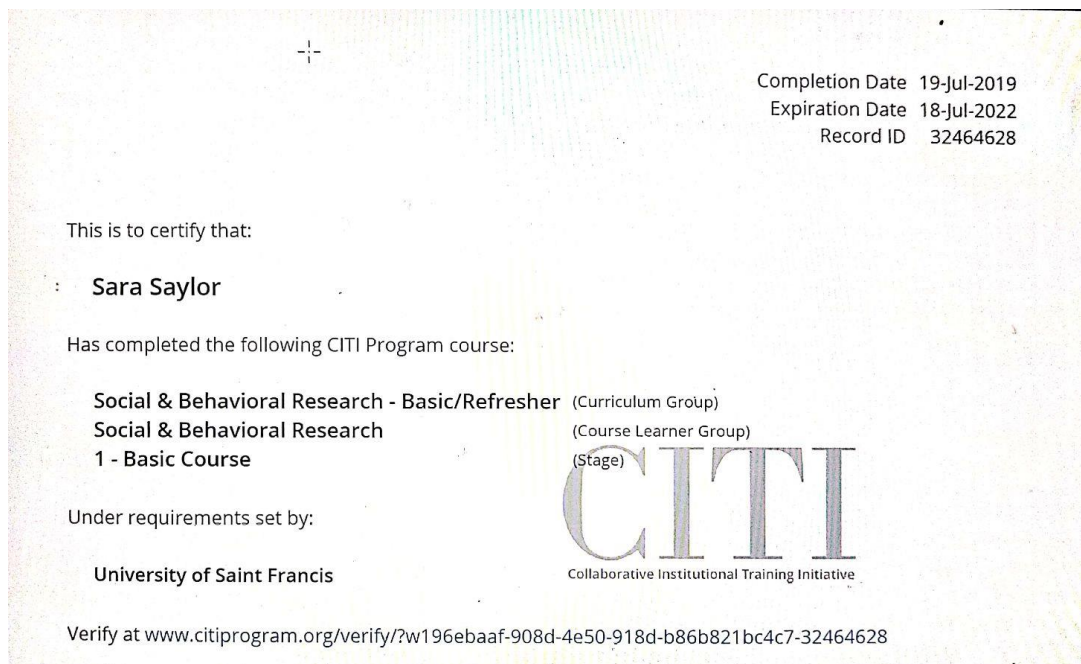
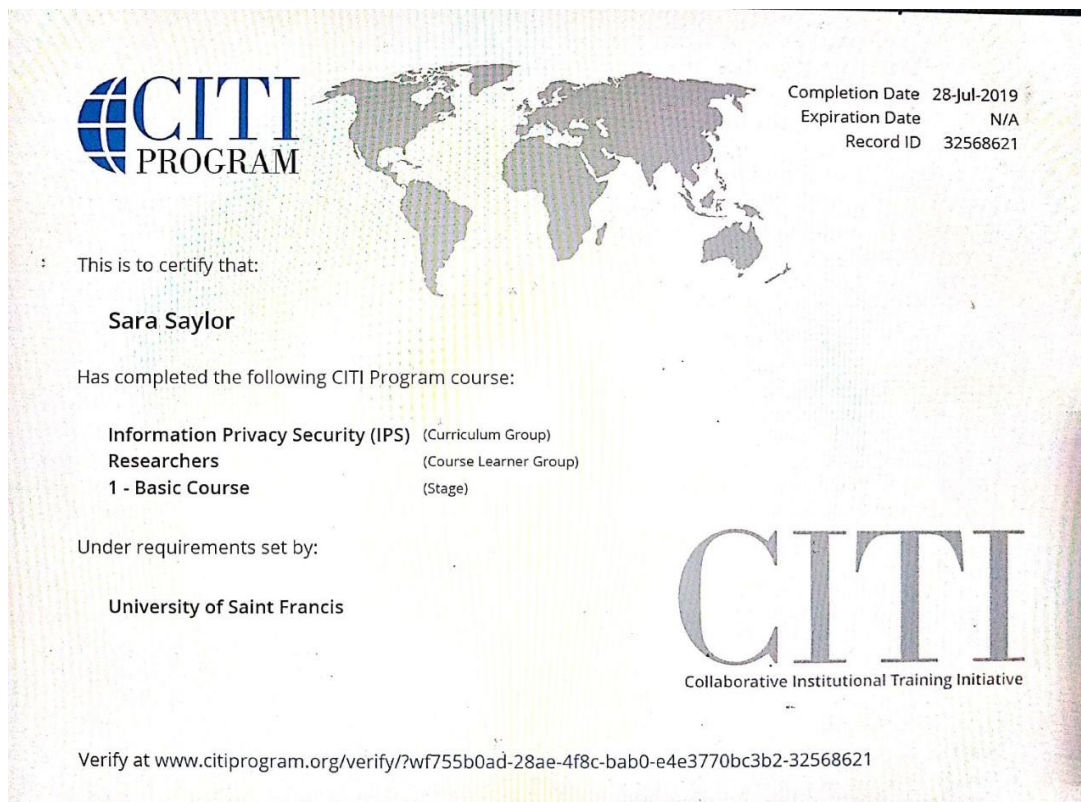


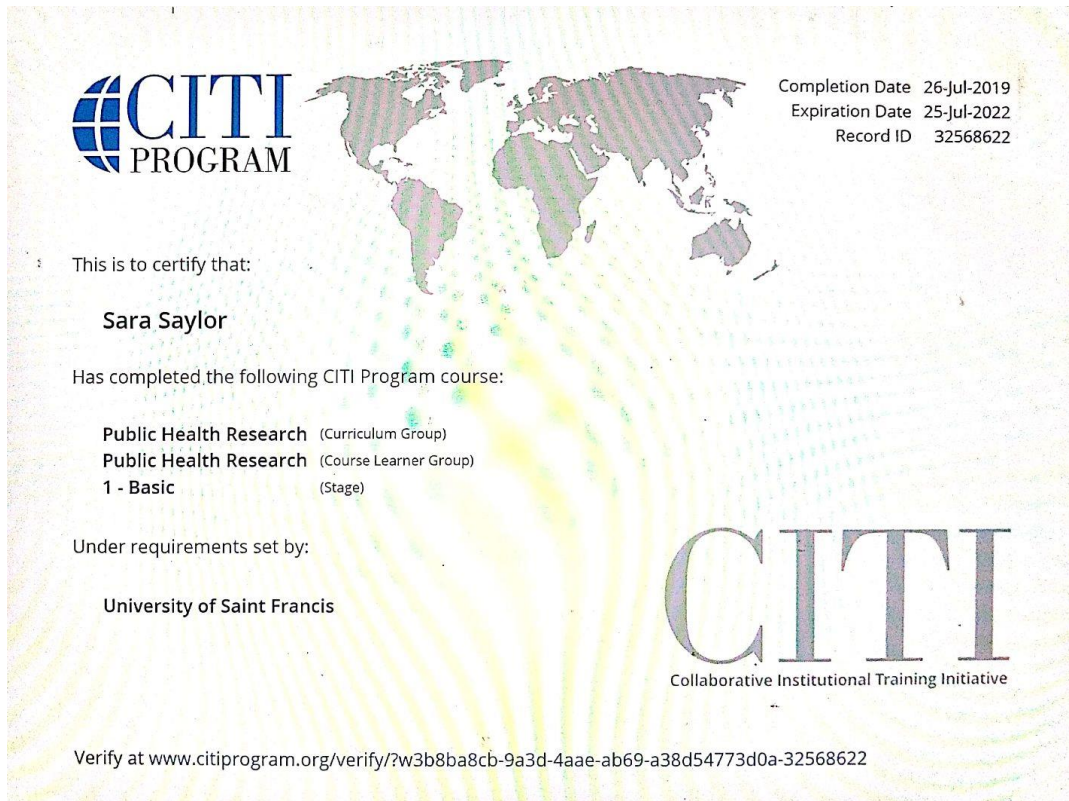
(260) 266-8060  
(800) 721-8809  
After-hours Crisis Line  
(260) 446-1867



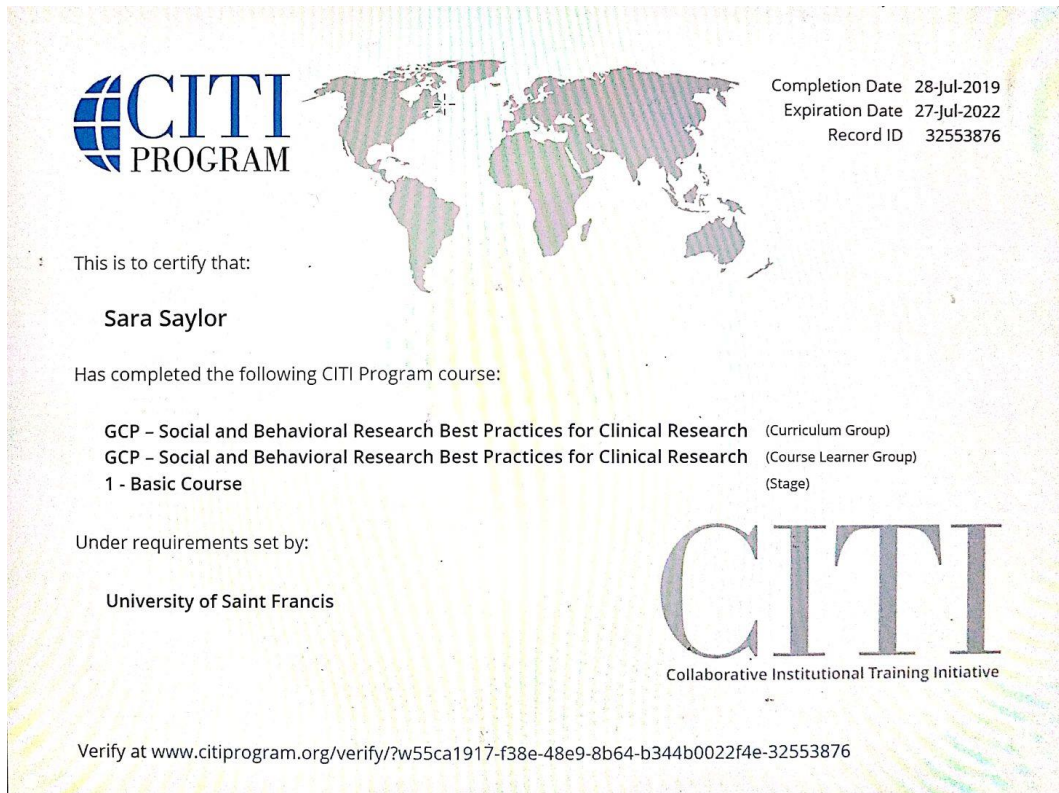
*Appendix G*

## CITI Training Certificates









## Appendix H

## DNP Scholarly Project Proposal Initial Approval

UNIVERSITY of  
SAINT FRANCIS

## DNP Scholarly Project Proposal Initial Approval

TO: Wendy Clark, DNP, RN, FNP-BC  
Associate Professor and Graduate Nursing Program Director

FROM: Sara Saylor, BSN, RN-BC, CCRN, DNP-NAP Student

RE: DNP Project Proposal Review Council Endorsement


DATE: 12-12-2019

**DNP Scholarly Project Title:** Drug Abuse and Diversion Education in Undergraduate Bachelor of Science in Nursing

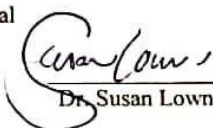
**DNP Scholarly Project Review Council:**

DNP Project Advisor

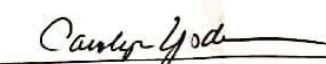
Signature:

  
Dr. Megan WinegardenDNP Project Proposal  
Review Council

Member Signature:

  
Dr. Susan LownDNP Project Proposal  
Review Council

Member Signature:

  
Dr. Carolyn Yoder**Date of initial approval by DNP Scholarly Project Review Council:**

Initial examination done 11-4-19. Review Council stipulated resubmission of the proposal following completion of required revisions. Conditions for approval met 12-12-2019. Student may begin implementation. S. Lown

- 1 - Graduate Office
- 2 - Student File
- 3 - Attached to Proposal

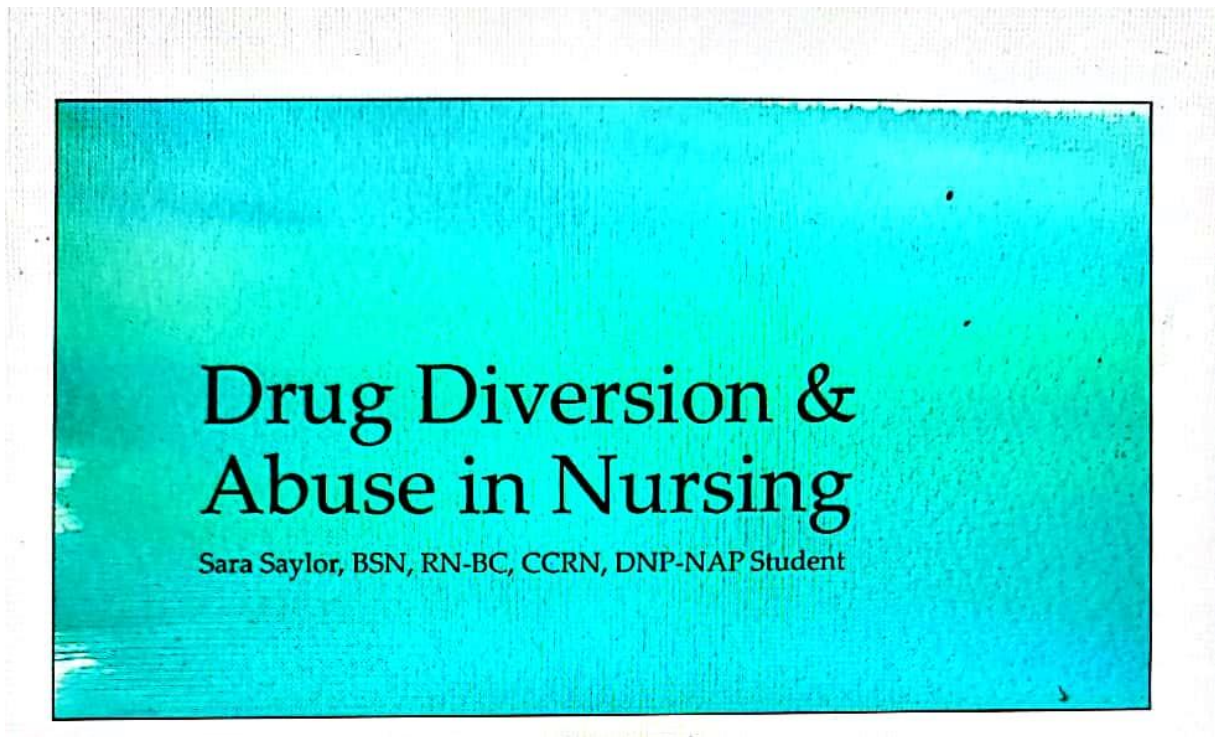
2701 Spring Street  
Fort Wayne, Indiana 46808

Phone: 260-399-7900  
Fax: 260-399-8156  
sf.edu

Scanned with  
CamScanner

*Appendix I*

Drug Diversion and Abuse in Nursing PowerPoint Presentation





## Objectives

- Define drug diversion in nursing and healthcare
- Discuss basic data related to drug diversion and abuse in nursing
- Discuss critical data related to nursing and addiction
- Review key concepts related to the physiology of addiction
- Discuss the professional implications of diversion and abuse
- Recognize signs/symptoms and behaviors of diversion and abuse
- Identify how to get help for self and others

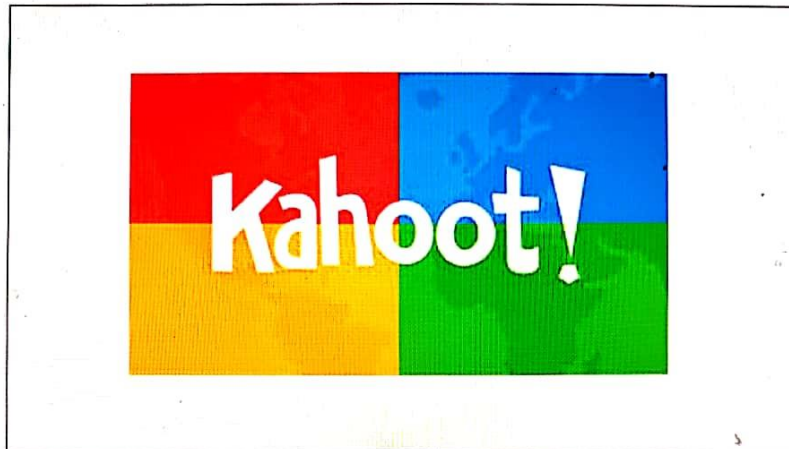
## What is drug diversion?

- Is it the transfer of a prescription drug from a lawful to an unlawful channel of distribution or use  
(Protenus, 2017)

The most commonly diverted substances being OPIATES

Examples:

- Removing Norco from pyxis, replacing with own Tylenol, and administering to patient while pocketing the Norco
- Stealing drugs from anesthesia narcotic boxes and shooting up in the bathroom
- Documenting the use of a larger amount of Fentanyl than is actually given to the patient and taking the rest for yourself

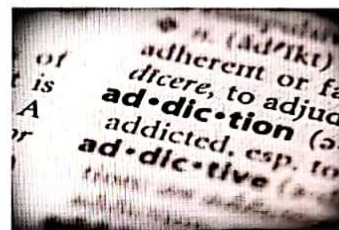


What is the most commonly diverted substance?

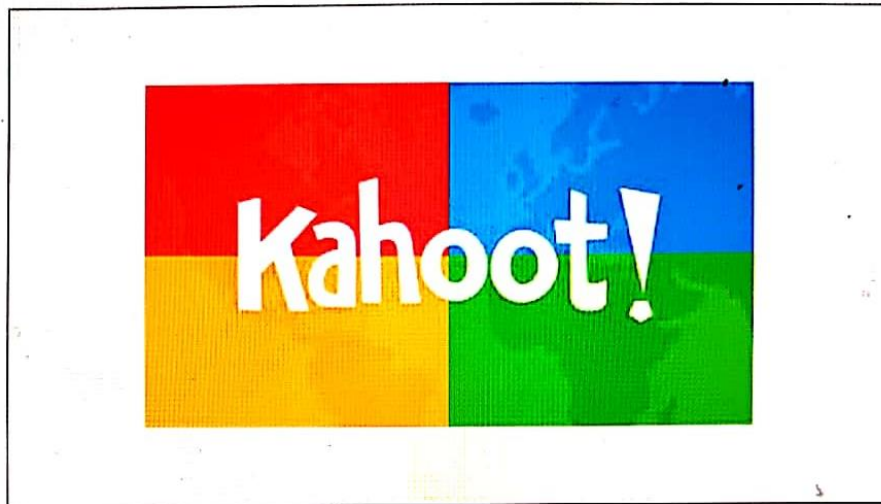
- A) Propofol
- B) Opiates
- C) Benzodiazepines
- D) Barbiturates

### What is Addiction?

- A disease of the brain and should be treated as such
- Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences (American Society of Addiction Medicine, 2019).



Addiction can include drugs, alcohol, gambling, sex, shopping, eating disorders, your phones, etc



Addiction is now understood as:

- A) A personal choice that can be stopped with will power
- B) A disease of the brain that should be treated as such
- C) A & B
- D) None of the above

#### INTRODUCTION

- Nurses and nursing students are aware of the risks associated with substance use, impaired practice, and drug diversion, and have the responsibility and means to report suspected or actual concerns (Strobbe & Crowley, 2017)

The Emergency Nurses Association and the International Nurses Society on Addictions state that nurses and nursing students should be aware...

## Introduction

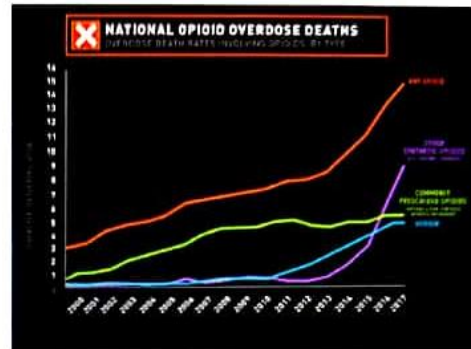
- Hospitals are at a higher risk for drug diversion, with the most common drugs diverted being opioids (Ahlstrom, 2018; Kfistof, 2018)
- One in 10 registered nurses suffer from drug and/or alcohol addiction (ANA, 2015)
- Substance use disorder is an occupational hazard of disproportionately greater risk among the anesthesia profession than in other practice specialties (AANA, 2018)

## Critical Data



### General Statistics

- Drug overdoses are one of the leading causes of death for Americans under the age of 50 (Kristol, 2018)
- Overdoses killed approximately 64,000 people in the US in 2016 (CDC, 2017).
- Almost 50,000 of those deaths were attributed to opioid drugs (CDC, 2017)



...including prescription opioids like OxyContin and Vicodin and synthetic opioids like Fentanyl and tramadol

Nurses highly vulnerable and involved in 41% of publicly-disclosed diversion incidents

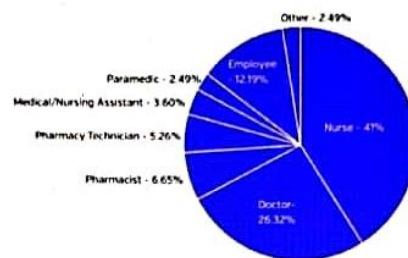
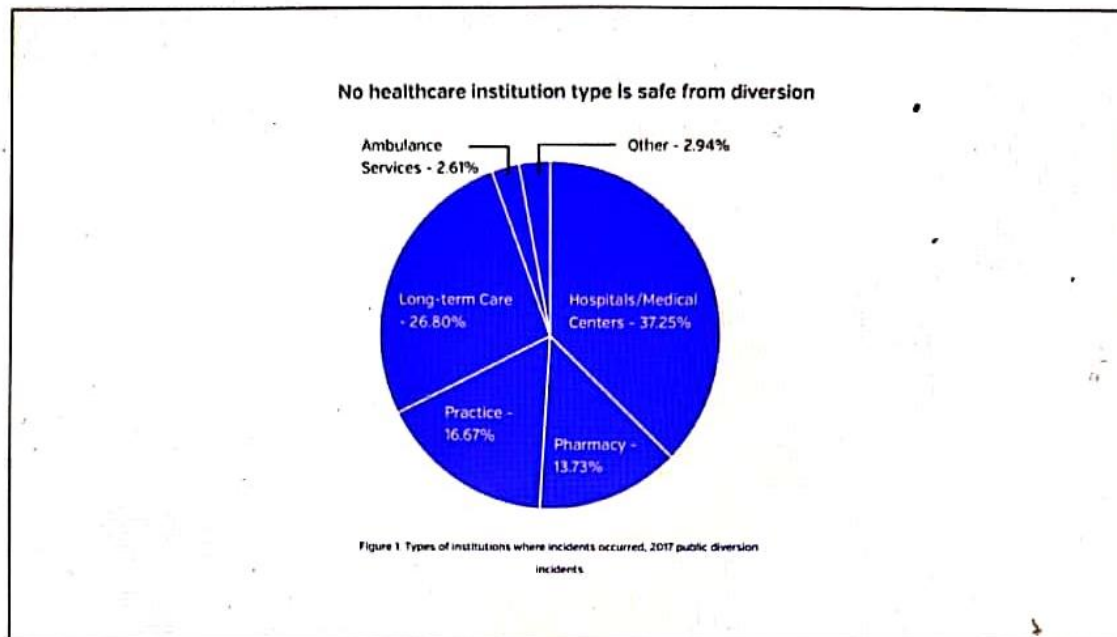


Figure 2: Healthcare worker roles involved in diversion incident, 2017 public diversion incidents

Protenus, a compliance analytics platform that uses artificial intelligence to audit user behavior in electronic health records and pharmacy systems for the nation's leading health systems analyzed 365 diversion incidents reported in online news stories. These incidents took place at various stages that include incident discovery, and accusations, arrests, charging, and sentencing of diverter (Protenus, 2018)






Of the 365 incidence identified, 306 of them occurred at hospitals or medical centers, both inpatient and outpatient

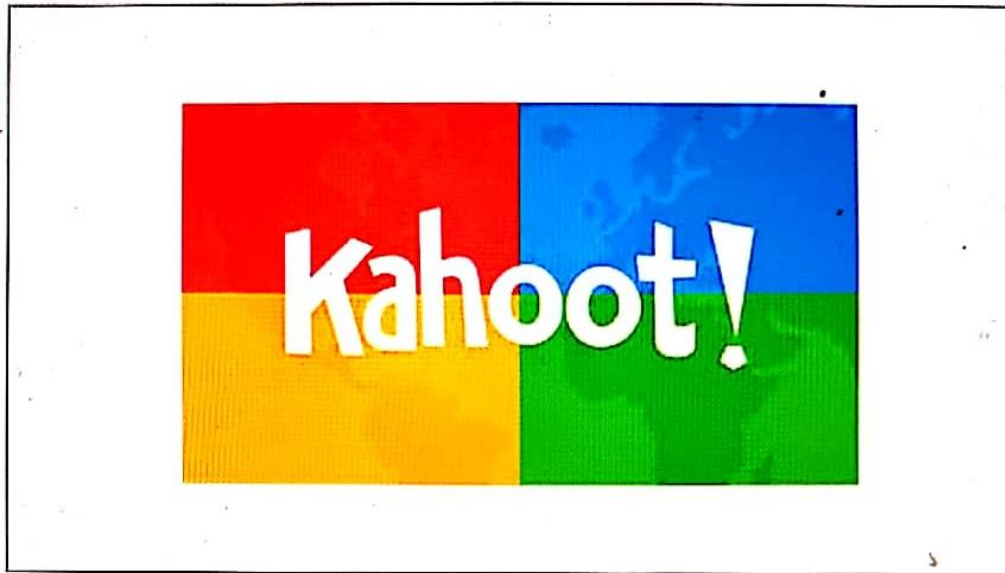
Long-term care settings include assisted living, nursing homes, rehab facilities, respite care, and hospice care

### Healthcare Statistics



- It is estimated that **10%-15%** of healthcare workers will misuse drugs or alcohol at some point during their career (Baldissari, 2007)

If there are 150 of you in this room, that means statistically 15 to 23 of you will struggle with some type of addiction during your nursing career  
Another statistic by the Journal of Clinical Nursing states that approximately 20% of all nurses struggle with an addiction to drugs or alcohol



What % of healthcare providers are estimated to use drugs and/or alcohol during their career?

- A) 5-10%
- B) 10-15%
- C) 15-20%
- D) 20-25%

### Not just opioids...

- Higher rates of smoking were identified in psychiatric nurses
- Critical care nurses were found to have significantly higher use of cocaine
- Oncology nurses were more likely to drink 5 or more drinks per occasion
- CRNAs more likely to abuse opioids, propofol, and anesthetic gases
- General pediatric, women's health, and school and occupational health nurses were least likely to report substance abuse

National Council of State Boards of Nursing. (2011). Substance use disorder in nursing: A resource manual and guidelines for alternative and disciplinary monitoring programs. NCSBN, Chicago, IL.



The likelihood of substance abuse varies across nursing specialties.  
True or false

### Top 4 Risk Factors

- Access
- Attitude
- Stress
- Lack of education



National Council of State Boards of Nursing. (2011). Substance use disorder in nursing: A resource manual and guidelines for alternative and disciplinary monitoring programs. NCSBN, Chicago, IL.

Access – through medication storage devices such as the Pyxis or Omnicell, anesthesia narcotic boxes, med carts

Attitude – do you like your job? Do you like your coworkers? What is your attitude like at work?

Stress – nursing is stressful, that's a given

Lack of education – not lack of pharmacologic education, but lack of education regarding drug diversion and abuse



### **Nursing Students**

Many risk factors appear during nursing school, including abuse of prescription drugs!

## **Physiology of Addiction**

I'll touch base on some basics of the physiology of addiction  
Mr. Garcia will also add some points during his video

## Physiology of Addiction

- Historically has been viewed as a choice rather than a disease
- Research now shows that while the initial act of using is a choice, subsequent use thus addiction is a disease.
- There is no cure, but it is possible to achieve short-term and lifelong recovery

There is a lot of stigma surrounding addiction, such as being a choice rather than a disease

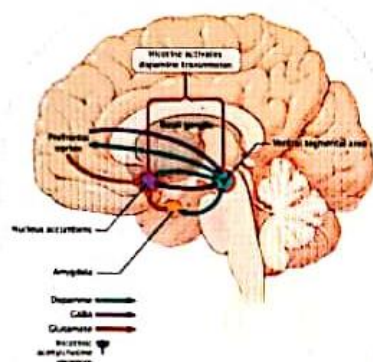
## Physiology of Addiction

- Current evidence suggests that addiction is a highly individualized, multifactorial problem that is exhibited in some more than others
- Defined as a chronic relapsing disorder that is comprised of three stages:
  - 1) Preoccupation/anticipation
  - 2) Binge/intoxication
  - 3) Withdrawal/negative affect

Herman, M. & Roberto, M. (2015). The addicted brain: Understanding the neurophysiological mechanisms of addictive disorders. *Frontiers in Integrative Neuroscience*, 9(18). doi:10.3389/fnint.2015.00018

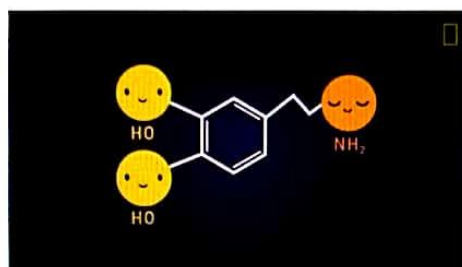
This is a highly individualized, multifactorial program that some people are more susceptible to than others depending on genetics, your environment, your background, etc  
A vicious cycle of seeking, using, and withdrawal

## Physiology of Addiction



- Affects the limbic system which controls arousal and pleasure-seeking activities
- Dopamine is a key neurotransmitter that is released in excessive amounts during drug abuse (Sinha, 2009; Volkow & Morales, 2015)
- Dopamine causes feelings of euphoria, thus continuing the rewards system in the brain.

Later you will see just how much dopamine affects the brain







What is the primary neurotransmitter associated with drug and alcohol addiction?

- Serotonin
- Oxytocin
- Dopamine
- Glutamate

Signs, Symptoms, and  
Behaviors

One of the first indicators of substance abuse is overdose and/or death.



Why is this? Because no one knows, or no one does anything if they suspect something

### Factors Involved in Addiction

- Highly entangled factors
- No single factor determines whether a person will become addicted or not
  - Biology & Genetics
  - Environment
  - Brain Mechanisms



Impairment <sup>17,22,23</sup>	Drug Diversion <sup>14,23,24</sup>
<p><b>Behaviors</b></p> <ul style="list-style-type: none"> <li>• Severe mood swings, personality changes</li> <li>• Frequent or unexplained tardiness, work absences, illness or physical complaints</li> <li>• Elaborate excuses</li> <li>• Underperformance</li> <li>• Difficulty with authority</li> <li>• Poorly explained errors, accidents or injuries</li> <li>• Wearing long sleeves when inappropriate</li> <li>• Confusion, memory loss, and difficulty concentrating or recalling details and instructions</li> <li>• Visibly intoxicated</li> <li>• Refuses drug testing</li> <li>• Ordinary tasks require greater effort and consume more time</li> <li>• Unreliability in keeping appointments and meeting deadlines</li> <li>• Relationship discord (e.g., professional, familial, marital, platonic)</li> </ul> <p><b>Signs</b></p> <ul style="list-style-type: none"> <li>• Physical indications (e.g., track marks, bloodshot eyes)</li> <li>• Signs indicative of drug diversion* (see right column)</li> <li>• Deterioration in personal appearance</li> <li>• Significant weight loss or gain</li> <li>• Discovered comatose or dead</li> </ul>	<p><b>Behaviors</b></p> <ul style="list-style-type: none"> <li>• Consistently uses more drugs for cases than colleagues</li> <li>• Frequent volunteering to administer narcotics, relieve colleagues of casework, especially on cases where opioids are administered</li> <li>• Consistently arrives early, stays late, or frequently volunteers for overtime</li> <li>• Frequent breaks or trips to bathroom</li> <li>• Heavy wastage of drugs</li> <li>• Drugs and syringes in pockets</li> </ul> <p><b>Signs</b></p> <ul style="list-style-type: none"> <li>• Anesthesia record does not reconcile with drug dispensed and administered to patient</li> <li>• Patient has unusually significant or uncontrolled pain after anesthesia</li> <li>• Higher pain score as compared to other anesthesia providers</li> <li>• Times of cases do not correlate when provider dispenses drug from automated dispenser</li> <li>• Inappropriate drug choices and doses for patients</li> <li>• Missing medications or prescription pads</li> <li>• Drugs, syringes, needles improperly stored</li> <li>• Signs of medication tampering, including broken vials returned to pharmacy</li> </ul>

### Betty's Story



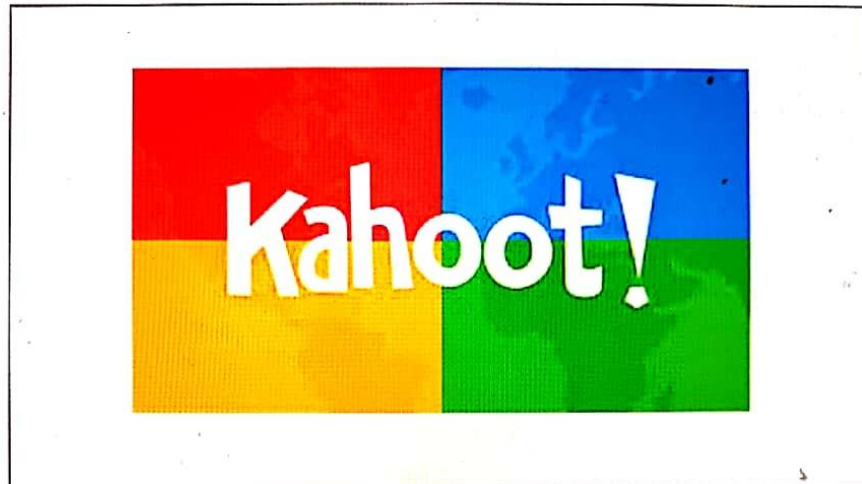
I worked at a very small critical access hospital. 3 Ors – 1 for storage, 1 for surgical procedures, and 1 for dirty procedures such as colonoscopies, EGDs, infected wound debridements. Very small staff – 1 general surgeon, 1 CRNA, 2 pre-post op nurses, and a few intraop staff such as circulators, scrub nurses, and scrub techs. I was a circulator, and Betty was usually a scrub nurse. She was very good at her job. She worked hard and the surgeons liked her. Over once summer, Betty started coming in to work late, always had excuses as to why, and would come in with injuries such as falling down the porch steps and scraping her shin or falling on wet grass and hitting her head. We didn't think much of it, just Betty being Betty. Then she started falling asleep during surgery while holding laparoscopic instruments. She would disappear and no one could find her for long periods of time. She came in one morning, sweating, shaking, and continuously vomiting in the locker room, stating that she had food poisoning. I later saw her in the back hall by the needles and syringes, then sneaking into a back room. Then anesthesia noted that fentanyl and ketamine was missing from their lock boxes. Betty was asked to test, and she was found positive. 6 months later she came back, but she was not allowed to use the pyxis or dispense medications. She was only back for 2 weeks when she tested positive again on a random drug screen. She was gone for another few weeks, then came back again. Not long after her second time back, more fentanyl was stolen and Betty was gone and did not come back.

## DISCUSSION

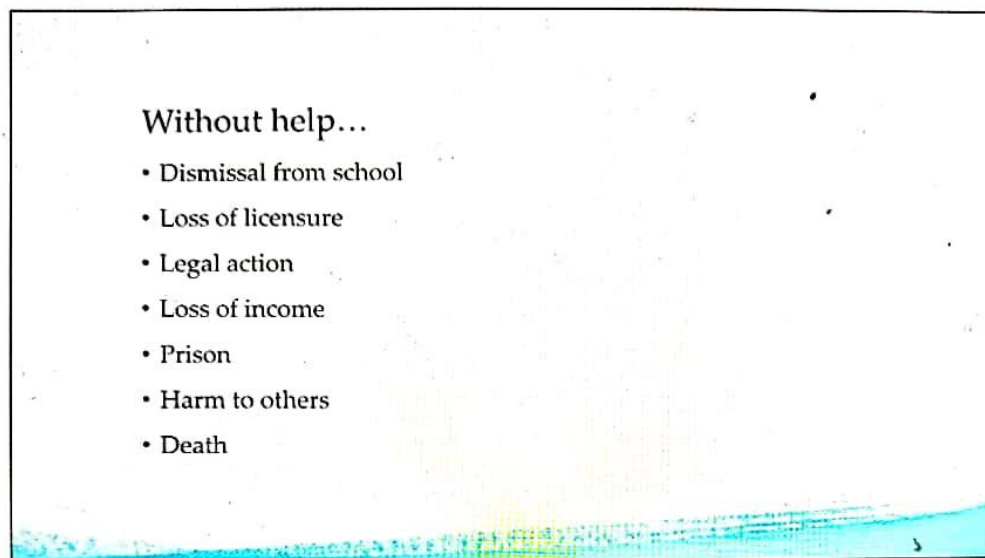
What signs, symptoms and behaviors was Betty exhibiting?

Finding Help





- As a nursing student, how would you intervene to help a colleague you suspected was impaired or had a substance abuse problem?
  - A) I would report to the program director immediately
  - B) I would notify the authorities
  - C) I would let another colleague know so as to plan an effective and safe intervention
  - D) I would reference the ANA resource information
  - E) I would likely not do anything because I wouldn't want to be wrong



### Getting Help Safely

- Do NOT perform an intervention yourself!
- If at clinical, notify your instructor immediately
- If at school, notify your program director immediately

Interventions are multidisciplinary – people who know how to handle these situations need to be organized to perform the intervention. These people may include trained pharmacists, anesthesia providers, nurses, human resources, counselors, law enforcement

The Kahoot! logo is centered within a rectangular frame. It features the word "Kahoot!" in a bold, white, sans-serif font. The text is superimposed on a background divided into four equal quadrants of different colors: red (top-left), blue (top-right), yellow (bottom-left), and green (bottom-right).

If you suspect a colleague is diverting and/or using, it is a good idea to confront them yourself to maintain privacy

True  
False

## At the University of Saint Francis

Counseling at the Wellness  
Center

To schedule an appointment for  
counseling services, call 260-266-8060.



Provides free counseling and health services to all currently-enrolled students  
The USF Health Wellness Clinic is managed by Parkview Physicians Group  
and USF staff

A full range of confidential counseling services is available and students can  
seek support for a variety of concerns, including medical concerns

## At the University of Saint Francis

Safe Harbor Program



The University of Saint Francis believes that students who have a drug and/or addiction problem deserve help. If a student brings their own use, addiction or dependency to the attention of University of Saint Francis officials — outside the threat of drug tests or imposition of the conduct process — and seeks assistance, the university will not file a complaint against the student who is seeking help. A written action plan may be used to track cooperation by the student with the Safe Harbor program. Failure to follow the action plan will nullify the Safe Harbor protection and the campus conduct process will be initiated.



## Other Resources

- Substance Abuse and Mental Health Services Administration (SAMHSA)  
– 1-800-662-HELP (4357) or TTY 1-800-487-4889
- Parkdale Center for Professionals (Chesterton, Indiana)  
– 888-883-8433 (24/7)
- Fort Wayne Recovery  
– 833-253-8794 (24/7)
- Sara Saylor  
– saylorsr@cougars.sf.edu

SAMHSA's National Helpline is a free, confidential, 24/7, 365-day-a-year treatment referral and information service (in English and Spanish) for individuals and families facing mental and/or substance use disorders.

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*Appendix J*

## Garcia Pre and Post-Test Revision Permission E-Mail

Saylor, Sara R

Tue 9/17/2019 3:10 PM

Hi again!

I am so sorry to bug you, I'm just trying to get everything around for the college's IRB process. I have a few questions for you to help it along.

- May I use and adapt your pre and post tests? I need your official permission if they were made by you. If not, where did they originate from?

- Do you have your answer sheet?

- Do you have your statistical results from when you used these tests?

Thank you so much, and again I'm sorry to keep bothering you!

Sara

Rodrigo Garcia, MSN, APN-CRNA, MBA <rgarcia@parkdalecenter.com>

Sun 9/22/2019 8:44 PM

Hi there. No worries on the email reminders. I tend to need those as my schedule gets busier this time of the year. You can absolutely use those questions any way that you would like. You are free to amend and edit them as you deem necessary. They are original questions made by me so I am officially giving you permission to use them. I do not think I have the answer "key" but I will go through them and answer them and send them to you. And I do not have the results to the surveys...we compile them just for the event and then start over.....maybe we should be keeping the info, lol

Let me know if you have any other questions



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## Appendix K

## Original Parkdale Pre and Post-Test


**PARKDALE**  
CENTER FOR PROFESSIONALS

**PRE-TEST**

1. Considering the possible legal, professional, financial, and social implication would you intervene and report a co-worker that you were sure was impaired?
  - a. Yes
  - b. No
2. As a SRNA, how would you intervene to help a coworker you suspected was impaired?
  - a. I would report to the Charge nurse immediately.
  - b. I would report to the program director as soon as I could.
  - c. I would notify the authorities.
  - d. I would let a co-worker/ colleague know so as to plan an effective and safe intervention.
  - e. I would reference the AANA resource information.
  - f. I would likely not do anything because I wouldn't want to be wrong and ruin his/her career.
3. If you had an addiction to drugs or alcohol and considering the possible legal, professional, financial, and social implication would you ask for help for yourself?
  - a. Yes
  - b. No
4. If one parent is an addict or an alcoholic, what is the % increase likelihood that the child will develop an addiction of the course of their life?
  - a. 20%
  - b. 35%
  - c. 50%
  - d. 65%
5. What percent of the general population is currently or will be addicted to drugs or alcohol?
  - a. 5%
  - b. 10%
  - c. 15%
  - d. 20%
6. What percent of health care professionals are or will be addicted to drugs or alcohol during their careers?
  - a. 5%
  - b. 10%
  - c. 15%
  - d. 20%
7. Rank your plans for after you graduate (1-5)
  - a. \_\_\_\_\_ Take a long vacation and not work or study
  - b. \_\_\_\_\_ Begin work to start making money to pay off loans/ debt
  - c. \_\_\_\_\_ Buy a house/ car/ clothes/ or "toys" to reward yourself for a job well done.
  - d. \_\_\_\_\_ Take care of family, have children, get married, etc.
  - e. \_\_\_\_\_ Other (list) \_\_\_\_\_
8. While in school, how often do you feel stressed out?
  - a. Not often
  - b. Occasionally
  - c. About average
  - d. More than I would like to
  - e. All the time
9. While in school, how often do you feel hungry or as if your dietary habits are suffering or being compromised?
  - a. Not often
  - b. Occasionally
  - c. About average
  - d. More than I would like to
  - e. All the time
10. While in school, how often do you feel angry/ frustrated about missing out on family events, life events, working long hours, and missing family?
  - a. Not often
  - b. Occasionally
  - c. About average

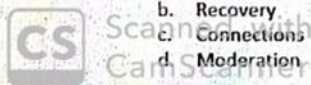
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PARKDALE  
CENTRE FOR THE FUTURE OF THE INDUSTRY

- d. More than I would like to
  - e. All the time
11. While in school, how often do you feel lonely or isolated during a class or the course of your day?
  - a. Not often
  - b. Occasionally
  - c. About average
  - d. More than I would like to
  - e. All the time
12. While in school, how often do you feel tired from the early day, long hours, and constant studying?
  - a. Not often
  - b. Occasionally
  - c. About average
  - d. More than I would like to
  - e. All the time
13. What is the primary neurotransmitter associated with drug or alcohol addiction?
  - a. Serotonin
  - b. Oxytocin
  - c. Dopamine
  - d. Endorphin
14. What % of people seek treatment voluntarily when they know they are addicted to drugs or alcohol and before they get caught or mandated into treatment?
  - a. 5%
  - b. 20%
  - c. 45%
  - d. 70%
15. What is the most addictive substance known?
  - a. Alcohol
  - b. Benzodiazepines
  - c. Methamphetamine
  - d. Opiates
16. Recent trends indicate that addiction with health care professionals will most likely occur.
  - a. While still in school
  - b. Within 1-5 years of graduating school
  - c. 5-10 years after graduating school
  - d. more than 10 years after graduating
17. What is the number one occupational hazard for CRNA's?
  - a. Overwork/ burnout
  - b. Drug Abuse
  - c. Divorce
  - d. HTN / physical problems related to increased, persistent stressors
18. What % of the **TOTAL** world's opiates are prescribed in the United States?
  - a. 25%
  - b. 55%
  - c. 80%
  - d. 95%
19. Addiction as I understand it is a:
  - a. Personal choice that can be stopped with will power
  - b. A disease that should be treated as such.
  - c. A&B
  - d. None of the above
20. **\*\*\*BONUS\*\*\*** According to Johan Hari, the opposite of addiction is:
  - a. Sobriety
  - b. Recovery
  - c. Connections
  - d. Moderation



PARKDALE  
CITY OF PARKDALE, MISSOURIPost Test

1. Considering the possible legal, professional, financial, and social implication would you intervene and report a co-worker that you were sure was impaired?
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  - b. No
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  - d. \_\_\_\_\_ Take care of family, have children, get married, etc.
  - e. \_\_\_\_\_ Other (list) \_\_\_\_\_
8. What is the primary neurotransmitter associated with drug or alcohol addiction?
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  - d. Endorphin
9. What % of people seek treatment voluntarily when they know they are addicted to drugs or alcohol and before they get caught or mandated into treatment?



PARKDALE  
KANSAS STATE UNIVERSITY

- a. 5%
  - b. 20%
  - c. 45%
  - d. 70%
10. What is the most addictive substance known?
- a. Alcohol
  - b. Benzodiazepines
  - c. Methamphetamine
  - d. Opiates
11. Recent trends indicate that addiction with health care professionals will most likely occur.
- a. While still in school
  - b. Within 1-5 years of graduating school
  - c. 5-10 years after graduating school
  - d. more than 10 years after graduating
12. What is the number one occupational hazard for CRNA's?
- a. Overwork/ burnout
  - b. Drug Abuse
  - c. Divorce
  - d. HTN / physical problems related to increased, persistent stressors
13. What % of the **TOTAL** world's opiates are prescribed in the United States?
- a. 25%
  - b. 55%
  - c. 80%
  - d. 95%
14. Addiction as I understand it is a:
- a. Personal choice that can be stopped with will power
  - b. A disease that should be treated as such.
  - c. A&B
  - d. None of the above
15. **\*\*\*BONUS\*\*\*** According to Johan Hari, the opposite of addiction is:
- a. Sobriety
  - b. Recovery
  - c. Connections
  - d. Moderation



*Appendix L*

## Post-Presentation Qualitative Survey

Using the Likert scales below, please rate your feelings/opinions on the questions provided:

- 1) This educational presentation enhanced my knowledge of drug diversion and abuse.  
Why or why not?

0-----1-----2-----3-----4-----5  
N/A      Strongly disagree    Disagree      Neutral      Agree      Strongly agree

- 2) Knowing what you know now: I could identify a possible diversion/situation  
Why or why not?

0-----1-----2-----3-----4-----5  
N/A      Strongly disagree    Disagree      Neutral      Agree      Strongly agree

- 3) After listening to this presentation: I feel more confident that I could find assistance for myself.  
Why or why not?

0-----1-----2-----3-----4-----5  
N/A      Strongly disagree    Disagree      Neutral      Agree      Strongly agree

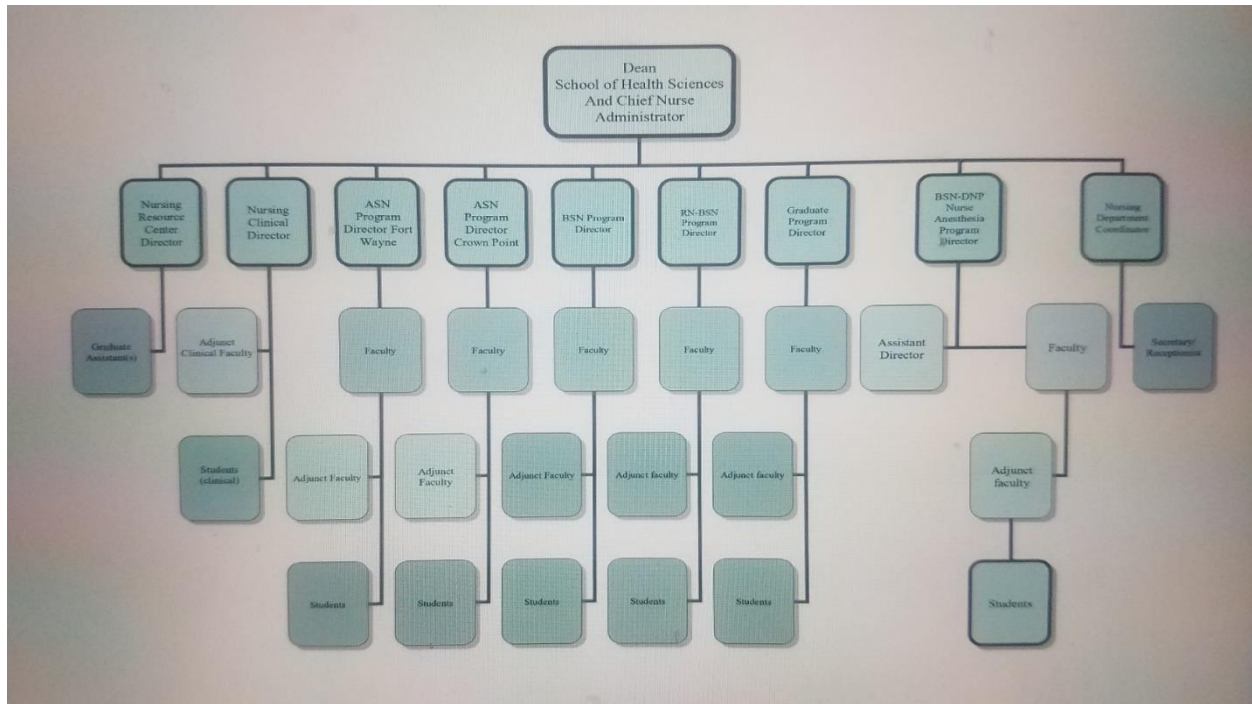
- 4) After listening to this presentation: I feel more confident that I could notify the proper authorities to a possible diversion or abuse situation.  
Why or why not?

0-----1-----2-----3-----4-----5  
N/A      Strongly disagree    Disagree      Neutral      Agree      Strongly agree

Comments (optional):

*Appendix M*

School of Health Sciences Chain of Command



*Appendix N*

## SPSS Output

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre_Test	.5900	11	.21813	.06577
	Post_Test	.9055	11	.11978	.03612

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	Pre_Test & Post_Test	11	.421	.198

**Paired Samples Test**

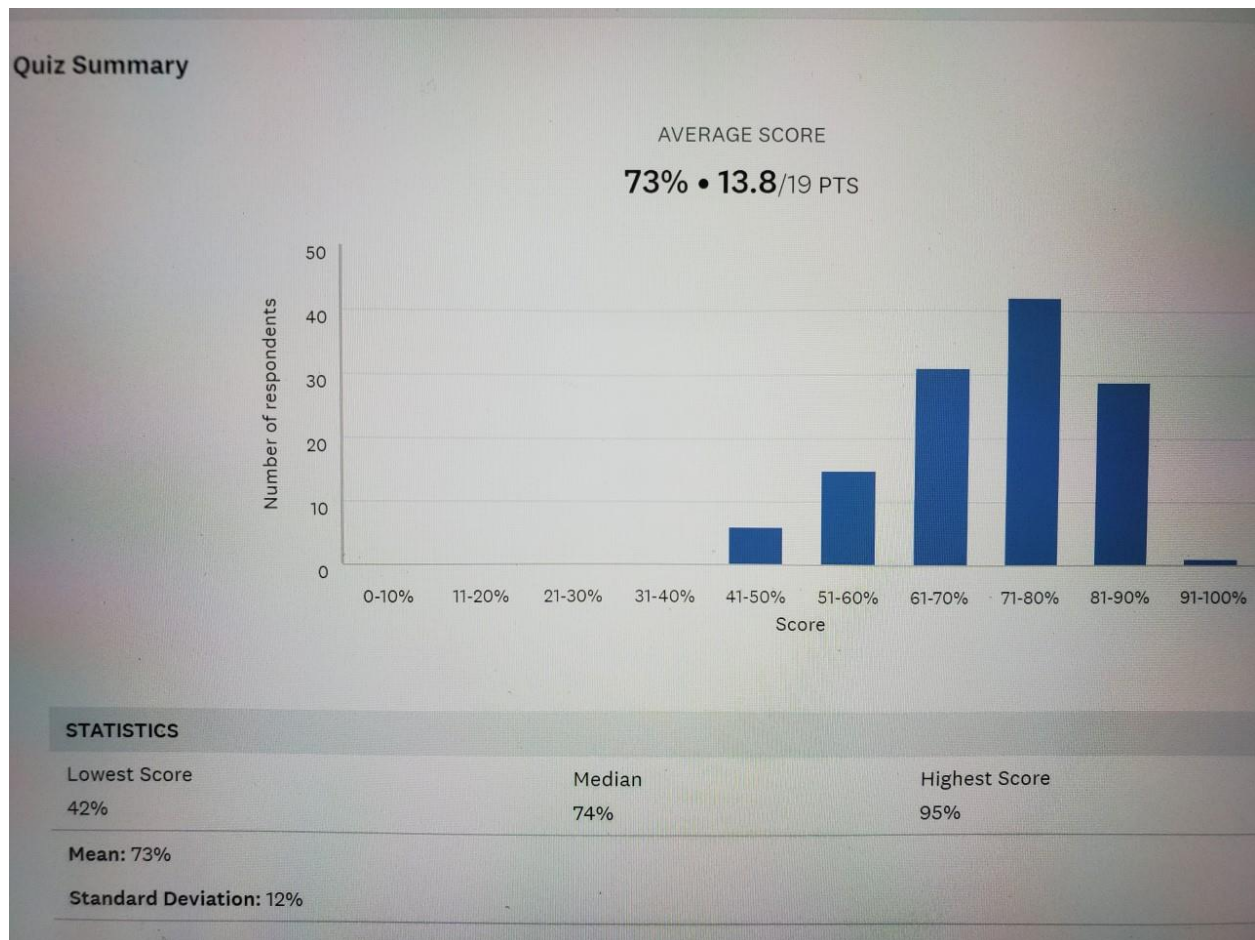
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pre_Test - Post Test	-.31545	.19987	.06026	-.44973	-.18118	-5.235	10	.000



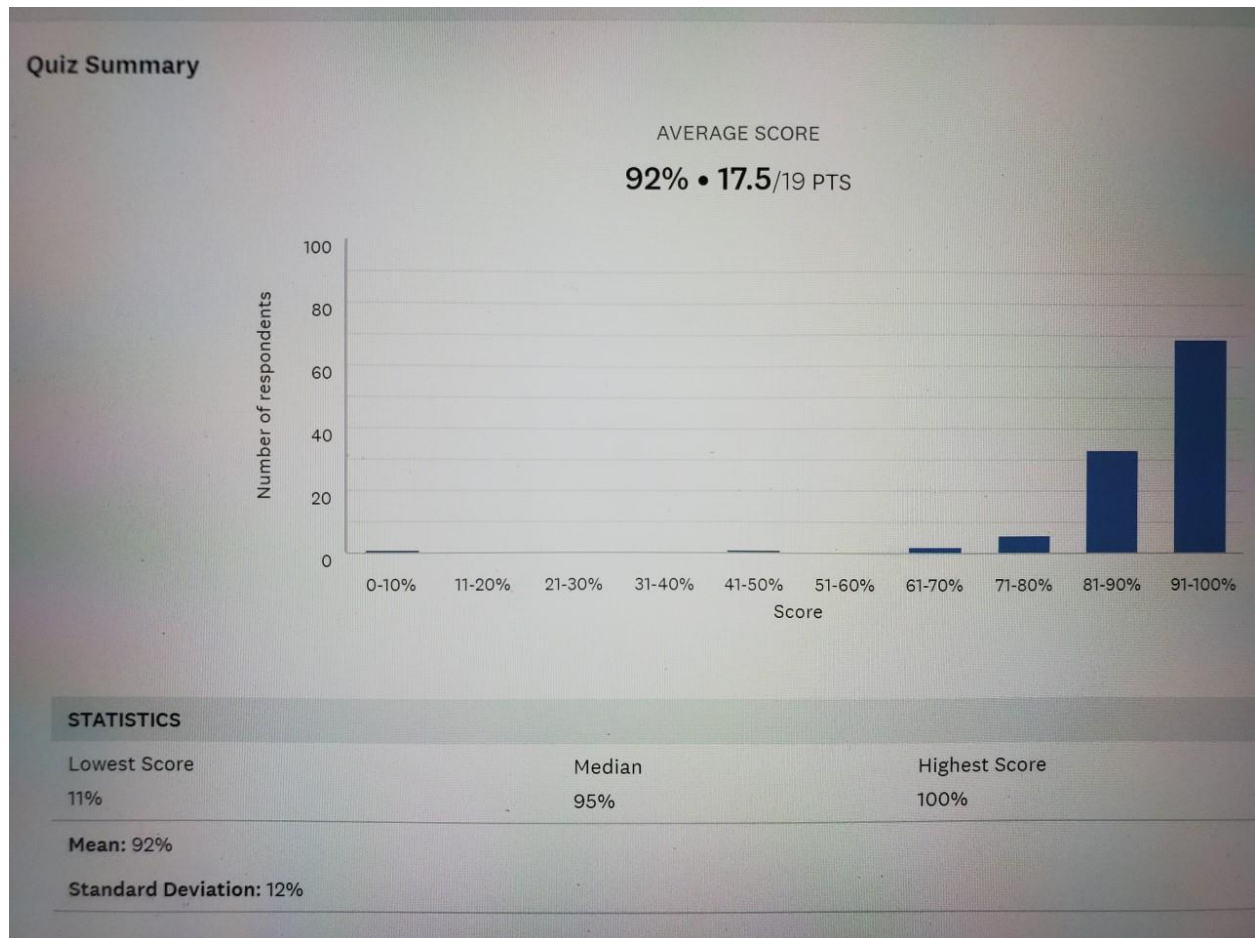
*Appendix O*

Survey Monkey Graphs

Pre-Test Summary Graph



# Post-Test Summary Graph

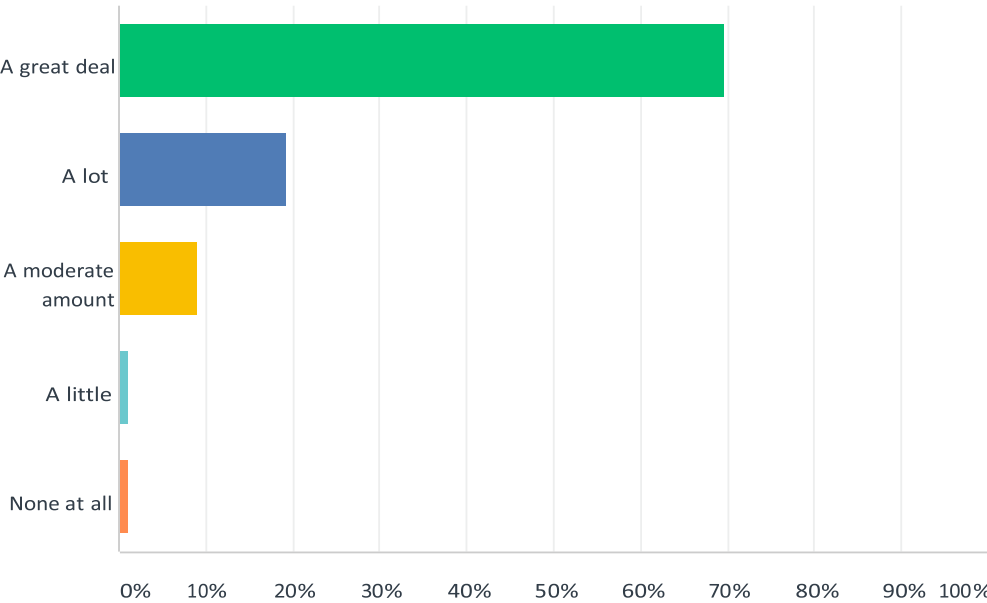


Appendix P

Survey Monkey Student Survey

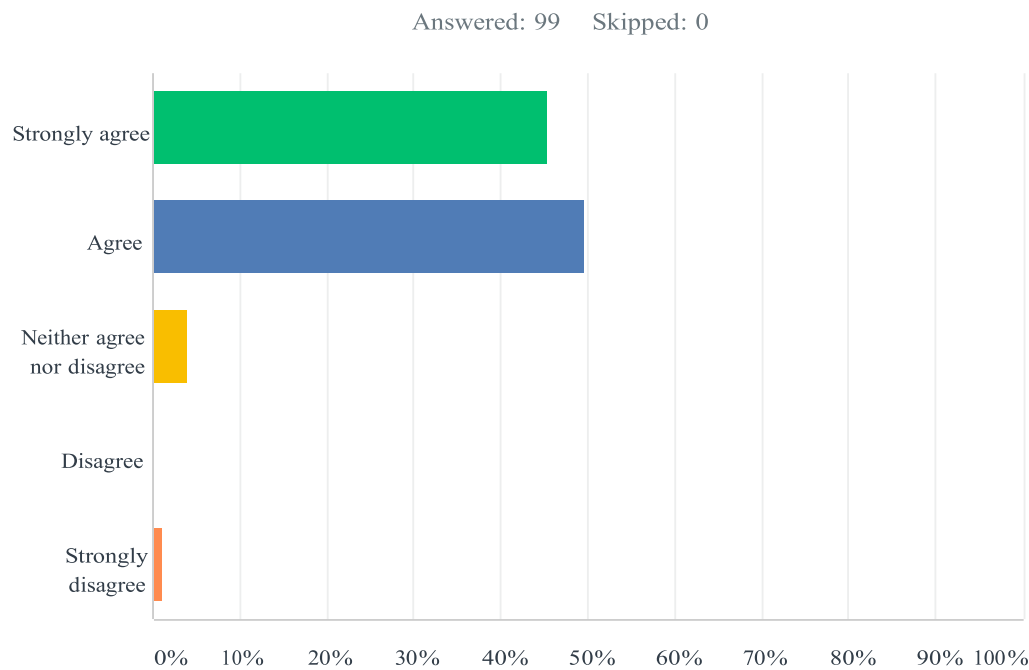
Q1 This educational presentation enhanced my knowledge of drug diversion and abuse.

Answered: 99 Skipped: 0



ANSWER CHOICES	RESPONSES	
A great deal	69.70%	69
A lot	19.19%	19
A moderate amount	9.09%	9
A little	1.01%	1
None at all	1.01%	1
TOTAL		99

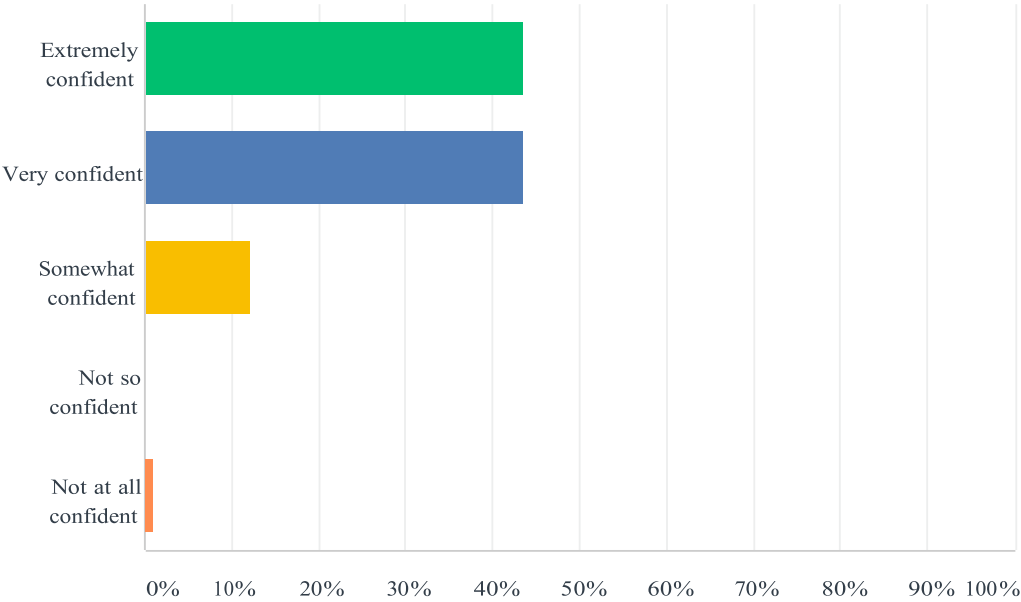
Q2 Knowing what you know now: I could identify a possible diversion situation.



ANSWER CHOICES	RESPONSES	
Strongly agree	45.45%	45
Agree	49.49%	49
Neither agree nor disagree	4.04%	4
Disagree	0.00%	0
Strongly disagree	1.01%	1
TOTAL		99

Q3 After listening to this presentation: I feel more confident that I could find assistance for myself.

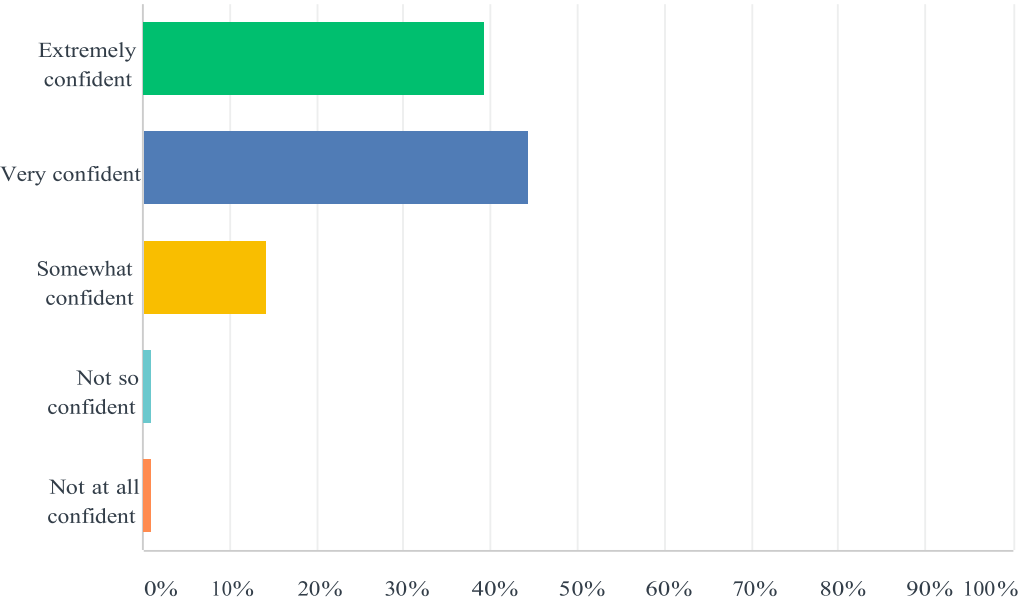
Answered: 99 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely confident	43.43%	43
Very confident	43.43%	43
Somewhat confident	12.12%	12
Not so confident	0.00%	0
Not at all confident	1.01%	1
TOTAL		99

Q4 After listening to this presentation: I feel more confident that I could notify that proper authorities to a possible drug diversion or abuse situation.

Answered: 99   Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely confident	39.39%	39
Very confident	44.44%	44
Somewhat confident	14.14%	14
Not so confident	1.01%	1
Not at all confident	1.01%	1
TOTAL		99



<input type="checkbox"/>	Really enjoyed the presentation	1/17/2020 2:42 PM
<input type="checkbox"/>	Liked the extra activities.	1/17/2020 2:42 PM
<input type="checkbox"/>	Well organized presentation that included a lot of useful information!	1/17/2020 2:41 PM
<input type="checkbox"/>	I enjoyed this presentation.	1/17/2020 2:41 PM
<input type="checkbox"/>	Great presentation	

<input type="checkbox"/>	Good presentation	1/17/2020 2:39 PM
<input type="checkbox"/>	Good presentation	1/17/2020 2:39 PM
<input type="checkbox"/>	Good job	1/17/2020 2:38 PM
<input type="checkbox"/>	Thank you! It's crazy how many people are addicted to drugs now a days!	1/17/2020 2:38 PM

<input type="checkbox"/>	very good presentation!	1/17/2020 2:38 PM
<input type="checkbox"/>	Thank you for sharing with us today!	1/17/2020 2:38 PM
<input type="checkbox"/>	Enjoyed the presentation and knowing the resources out there	1/17/2020 2:38 PM
<input type="checkbox"/>	Great job	1/17/2020 2:38 PM

<input type="checkbox"/>	Good presentation. I liked the kahoot & tests	1/17/2020 2:38 PM
<input type="checkbox"/>	good job!	1/17/2020 2:38 PM
<input type="checkbox"/>	None	1/17/2020 2:38 PM
<input type="checkbox"/>	Fantastic Presentation!!	1/17/2020 2:38 PM

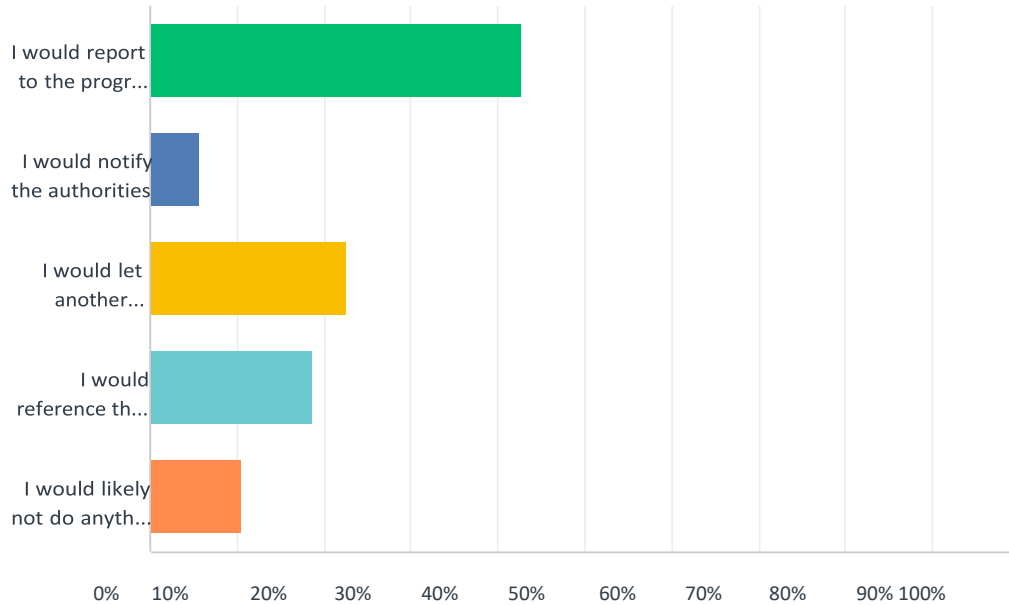


## Appendix Q

## Data Analysis Graphs per Survey Monkey Question – Pre-test

Q4 As a nursing student, how would you intervene to help a fellow student you suspect was impaired or had a substance abuse problem?

Answered: 124 Skipped: 0



## QUIZ STATISTICS

Percent Correct  
43%

Average Score  
0.4/1.0 (43%)

Standard Deviation  
0.50

Difficulty  
2/11

## ANSWER CHOICES

## SCORE

## RESPONSES

3 I would report to the program director immediately (1)

1/1

42.74%

53

I would notify the authorities (2)

0/1

5.65%

7

I would let another colleague know (3)

0/1

22.58%

28

I would reference the ANA resource information (4)

0/1

18.55%

23

I would likely not do anything because I wouldn't want to be wrong (5)

0/1

10.48%

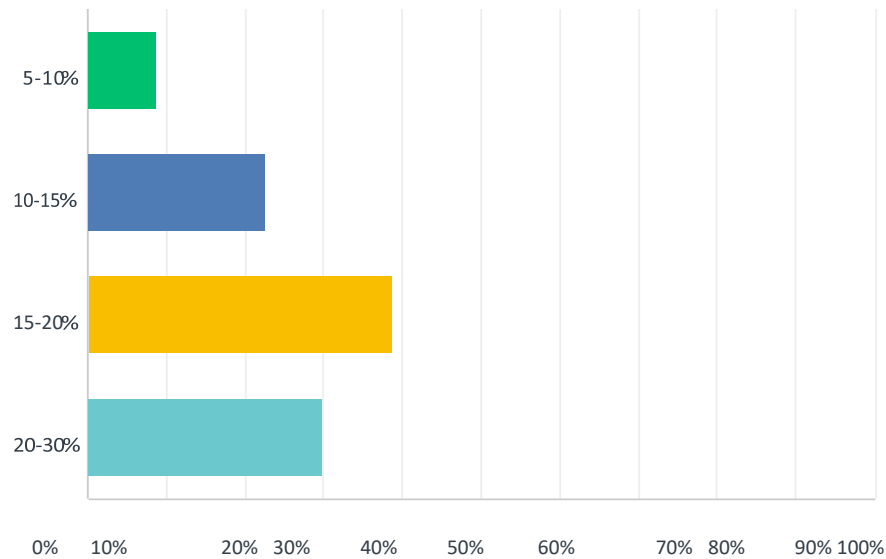
13

## TOTAL

124

Q5 What percent of healthcare providers are estimated to misuse drugs and alcohol at some point during their career?

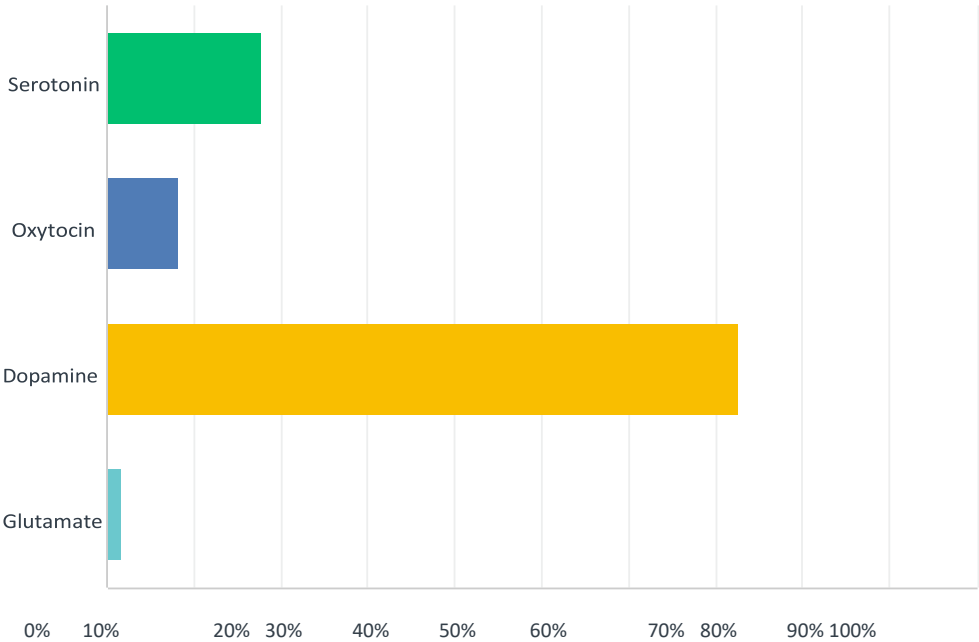
Answered: 124 Skipped: 0



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
23%	0.2/1.0 (23%)	0.42	1/11
ANSWER CHOICES	SCORE	RESPONSES	
5-10% (1)	0/1	8.87%	11
3 10-15% (2)	1/1	22.58%	28
15-20% (3)	0/1	38.71%	48
20-30% (4)	0/1	29.84%	37
TOTAL			124

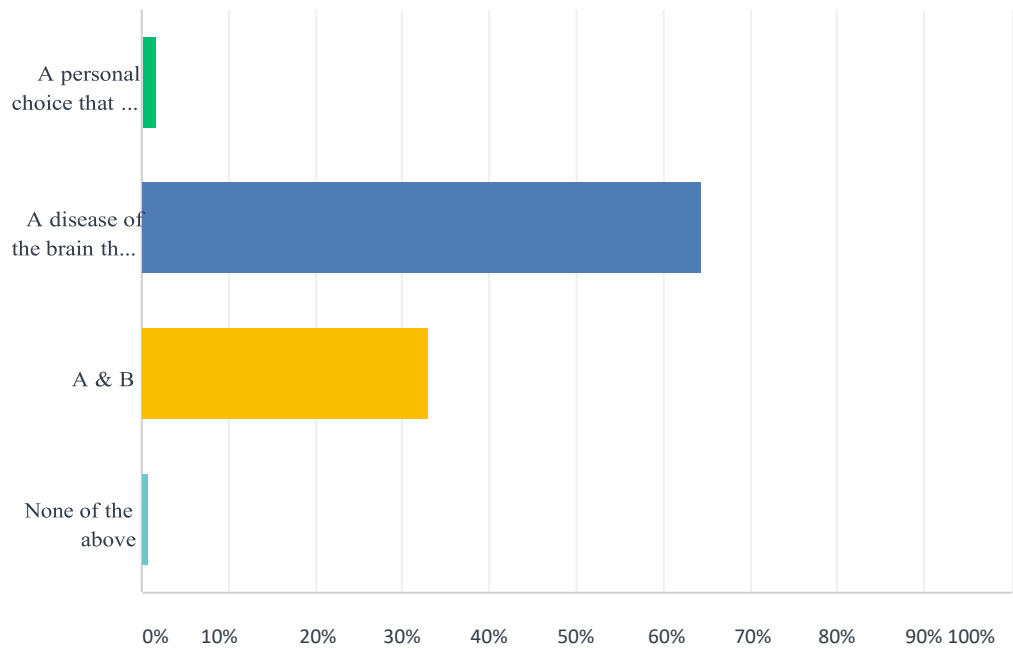
Q6 What is the primary neurotransmitter associated with drug and alcohol addiction?

Answered: 124 Skipped: 0



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
73%	0.7/1.0 (73%)	0.45	7/11
ANSWER CHOICES	SCORE	RESPONSES	
Serotonin (1)	0/1	17.74%	22
Oxytocin (2)	0/1	8.06%	10
3 Dopamine (3)	1/1	72.58%	90
Glutamate (4)	0/1	1.61%	2
TOTAL			124

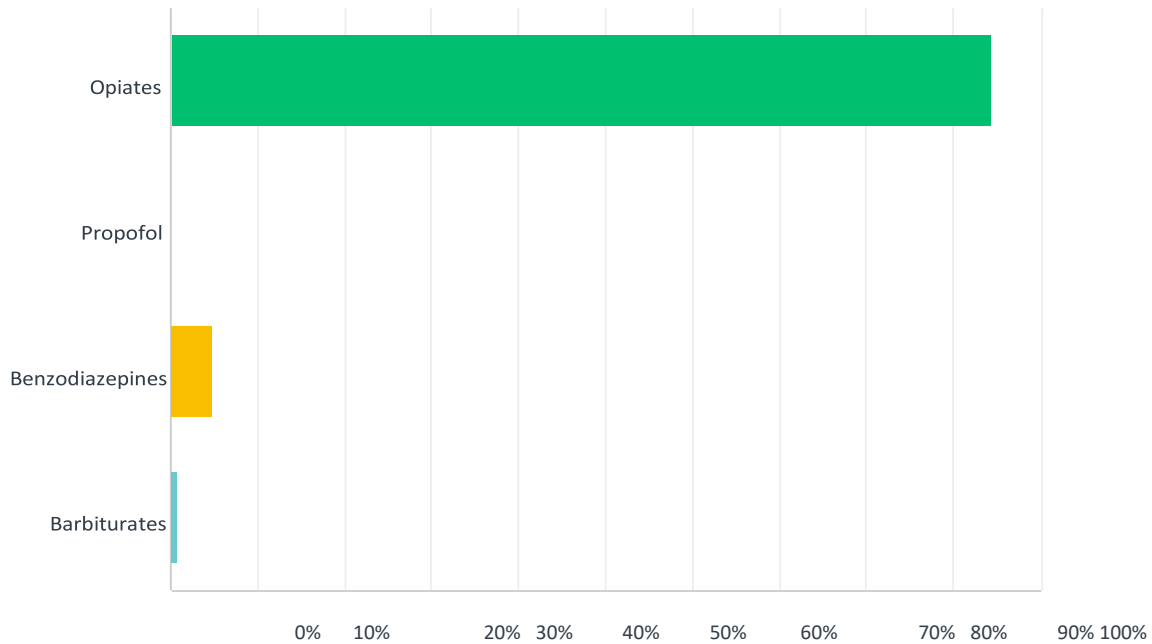
Q7 Addiction is now understood as:  
Answered: 124    Skipped: 0



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
65%	0.6/1.0 (65%)	0.48	5/11
ANSWER CHOICES		SCORE	RESPONSES
A personal choice that can be stopped with will power (1)		0/1	1.61% 2
3 A disease of the brain that should be treated as such (2)		1/1	64.52% 80
A & B (3)		0/1	33.06% 41
None of the above (4)		0/1	0.81% 1
TOTAL			124

## Q8 What is the most commonly diverted substance?

Answered: 124 Skipped: 0



## QUIZ STATISTICS

Percent Correct  
94%Average Score  
0.9/1.0 (94%)Standard Deviation  
0.23Difficulty  
11/11

## ANSWER CHOICES

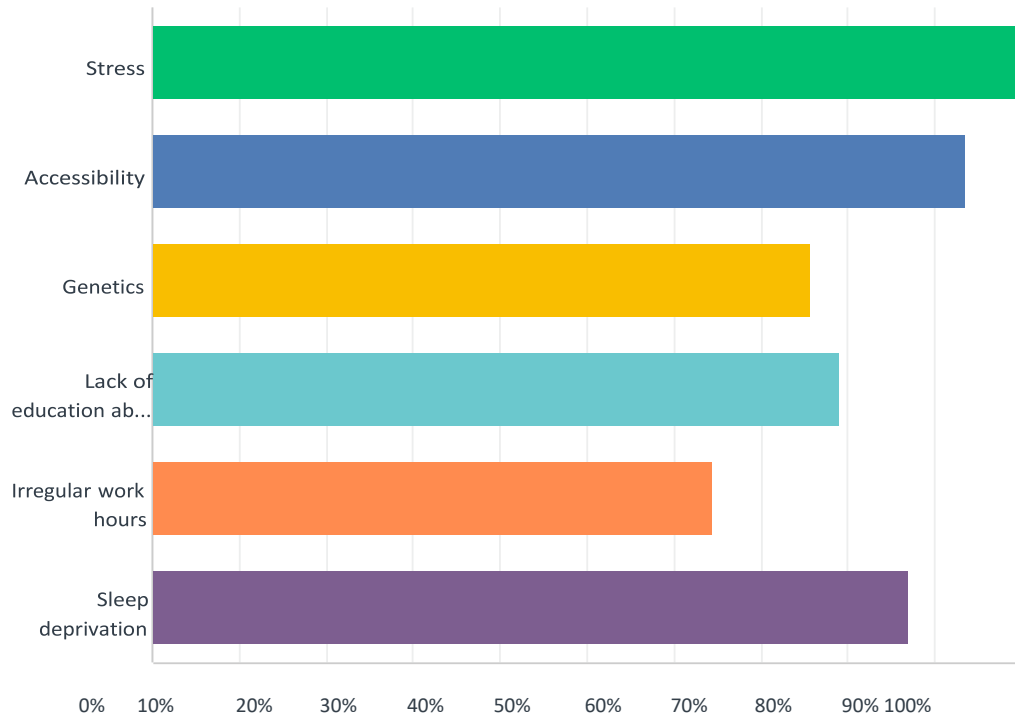
## SCORE

## RESPONSES

3 Opiates (1)	1/1	94.35%	117
Propofol (2)	0/1	0.00%	0
Benzodiazepines (3)	0/1	4.84%	6
Barbiturates (4)	0/1	0.81%	1
<b>TOTAL</b>			<b>124</b>

## Q9 Risk factors associated with drug diversion and abuse include (select all that apply):

Answered: 124 Skipped: 0



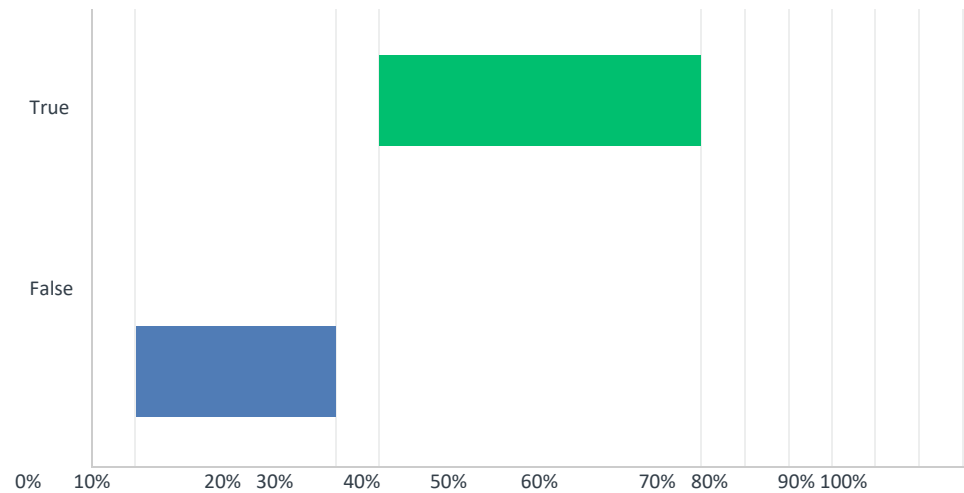
## QUIZ STATISTICS

Percent Correct  
51%Average Score  
5.0/6.0 (83%)Standard Deviation  
1.16Difficulty  
9/11

ANSWER CHOICES		SCORE	RESPONSES
3	Stress (1)	1/6	100.00% 124
3	Accessibility (2)	1/6	93.55% 116
3	Genetics (3)	1/6	75.81% 94
3	Lack of education about substance abuse (4)	1/6	79.03% 98
3	Irregular work hours (5)	1/6	64.52% 80
3	Sleep deprivation (6)	1/6	87.10% 108
Total Respondents: 124			

Q10 The likelihood of substance abuse varies across nursing specialties.

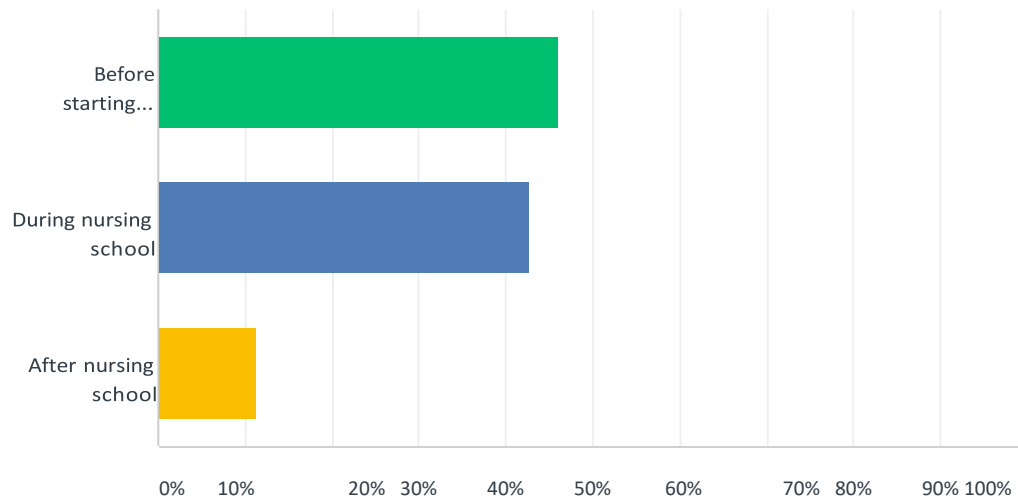
Answered: 124    Skipped: 0



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
67%	0.7/1.0 (67%)	0.47	6/11
ANSWER CHOICES	SCORE	RESPONSES	
3 True (1)	1/1	66.94%	83
False (2)	0/1	33.06%	41
TOTAL			124

Q11 Research has found that many risk factors for drug and alcohol abuse appear:

Answered: 124 Skipped: 0



#### QUIZ STATISTICS

Percent Correct	Average Score	Standard Deviation	Difficulty
43%	0.4/1.0 (43%)	0.50	2/11

#### ANSWER CHOICES

#### SCORE

#### RESPONSES

Before starting nursing school (1)

0/1

45.97%

57

3 During nursing school (2)

1/1

42.74%

53

After nursing school (3)

0/1

11.29%

14

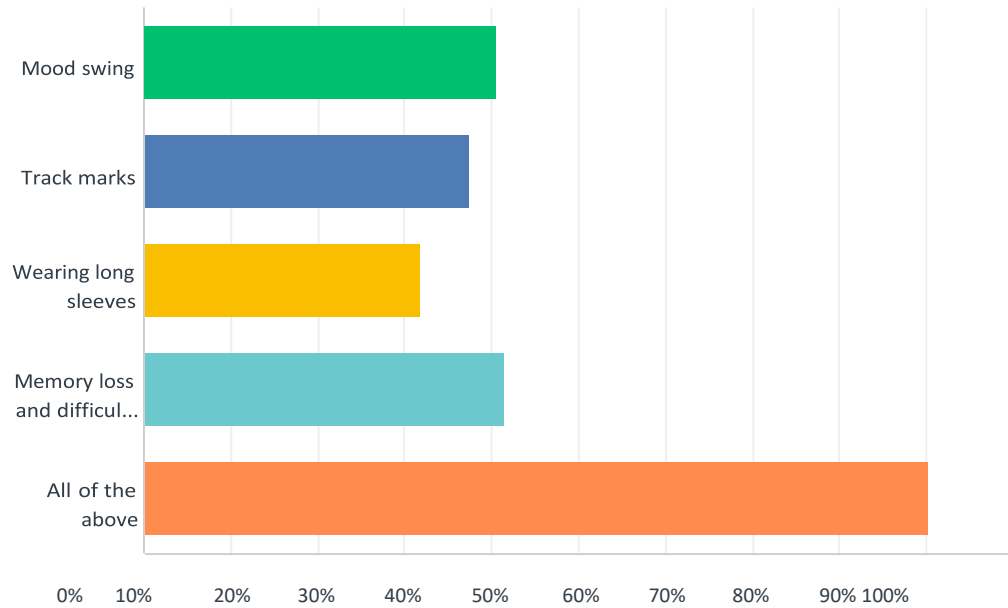
#### TOTAL

124



Q12 Impairment signs, symptoms, and/or behaviors include (select all that apply):

Answered: 123 Skipped: 1



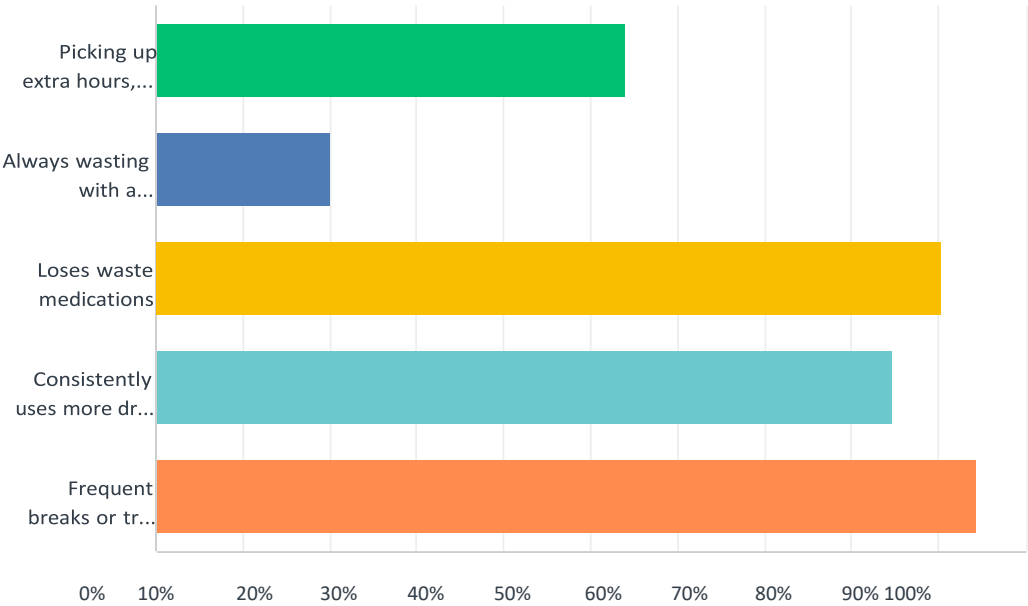
QUIZ STATISTICS

Percent Correct	Average Score	Standard Deviation	Difficulty
90%	0.9/1.0 (90%)	0.30	10/11

ANSWER CHOICES	SCORE	RESPONSES	
Mood swing (1)	0/1	40.65%	50
Track marks (2)	0/1	37.40%	46
Wearing long sleeves (3)	0/1	31.71%	39
Memory loss and difficulty concentrating (4)	0/1	41.46%	51
3 All of the above (5)	1/1	90.24%	111
Total Respondents: 123			

Q13 Drug diversion signs, symptoms, and/or behaviors include (select all that apply):

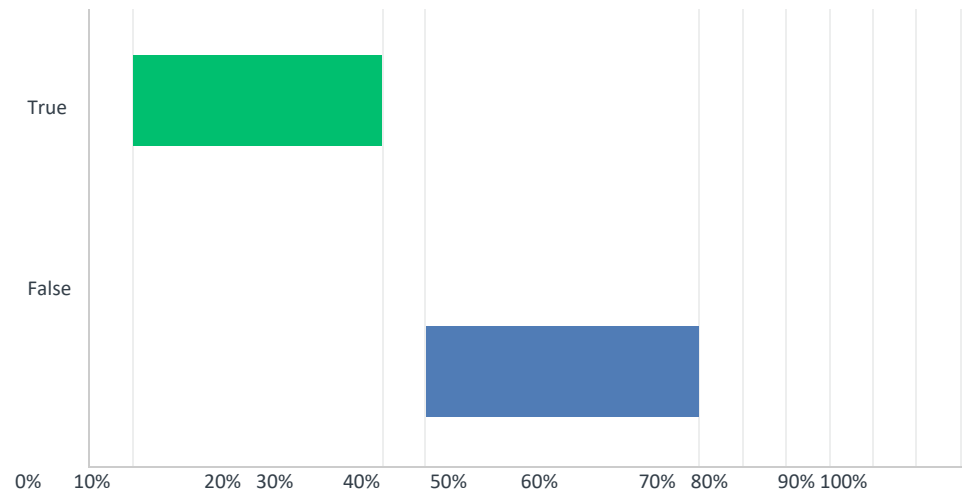
Answered: 124    Skipped: 0



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
39%	3.2/4.0 (81%)	0.79	8/11
ANSWER CHOICES		SCORE	RESPONSES
3 Picking up extra hours, staying late, coming in early (1)		1/4	54.03% 67
Always wasting with a colleague (2)		0/4	20.16% 25
3 Loses waste medications (3)		1/4	90.32% 112
3 Consistently uses more drugs for patients than colleagues (4)		1/4	84.68% 105
3 Frequent breaks or trips to the bathroom (5)		1/4	94.35% 117
Total Respondents: 124			

Q14 If you suspect a colleague is diverting and/or using, it is a good idea to confront them yourself to maintain privacy.

Answered: 124    Skipped: 0

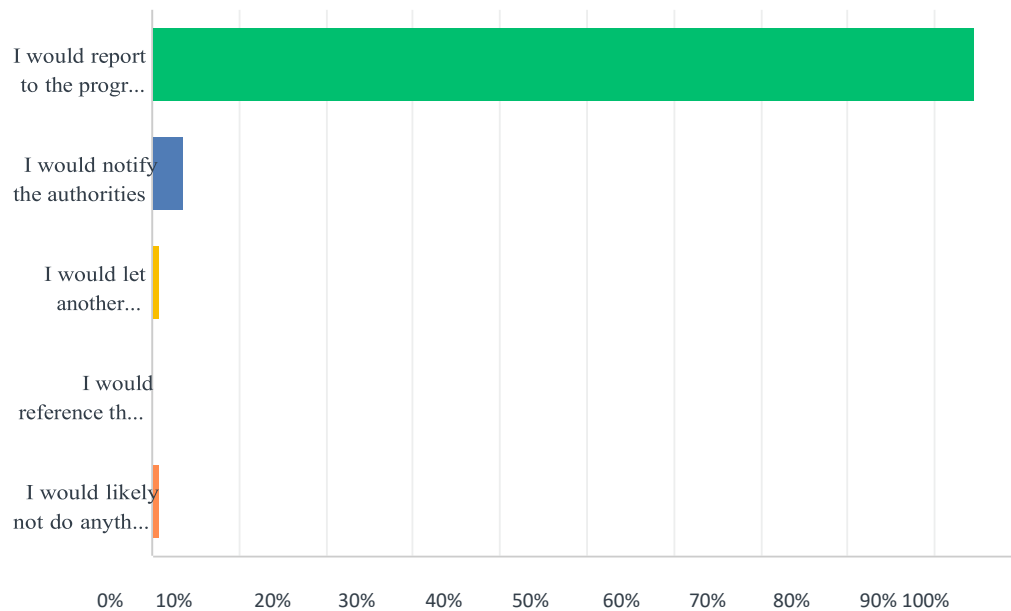


QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
61%	0.6/1.0 (61%)	0.49	4/11
ANSWER CHOICES	SCORE	RESPONSES	
True (1)	0/1	38.71%	48
3 False (2)	1/1	61.29%	76
TOTAL			124

## Data Analysis Graphs per Survey Monkey Question – Post-test

Q1 As a nursing student, how would you intervene to help a fellow student you suspect was impaired or had a substance abuse problem?

Answered: 112 Skipped: 0



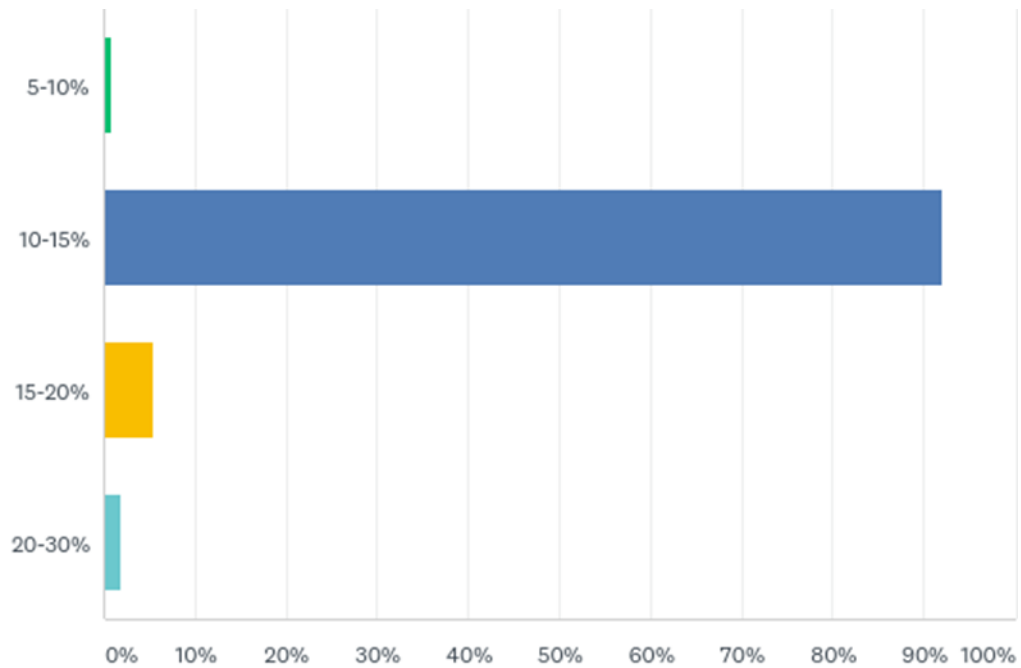
## QUIZ STATISTICS

Percent Correct	Average Score	Standard Deviation	Difficulty
95%	0.9/1.0 (95%)	0.23	6/11

## ANSWER CHOICES

ANSWER CHOICES	SCORE	RESPONSES
3 I would report to the program director immediately	1/1	94.64% 106
I would notify the authorities	0/1	3.57% 4
I would let another colleague know	0/1	0.89% 1
I would reference the ANA resource information	0/1	0.00% 0
I would likely not do anything because I wouldn't want to be wrong	0/1	0.89% 1
<b>TOTAL</b>		<b>112</b>

Q2 What percent of healthcare providers are estimated to misuse drugs and alcohol at some point during their career?

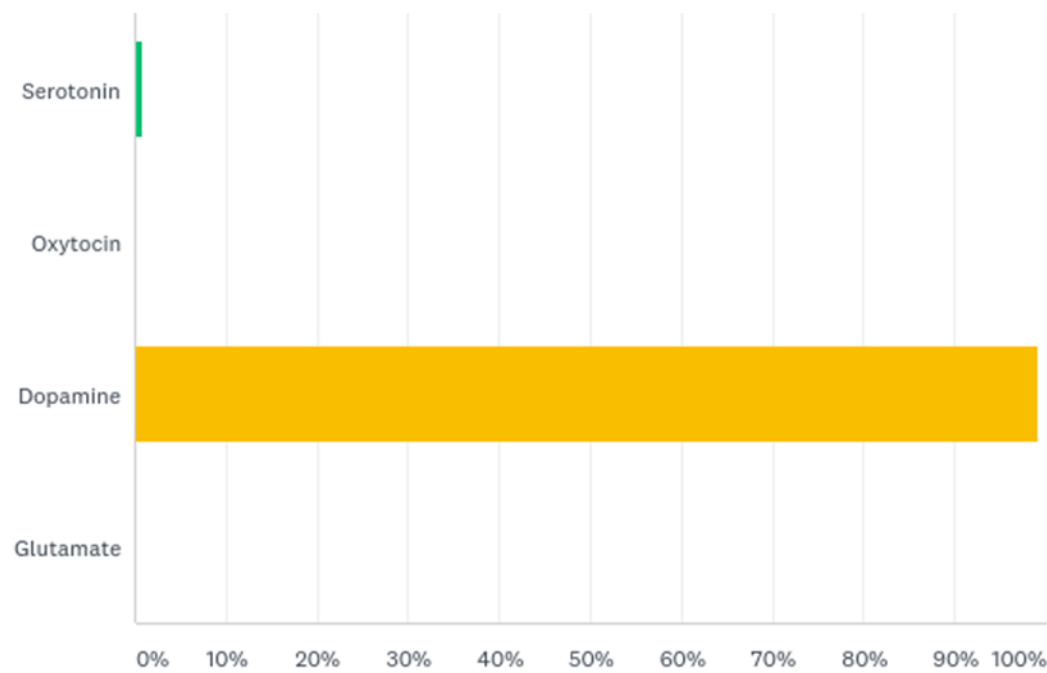


#### QUIZ STATISTICS

Percent Correct 92%	Average Score 0.9/1.0 (92%)	Standard Deviation 0.27	Difficulty 2/11
------------------------	--------------------------------	----------------------------	--------------------

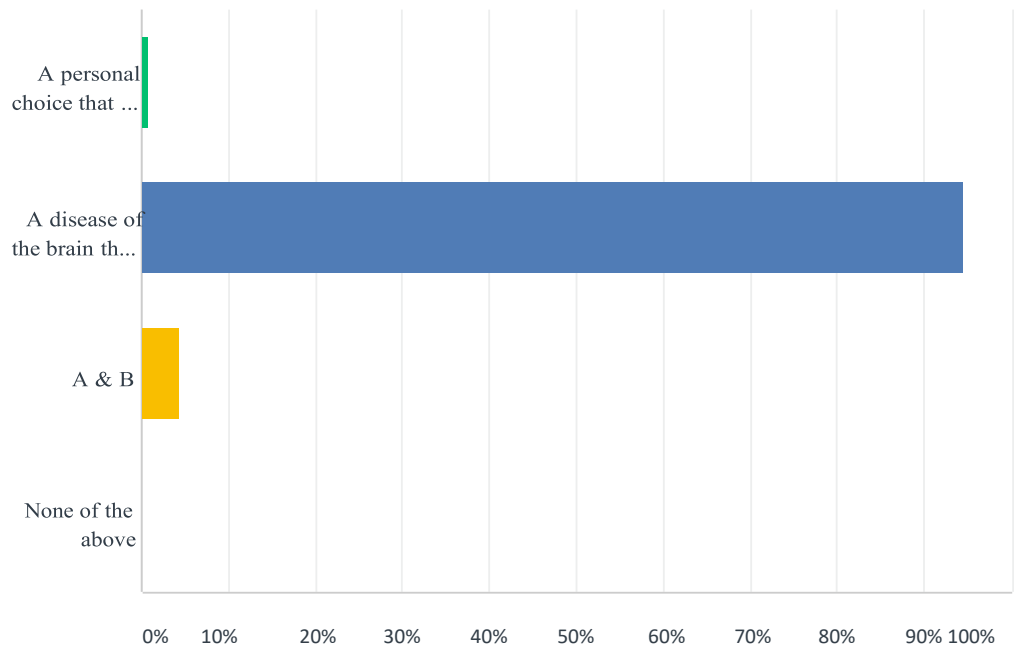
ANSWER CHOICES	SCORE	RESPONSES
5-10%	0/1	0.89% 1
3 10-15%	1/1	91.96% 103
15-20%	0/1	5.36% 6
20-30%	0/1	1.79% 2
<b>TOTAL</b>		<b>112</b>

Q3 What is the primary neurotransmitter associated with drug and alcohol addiction?



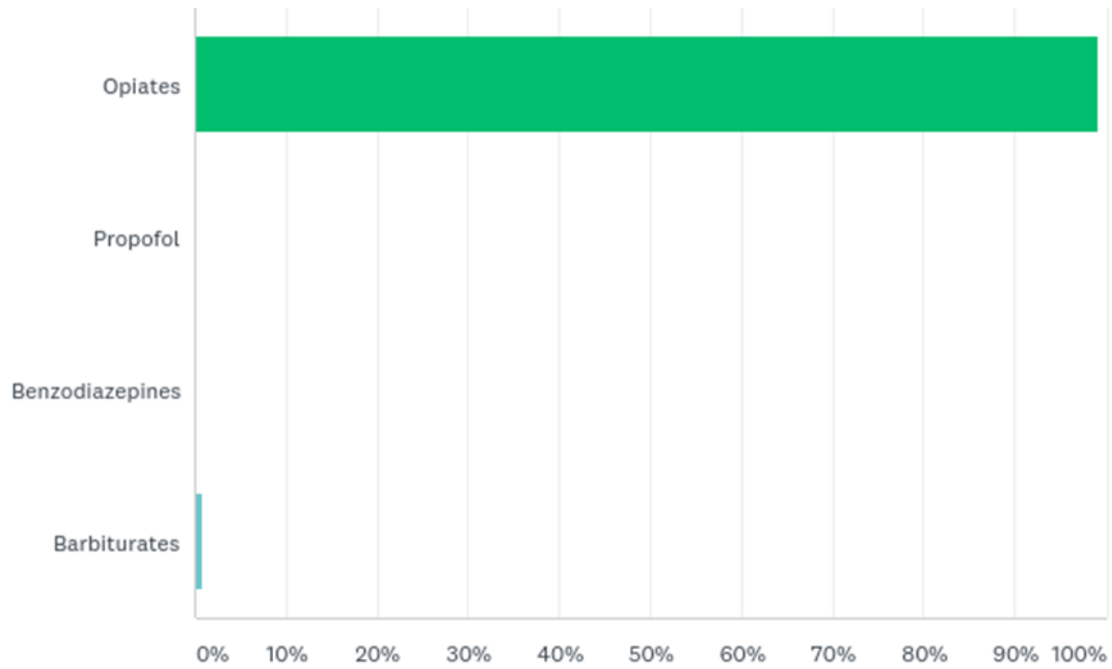
QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
99%	1.0/1.0 (99%)	0.09	10/11
ANSWER CHOICES	SCORE	RESPONSES	
Serotonin	0/1	0.89%	1
Oxytocin	0/1	0.00%	0
3 Dopamine	1/1	99.11%	111
Glutamate	0/1	0.00%	0
TOTAL			112

Q4 Addiction is now understood as:  
Answered: 112    Skipped: 0



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
95%	0.9/1.0 (95%)	0.23	6/11
ANSWER CHOICES		SCORE	RESPONSES
A personal choice that can be stopped with will power		0/1	0.89%1
3 A disease of the brain that should be treated as such		1/1	94.64%106
A & B		0/1	4.46%5
None of the above		0/1	0.00%0
TOTAL			112

## Q5 What is the most commonly diverted substance?



## QUIZ STATISTICS

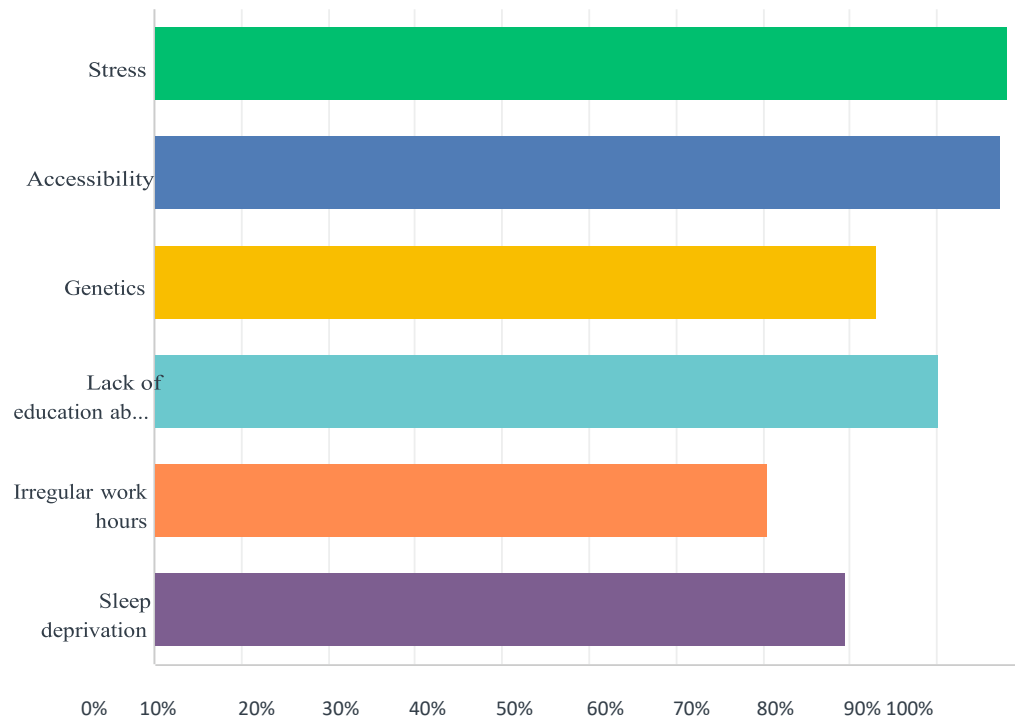
Percent Correct  
99%Average Score  
1.0/1.0 (99%)Standard Deviation  
0.09Difficulty  
10/11

ANSWER CHOICES	SCORE	RESPONSES	
3 Opiates	1/1	99.11%	111
Propofol	0/1	0.00%	0
Benzodiazepines	0/1	0.00%	0
Barbiturates	0/1	0.89%	1
<b>TOTAL</b>			<b>112</b>



Q6 Risk factors associated with drug diversion and abuse include (select all that apply):

Answered: 112 Skipped: 0

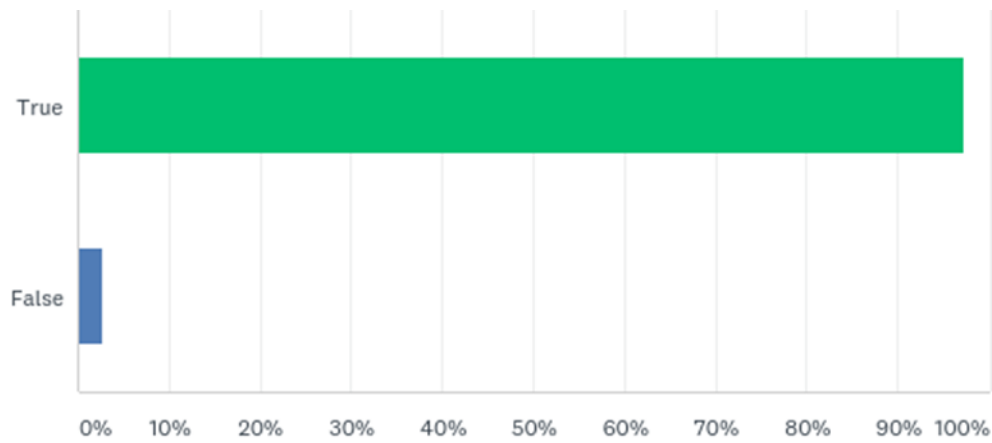


#### QUIZ STATISTICS

Percent Correct 60%	Average Score 5.2/6.0 (86%)	Standard Deviation 1.12	Difficulty 1/11
------------------------	--------------------------------	----------------------------	--------------------

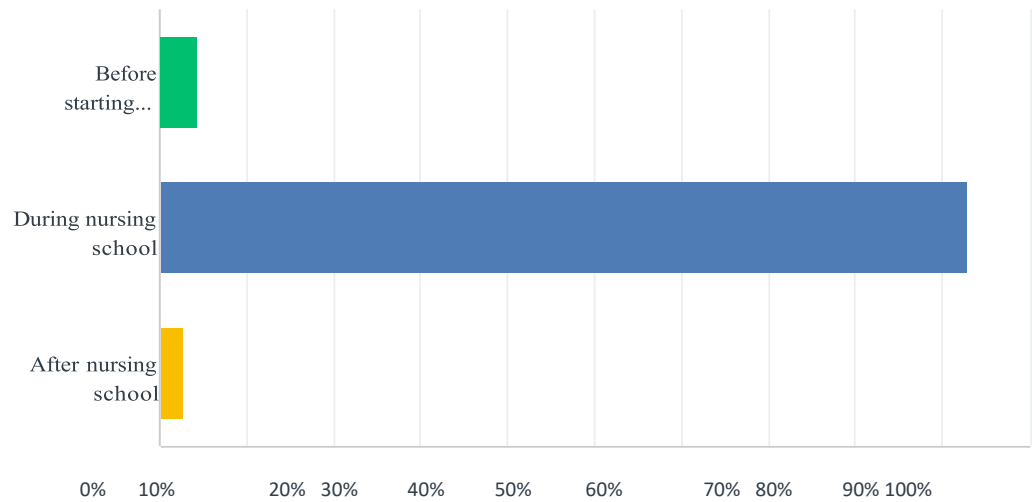
ANSWER CHOICES		SCORE	RESPONSES
3	Stress	1/6	98.21% 110
3	Accessibility	1/6	97.32% 109
3	Genetics	1/6	83.04% 93
3	Lack of education about substance abuse	1/6	90.18% 101
3	Irregular work hours	1/6	70.54% 79
3	Sleep deprivation	1/6	79.46% 89
Total Respondents: 112			

Q7 The likelihood of substance abuse varies across nursing specialties.



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
97%	1.0/1.0 (97%)	0.16	8/11
ANSWER CHOICES	SCORE	RESPONSES	
3 True	1/1	97.32%	109
False	0/1	2.68%	3
TOTAL			112

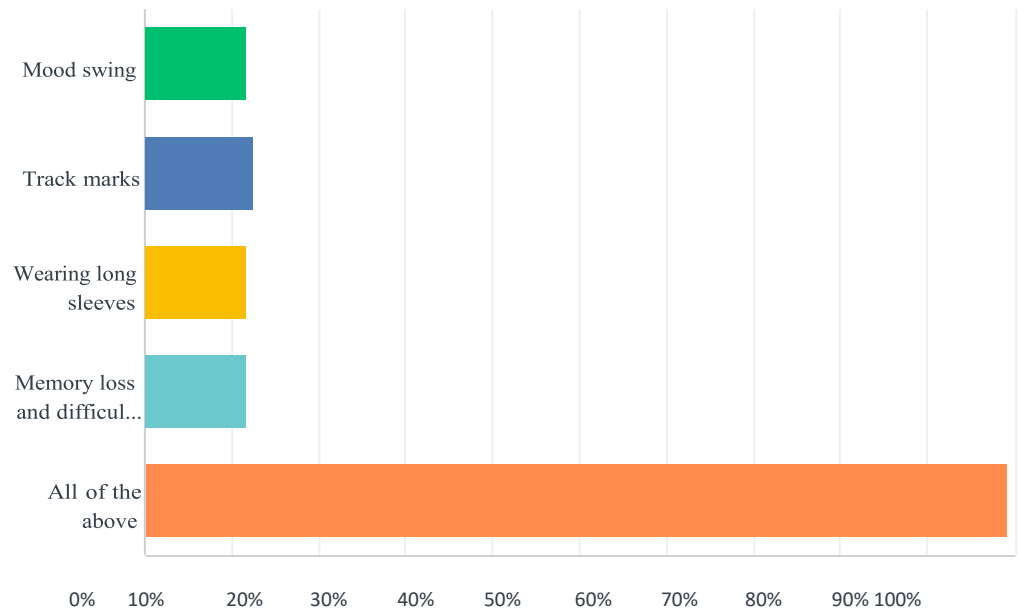
Q8 Research has found that many risk factors for drug and alcohol abuse appear:  
Answered: 112    Skipped: 0



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
93%	0.9/1.0 (93%)	0.26	5/11
ANSWER CHOICES	SCORE	RESPONSES	
Before starting nursing school	0/1	4.46%	5
3 During nursing school	1/1	92.86%	104
After nursing school	0/1	2.68%	3
TOTAL			112

Q9 Impairment signs, symptoms, and/or behaviors include (select all that apply):

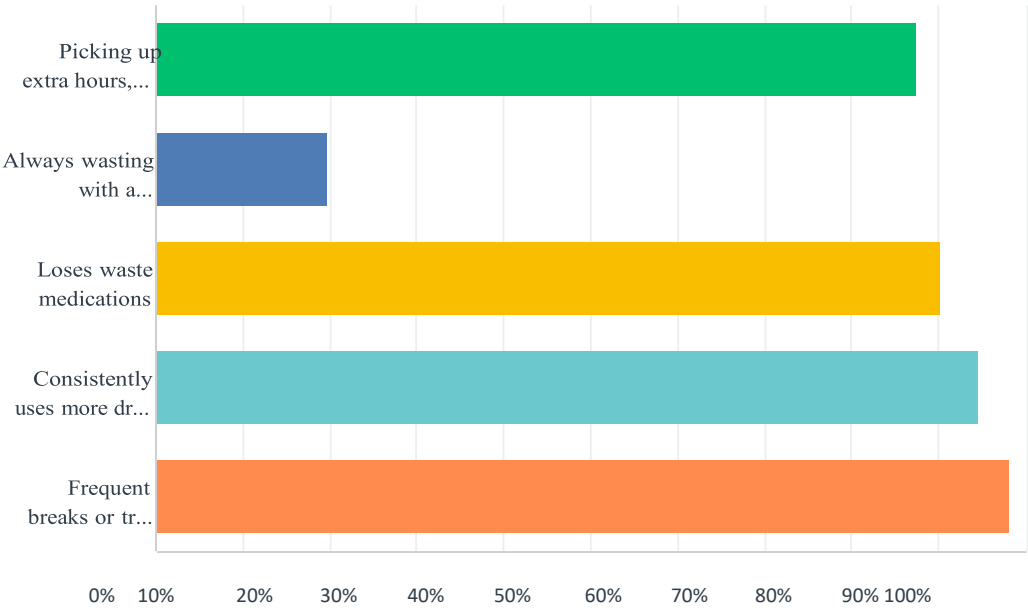
Answered: 111    Skipped: 1



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
98%	1.0/1.0 (99%)	0.09	9/11
ANSWER CHOICES	SCORE	RESPONSES	
Mood swing	0/1	11.71%	13
Track marks	0/1	12.61%	14
Wearing long sleeves	0/1	11.71%	13
Memory loss and difficulty concentrating	0/1	11.71%	13
3 All of the above	1/1	99.10%	110
Total Respondents: 111			

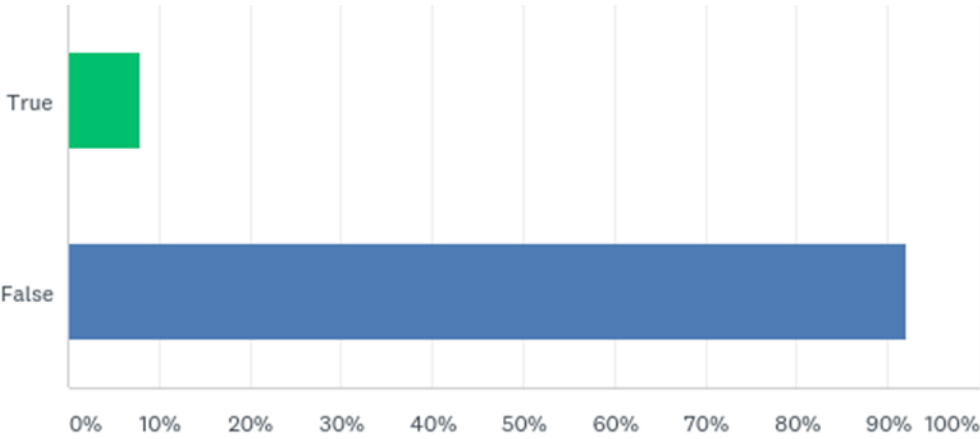
Q10 Drug diversion signs, symptoms, and/or behaviors include (select all that apply):

Answered: 112    Skipped: 0



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
76%	3.7/4.0 (93%)	0.59	4/11
ANSWER CHOICES	SCORE	RESPONSES	
3 Picking up extra hours, staying late, coming in early	1/4	87.50%	98
Always wasting with a colleague	0/4	19.64%	22
3 Loses waste medications	1/4	90.18%	101
3 Consistently uses more drugs for patients than colleagues	1/4	94.64%	106
3 Frequent breaks or trips to the bathroom	1/4	98.21%	110
Total Respondents: 112			

Q11 If you suspect a colleague is diverting and/or using, it is a good idea to confront them yourself to maintain privacy.



QUIZ STATISTICS			
Percent Correct	Average Score	Standard Deviation	Difficulty
92%	0.9/1.0 (92%)	0.27	2/11
ANSWER CHOICES	SCORE	RESPONSES	
True	0/1	8.04%	9
3 False	1/1	91.96%	103
TOTAL			112

*Appendix R*

## Dissemination Report

Hello all!

Thank you for the opportunity to disseminate the findings of my scholarly project. I would have preferred speaking with you face to face (or TEAMS), however the anesthesia board review course I signed up for in April has been rescheduled to this Friday through Sunday via live stream. My summary of findings will not take long. Thank you for your time!

For those of you who are unaware of my DNP scholarly project, I will provide a short description before my results. On January 17<sup>th</sup>, 2020, I spoke to a group of approximately 138 BSN students during their BSN seminar regarding nurses and drug diversion and abuse. This was an educational intervention to provide nursing students with the basic information and tools necessary to understand, identify, and assist in a drug diversion and abuse situation with a coworker or themselves.

This presentation was approximately one and a half hours, and included a PowerPoint presentation delivered by myself, and a prerecorded video of Mr. Rodrigo Garcia, a Certified Registered Nurse Anesthetist who travels the country speaking about his own struggle with drug diversion and abuse. Prior to beginning the presentation, the students were seated and then asked to complete a pretest via Survey Monkey on their phones. Throughout the presentation, the students participated by competing with each other on Kahoot!; there were 7 questions throughout the PowerPoint presentation that students answered. The top 3 winners were announced at the end. Following the presentation, the students were asked to fill out a post-test before leaving, as well as a survey. Copies of the pretest, posttest, and survey have been provided.

**General Demographic Information***Educational Levels*

Freshman: 1.61% (2)

Sophomores: 33.87% (42)

Juniors: 33.06% (41)

Seniors: 31.45% (39)

*Age*

18-24: 93.55% (116)

25-34: 6.45% (8)

*Previous healthcare experience (LPN, aide, phlebotomist, etc)*

Yes: 63.71% (79)

No: 36.29% (45)

**Pretest Information**

Responses: 124

Questions: 14 (3 demographic questions, 11 quiz questions)

Completion rate: 100% of questions answered (none skipped)

Average time spent: 3 minutes

Mean score: 73% (13.8/19 pts)

Lowest score: 42%

Median score: 74%

Highest score: 95%

Standard deviation 12%

**Posttest Information**

Responses: 116

Questions: 11

Completion rate: 100%

Average time spent: 1 minute

Mean score: 92% (17.5/19 pts)

Lowest score: 11%

Median score: 95%

Highest score: 100%

Standard deviation: 12%

**Survey Results**

Responses: 99

Questions: 4

Completion rate: 100%

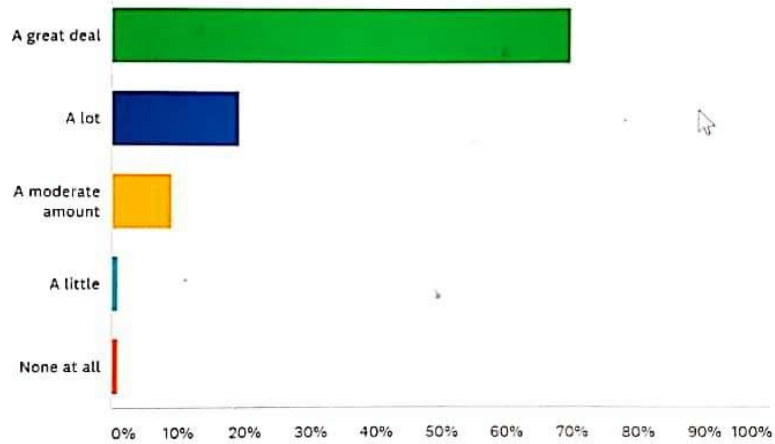
Average time spent: <1 minute

Comments: 49 left comments



This educational presentation enhanced my knowledge of drug diversion and abuse.

Answered: 99 Skipped: 0



ANSWER CHOICES

RESPONSES

▼ A great deal	69.70%	69
▼ A lot	19.19%	19
▼ A moderate amount	9.09%	9
▼ A little	1.01%	1
▼ None at all	1.01%	1

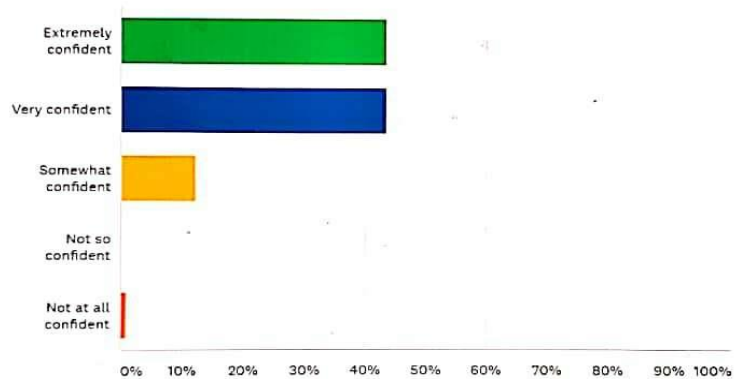


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99

After listening to this presentation: I feel more confident that I could find assistance for myself.

Answered: 99 Skipped: 0

**ANSWER CHOICES**

- ▼ Extremely confident
- ▼ Very confident
- ▼ Somewhat confident
- ▼ Not so confident
- ▼ Not at all confident

**RESPONSES**

43.43%	43
43.43%	43
12.12%	12
0.00%	0
1.01%	1

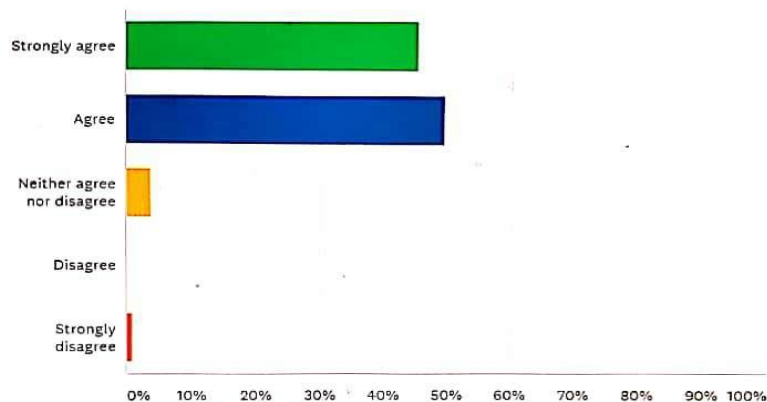


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99

Knowing what you know now: I could identify a possible diversion situation.

Answered: 99 Skipped: 0

**ANSWER CHOICES**

- ▼ Strongly agree
- ▼ Agree
- ▼ Neither agree nor disagree
- ▼ Disagree
- ▼ Strongly disagree

**RESPONSES**

45.45%	45
49.49%	49
4.04%	4
0.00%	0
1.01%	1

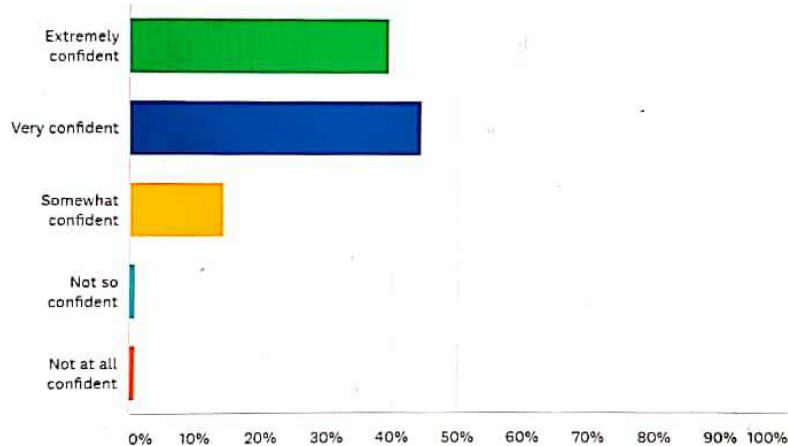


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99

After listening to this presentation: I feel more confident that I could notify that proper authorities to a possible drug diversion or abuse situation.

Answered: 99 Skipped: 0



#### ANSWER CHOICES

- ▼ Extremely confident
- ▼ Very confident
- ▼ Somewhat confident
- ▼ Not so confident
- ▼ Not at all confident

#### RESPONSES

39.39%	39
44.44%	44
14.14%	14
1.01%	1
1.01%	1



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99

#### Sample of Comments:

“Liked the extra activities”

“Well organized presentation that included a lot of useful information!”

“Very good presentation!”

“Enjoyed the presentation and knowing the resources out there”

“Good presentation. I liked the kahoot & tests”

“Fantastic presentation!!”

“Really liked this presentation! Very insightful”

“Great speaker”

“Very clear presentation!”

“Loved the Kahoot”

“Thank you for sharing with us today!”

*The Outlier*

”It seemed like this was a presentation was for a grade. I felt like the presentation was factual but very basic. All this information has been covered in previous classes and will be covered in the last semester. I think the audience should have been chosen better or the presentation should have been adapted so because I have gained no more knowledge than I already had. I also don’t appreciate having my paid class be used on someone’s grade when there wasn’t any benefit to me”

**Conclusion**

As you can see, there was a definite increase in knowledge and confidence within this BSN group. There was one student who answered all questions incorrectly/negatively. Unfortunately, not all students completed the pretest, posttest, and survey, but there is still a great number to gather valuable information from. Overall, this was a successful and well-liked educational intervention presentation.

Thank you for your time!

Sara Saylor, BSN, RN-BC, CCRN, DNP-NAP Student

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