

# The Impact of an Opioid Use Disorder Immersive Education Experience on Preprofessional Health Care Students' Development of Hope and Hopeful Communication (Dissertation)

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## Published In/Presented At

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OPIOID USE DISORDER IMMERSIVE EDUCATION EXPERIENCE

THE IMPACT OF AN OPIOID USE DISORDER IMMERSIVE EDUCATION EXPERIENCE  
ON PREPROFESIONAL HEALTH CARE STUDENTS' DEVELOPMENT OF HOPE AND  
HOPEFUL COMMUNICATION

By

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A Dissertation

Submitted to the Office of Graduate and Extended Studies

in Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

May 8, 2020

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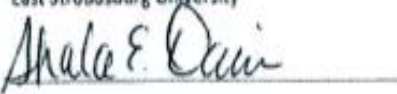
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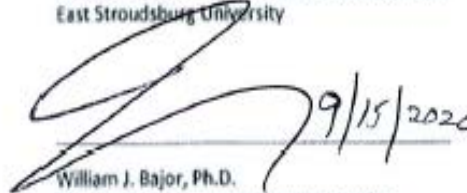


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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Education to the Office of Graduate and Extended Studies of East Stroudsburg University of Pennsylvania.

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**Title:** The Impact of an Opioid Use Disorder Immersive Education Experience on Preprofessional Health Care Students' Development of Hope and Hopeful Communication

**Date of Graduation:** May 20, 2020

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### **Abstract**

Currently, the prescription opioid and heroin overdose epidemic is the worst public health crisis in Pennsylvania and addiction problems within the Lehigh Valley far outpace the number of health professionals trained to provide care in the field of Addiction Medicine. Additionally, negative attitudes towards individuals with substance use disorder are prevalent among health care providers. Unfortunately, this trend may continue as preprofessional health care curricula across many disciplines still lack the social, emotional, and behavioral competencies to treat patients with substance use disorder.

Lehigh Valley Health Network has been an integral community-based partner in addressing the multi-faceted disease of Opioid Use Disorder and, as such, has developed a preprofessional health care student educational program aimed at reducing stigma and cultivating hope. The immersive education experience is an integrated simulation within an existing educational curriculum which provides a comprehensive, authentic context for learning, coupled with guidance from expert modeling.

The study was conducted in a mixed-methods research design to investigate the impact of an immersive education experience on participants' hope levels and use of hopeful communication. Participants ( $N = 100$ ) from two vocational-technical schools from the Lehigh Valley participated in the study.

Initial core data collection occurred at two points in time: pre- and post- the immersive education experience ( $N = 61$ ) and pre- and post- the education-only ( $N = 39$ ). The self-reported data was collected from a digital web-based survey and included two single item Likert scale questions

and one response question. A purposive sampling technique was used to select participants for the supplemental component which occurred thirty days post with the immersive education experience ( $N = 11$ ) and the education-only ( $N = 8$ ) groups. A repeat post survey was administered, and focus groups were conducted.

The quantitative and qualitative results indicated that after an immersive education experience, participants reported positive hope levels congruent with their use of relationship and hope based inspirational messaging and demonstrated an increased utilization of normalizing messages, a destigmatizing technique founded in counseling literature. A notable finding was the education-only component, when delivered in isolation of the immersive education experience, increased participants' fear and perceived susceptibility and may have contributed to the stigmatizing language it was designed to prevent.

### **Acknowledgements**

American philosopher, Alfred North Whitehead stated, “No one who achieves success does so without acknowledging the help of others. The wise and confident acknowledge this help with gratitude.” In the pursuit of this degree, I became both wiser and more confident and, as such, I am embracing this opportunity to express my gratitude for the many colleagues who helped in the creation of the immersive education experience,” as well as the group of individuals I shared this journey with.

Firstly, I want to thank The Dorothy Rider Pool Health Care Trust, which not only funded my position in youth programming at Lehigh Valley Health Network (LVHN), but also funded the creation of the video portion of the immersive education experience. In addition, many LVHN colleagues served as subject matter experts in the development of the simulation portion and I would like to acknowledge each one. Paige Roth, LVHN’s Addictions Recovery Specialist, was the inspiration for this study in her role as the Hope Dealer and was instrumental in the creation, implementation, and delivery of the programming. She is a force to be reckoned with in her pursuit of a health care workforce who will acknowledge that substance use disorder (SUD) is a chronic disease and that explicit or implicit stigma affects patient outcomes negatively. Gillian Beauchamp, MD, Medical Toxicologist, has been instrumental in LVHN’s multi-prong approach of preventing new cases of SUD, reducing stigma and treating existing SUD. In two years, the Opioid Task Force team has linked 1,766 patients to treatment and is getting both state and national attention as a best practice. Other contributors to the initial creation of the immersive education experience were Lisa Wolff, Center for Humanistic Change, Amy B. Smith, PhD, LVHN Senior Education Consultant, Alyssa Campbell, DNP, LVHN

Education Consultant, Valencia King, LVHN Simulation Specialist, Thespina Godshalk, LVHN Education Consultant, and Robbie Allred, videographer.

Without the support of my leadership, Robert Barraco, MD, LVHN's Chief Academic Officer and Cindy Cappel, DNP, Vice-President of LVHN's Department of Education, this study would not have been possible, and I thank them for their continued encouragement. For this programming to be financially sustainable, Layne Turner of Lehigh County Drug and Alcohol, has graciously offered to continue the funding of this education innovation and for that I am grateful. For the purpose of this study, I would also like to acknowledge and thank, Cheryl Arndt, PhD, LVHN Education Consultant, Andrea McClanahan, PhD, Douglas Lare, EdD, Kelly McKenzie, EdD, and Shala Davis, PhD.

Lastly, I would like to express my deepest gratitude for Cohort 8. Our group text chat may be worthy of a future study. How many birthdays did we celebrate by one member sending out a funny birthday meme, which was then met with 16 more in rapid fire? How many lives were celebrated, deaths mourned, words of encouragement given, and help requests promptly fulfilled? Too many to count and for that I am grateful. I am confident that I have gained a few life-long friends and I am wiser for having spent countless hours with this great group of dedicated educational professionals.



### **Dedication**

This dissertation is dedicated to my family. Mandy, I remember five years ago reaching out to you with the crazy idea of us going back to school together to get our doctoral degrees and you didn't think it was crazy. Thank you for your support in this not-so-crazy idea. I did it; you're next! Rob, thank you for giving me the gift of time to pursue this degree. I know there were countless weekends that you took on family responsibilities so I could attend classes or write and for that I am grateful. I'm done and I owe you! Emily and Ryan, between work and school, I missed a lot of your school events, social activities, and sports. However, now that I am finished, I won't miss one single thing. Not one single thing! I know that's what every teenager wants. Mom and Dad, you have supported me in everything I have done. School, sports, more school, career, marriage, more school, kids, and more school. I'm officially done, so only one more school date to show up for. See you at the graduation ceremony! I love you all.

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CHAPTER 1  
INTRODUCTION TO THE STUDY

“I’m kind of like a ‘Hope Dealer’,” Lehigh Valley Health Network’s (LVHN), Addictions Recovery Specialist, realized as she began to detail the last ten years of her life. She recounted two times when she felt the health care system, specifically LVHN, had failed her as a patient with a severe substance use disorder. She had been in a car accident, directly related to drugs and alcohol, and was discharged within 24 hours with no plan for treatment. Another time, she called an ambulance for herself because she recognized the symptoms of delirium tremens, better known as the DTs, which were caused by her attempt at a rapid withdrawal from alcohol. Again, she was discharged home to her two young children as a single parent with no plan in place for treatment. It was then, she realized that she needed to get sober on her own. She entered into a treatment facility, got sober, studied towards a master’s degree in counseling, stayed sober, graduated, and began her job search knowing there was only one place she really wanted to work. She continued to stay sober as she obtained employment as an Addictions Recovery Specialist, working alongside the very same LVHN Emergency Department physician that had discharged her without a treatment plan in place, years earlier. Working together now, they share knowledge regarding best practices in addressing substance use disorder and how to improve access to and quality of treatment for patients.

Now imagine you had the opportunity to spend one hour learning this Addictions Recovery Specialist’s story and how her story’s narrative shaped her current professional aspirations. Now continue to imagine that her story is full of addiction recovery related language, some of which you had heard before and some of which was new. You listen closely to her

language and feel a genuineness in her nature, a non-judgmental tone in her voice, and sense a hopeful energy for a future where stigma related to drug and alcohol use is not a common presence in health care provider-patient interactions. Would learning her story change your thought process on addiction and those affected by it? Would it change the language you used in describing addiction and the individuals impacted by it? Would it change your outlook on recovery? These questions guided the interest for this study, as the health care system struggles to improve access and quality of treatment for the growing number of patients with substance use disorders (SUD).

### **Background**

The Pennsylvania Drug and Alcohol Annual Plan and Report, 2014-2015, cited 900,000 known cases of SUD among patients in Pennsylvania. With treatment being an essential health benefit under the Affordable Care Act, there is a continued need to make treatment more widely available to reduce and prevent SUD related deaths. Unfortunately, the number of drug overdose deaths in Pennsylvania is increasing more rapidly than drug deaths in any other state in the nation, according to findings released by the Centers for Disease Control (CDC). The CDC (2017) data showed that in the previous 12 months ending in July 2017, the number of drug overdose deaths in Pennsylvania was 5,443, an increase of 43.4% from the 3,797 that occurred in the previous 12 month period. Most of the overdose cases can be attributed directly to opioids as the prescription opioid and heroin overdose epidemic is currently the worst public health crisis in Pennsylvania.

To begin to reverse this trend, Pennsylvania, under the leadership of Governor Tom Wolf, used state behavioral health and Medicaid funding to launch 45 Centers of Excellence



designed to reduce gaps in services and better support frontline providers. Using a hub-and-spoke model, each center includes: (1) a designated health center (i.e., the “hub”) charged with providing medication assisted treatment, (2) a team of health care providers, and (3) addiction recovery specialists. The hub also offers support to primary care physicians and other community-based providers treating people with opioid use disorder (i.e., the “spokes”).

The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; *DSM–5*; American Psychiatric Association, 2013) contains the most widely accepted nomenclature used by clinicians and researchers for the classification of mental disorders. Opioid use disorder (OUD) is diagnosed in the DSM-5 as a problematic pattern of opioid use leading to clinically significant impairment or distress, as manifested by at least two of the eleven listed criteria occurring within a 12-month period. (American Psychiatric Association, 2013). Opioids include two categories of drugs: heroin and opioid prescription pain relievers. The Key Substance Use and Mental Health Indicators in the United States Results from the 2016 National Survey on Drug Use and Health show that in the United States an estimated 2.1 million people aged 12 or older had an opioid use disorder and an estimated 11.8 million people misused opioids in the past year, including 11.5 million pain reliever misusers and 948,000 heroin users.

LVHN, with eight campuses located in Pennsylvania and throughout the greater Lehigh Valley area, has been an integral community-based partner in addressing the multi-faceted disease of OUD. However, LVHN doesn’t have a treatment facility or a network of primary care doctors who prescribe medication-assisted treatment (MAT), which aids in preventing cravings and withdrawal symptoms for long-term recovery. LVHN physician, Dr. Gillian Beauchamp, who also serves co-chair of the Opioid Stewardship & Linkage to Treatment Committee at

LVHN and is board certified in emergency medicine, medical toxicology, and addiction medicine, she stated in an interview that “the ideal model would allow patients to seamlessly transition from hospital settings where patients are getting intensive care to outpatient settings and doctor’s offices where they maintain their sobriety through counseling and medication. And, doctors could send patients back to the hospital if they relapse and need to get stabilized” (Huang, 2018).

Under Dr. Beauchamp’s direction, LVHN has taken a three-prong approach: (1) Prevent new cases of OUD by making sure clinicians are safely and appropriately prescribing opioids only when needed, while screening for risk factors for addiction or misuse, and ensuring that medications are appropriately weaned and disposed of; (2) Treat existing cases of OUD using medication-assisted treatment, using harm reduction techniques such as naloxone, and by educating communities on the public health focus of the Good Samaritan laws; and (3) Reduce stigma by educating communities, medical providers, first responders, police, government leaders, and the preprofessional health care workforce about OUD.

Educational interventions often present information about the stigmatized condition with the goal of correcting misinformation, contradicting negative attitudes, and negating beliefs that people with SUD are weak-willed (Schomerus et al., 2011). Conversely, evidence shows that they are as likely to adhere to treatment as people with other chronic medical conditions, such as hypertension, asthma, or diabetes (McLellan et al., 2000). Specifically, negative attitudes toward individuals who have mental or substance use disorders are prevalent among health care providers (Meltzer et al., 2013; Van Boekel et al., 2013). In addition, there is a substantial body of research that has shown that there is a negative relationship between stigma and help seeking

(Clement et al., 2015; Corrigan et al., 2014). This negative relationship is concerning as health care providers may serve as the point of entry into a patient's treatment and recovery process. Negative provider attitudes and their inability to communicate in a non-stigmatizing manner may diminish patients' hope that seeking treatment and entering recovery is even possible.

### **Statement of the Problem**

Addiction problems and overdose deaths in our society, and within the Lehigh Valley area of Pennsylvania, far outpace the number of health professionals trained to provide medical care for this vulnerable population. "Despite decades of evidence demonstrating the need for improved training of physician trainees, most medical students and residents will receive inadequate addiction medicine training and will, therefore, lack core clinical competencies required for working with patients addicted to alcohol, drugs of abuse, prescription drugs, and tobacco" (Rasyidi et al., 2017, p. 462). This deficit in clinical competencies may be one area for improvement but another concern is regarding student perception. A longitudinal survey of medical students conducted at the University of Pennsylvania found that as the medical students' education progresses, their positive view of patients who have SUD declines significantly, so that by the time they have graduated, their perceptions of drug using patients is much less favorable than when they first began their education (Agrawal et al., 2010).

Medical education, however, is not the only profession lacking the social, emotional, and behavioral dimensions of skill development and training needed to treat patients with chronic pain and addiction. According to Desai and Chaturvedi (2012), "The current nursing curriculum does not prepare the nurses for effective assessment and management of chronic pain" (p.162); therefore, increasing skills and knowledge about substance use and addiction may improve

overall attitudes of health professionals, which will, ultimately, help to improve care for these patients (Desai & Chaturvedi, 2012; Bartlett et al., 2013). In addition, Monks and colleagues (2013), found that the “lack of knowledge by nurses about addiction and their negative attitudes toward addicted persons perpetuate[d] poor care given by nurses to persons with addiction” (Bartlett et al., 2013, p.351). This research subsumes that an increase in knowledge improves attitudes which can be translated to improved patient care. However, in research conducted by Van Boekel et al., it was found that health professionals were more likely to have negative attitudes (perceptions of violence, manipulation, and poor motivation) toward people with substance use disorder, which led to diminished feelings of empowerment and negative outcomes for patients (2013).

If negative attitudes may lead to negative outcomes for patients, conversely, positive attitudes may lead to positive outcomes for patients. Having positive attitudes within and across health care teams could significantly improve patient care as over “the course of a four-day hospital stay, it is estimated that a patient interacts with nearly fifty different health care professionals participating in some aspect of their care” (Vilvens et al., 2016). Each one of these patient-caregiver interactions could be a negative or positive influence on the patient as health care providers play a powerful role in their interactions with patients, which can enhance or diminish patient hope (Hobbs & Baker, 2012; Wong-Wylie & Jevne, 1997).

The role of hope in the recovery process from SUD has been the topic of research in fields such as medicine, nursing and counseling. However, the “how to” component of educational interventions aimed at nurturing hope and hopeful communication is lacking. In addition, “although hope’s positive effects are well recognized, its effects on [patients’]

adherence to medical regimes have been underexamined” and “the existing literature has provided little empirical evidence of hope as a predictor of adherence” (Makarem et al., 2014, p.461-462). However, in Makarem’s research, it was posited that health care providers can play an important role in encouraging adherence behaviors by cultivating hope and interacting positively with patients (2014). Cognitive psychologists Beck and colleagues view therapists as “purveyors of hope” (Newman et al., 2002, p.86), advocating methods that “boost [clients’] sense of hopefulness at times when they might otherwise experience despair” (p.80) not unlike the term “Hope Dealer” used by LVHN’s Addictions Recovery Specialist.

Additional research conducted by Koehn & Cutcliffe (2010) explored whether substance abuse counselors inspired hope in their clients and if so, how? One of the significant findings was that counselors inspired hope at first through a nonjudgmental bond which could later be translated into reviewing pathways to hope and identifying the next steps in their treatment. However, research consistently shows that students are ill-prepared for supporting clients in behavior change, which impacts their clinical placements and practice once they graduate and become health professionals (Miller & Rollnick, 2009). Understanding what types of educational experiences within preprofessional health care curriculum impact students’ purveyance and conveyance of hope could serve to support the clinical competencies required for working with patients with OUD.

### **Purpose of the Study**

Simulated health care environments provide a safe space for learners to observe, listen and learn from experts in the field of substance use disorder counseling and build critical competencies. As such, the LVHN Youth Programming Opioid Use Disorder Simulation was

created by the researcher in this study, along with the help of a team of subject matter experts within LVHN, as well as some community partners. The LVHN Youth Programming Opioid Use Disorder Simulation was piloted with 265 preprofessional health care students and evaluated for participants' ranked levels of hopefulness and use of hopeful communication through matched pre/post surveys. The results of the pilot data informed the refinement of both the simulation and evaluation tool by the researcher, LVHN's team of experts, and its community partners, to become what it was named for this study, an "immersive education experience." While the pilot study data demonstrated an increase in participants' hope that someone with OUD could enter into long-term recovery and that they as future health care workers could have a positive impact on the opioid epidemic, the pilot data did not discern which aspects of the immersive education experience impacted participants' hopefulness nor did it formally evaluate the impact on participants' use of hopeful communication.

Therefore, the purpose of this study was to examine and better understand the effects of the LVHN created immersive education experience on preprofessional health care students': (1) hope for patients with OUD to enter into long-term recovery; (2) hope that they could have a positive impact on the OUD epidemic; and (3) their use of hopeful communication. In addition, this study aimed to identify which pedagogical elements of the immersive education experience impacted participants' messaging construction as well as to better understand the personal impact the experience may have had on participants.

In relationship to this study, an immersive education experience is an integrated simulation within an existing educational curriculum which provides a comprehensive, authentic context for learning coupled with guidance from expert modeling. The first component consisted

of a didactic presentation using PowerPoint delivered by a trained facilitator from the Center for Humanistic Change (CHC). The educational programming titled HOPE: Heroin and Opioid Prevention Education was created for a high school audience and presented information that OUD is a chronic, relapsing brain disease; people with OUD who expect or experience stigma have poorer outcomes; and that recovery from OUD is possible. The second component of the immersive education experience was delivered by a LVHN trained facilitator and began with a video depiction of a “patient” who had suffered an opioid overdose. This was then followed by an immersion into a live “simulation” within a realistic hospital setting, where the participants listened and observed the healthcare team’s approach to caring for the “patient”.

“Simulation” is an attempt to replicate some or nearly all the essential aspects of a clinical situation so that the situation may be more readily understood and managed when it occurs for real in clinical practice (Morton, 1995). The “patient” in this immersive education experience is a standardized patient. Standardized patients are often used in simulations to provide the opportunity for learners to engage with an individual trained to portray a specific disease state such as OUD. In medical education curricula across the country, simulation has also been shown to be effective as an evaluative approach for assessing trainees’ knowledge and clinical skills (Jones, 2015). Immersive simulation-based education, where students engage in an experience to learn, is frequently used to develop empathy and empathetic behaviors in medical, nursing, and allied health students (Scweller et al., 2014; Dearing & Steadman, 2008; Gleber, 1995).

Additional research conducted by Bearman et al. (2015), also found that simulation may be an appropriate educational methodology for developing empathy and/or empathetic behaviors

in preservice health professional students. In other research, it's been identified that an empathetic attitude from a doctor can promote greater treatment adherence in patients, better clinical outcomes and greater patient satisfaction in addition to bringing benefits to the doctors themselves (Hojat, 2007; Kim et al., 2004; Squier, 1990; Hojat et al., 2011; Del Canale et al., 2012; Roter et al., 1997; Larson & Xiao, 2005; Shapiro, 2002). This body of research lays the foundation that physician empathy is important to a patient's treatment adherence, leads to greater clinical outcomes and patient satisfaction, and can be developed using immersive simulation-based education, even with preprofessional health care students. Similarly, research has been conducted on the topic of hope.

In the area of substance abuse, hope is recognized in the counseling literature as a critical component of recovery (Metzger, 1988; Miller & Rollnick, 2002) and that professional health care relationships serve as key sources of patient hope (Elliot & Olver 2002; Snyder 1995; Wong-Wylie & Jevne, 1997). In further research, Koehn and Cutcliffe (2010), found that "for counselors to inspire hope, they must genuinely feel hopeful themselves" (p.92). The cultivation of hope among professional caregivers was studied by Jevne (2005) and it was found that "hope is a professional competency that requires both effort and learning" (p.74). Therefore, given the importance of a health professional caregiver's own feelings of hope in the successful inspiration of patient hope and that hope could be a learned competency, the aim of this research was to explore the impact of this educational simulation experience on preprofessional health care students' perceived hopefulness and use of hopeful communication.



### **Research Questions**

This mixed-methods study aimed to investigate the effects that an immersive education experience had on participants' hope and use of hopeful communication. In addition, this study further explored which elements of the immersive education experience impacted participants' construction of hopeful messaging and the personal impact of the experience.

1. How does an immersive education experience impact participants' hope levels that a person with OUD could enter long-term recovery?
2. How does an immersive education experience impact participants' hope that they could have a positive impact on the OUD epidemic?
3. How does an immersive education experience impact participants' use of hopeful communication?
4. How does an immersive education experience impact participant on a personal level?

### **Theoretical Framework**

In the book, *The Health of Nations: The Causes of Sickness and Well Being*, published in 1987, physician Leonard Sagan, concluded that, "More important in explaining the decline in death worldwide is the rise of hope and the decline in despair and hopelessness" (p.184). Since this book is now more than thirty years old, some may question whether the surging suicide rate and opioid epidemic can be attributed to despair and hopelessness. Negative thinking and negative mood are deeply implicated in the process of addiction and have been identified as central to ongoing substance abuse (Carrico, 2014) and relapse (Lowman et al., 1996; Marlatt & Gordon, 1980). However, while addiction is regarded as a chronic and relapsing condition

(O'Brien and McLellan, 1996), there is mounting evidence that a majority of those who experience addiction problems will eventually overcome these issues to achieve sustained recovery (Groshkova et al., 2013; Sheedy & Winter, 2009). Stories of sustained recovery by others may provide hope to those in the throes of addiction and guide them to their own path to treatment.

In cases of acute opioid abuse, where a person finds themselves in the hospital, hopefulness can be difficult to muster if the health care professionals don't believe or convey hope for recovery to the patient. Motivation to seek treatment, while largely resting on the shoulders of the patient, can be encouraged by health care workers through motivational interviewing techniques. Motivational interviewing techniques are aimed at improving relationships, fostering self-esteem and self-efficacy, and inspiring hope and optimism (Krentzman & Barker, 2017) and are the most successfully disseminated evidence-based practice in the substance use disorder field (Hall et al., 2015).

Motivational interviewing is a counseling approach developed in part by clinical psychologists William R. Miller and Stephen Rollnick and utilized most heavily in the field of addiction. The main goals of motivational interviewing are to engage clients, focus the ongoing process and elicit motivation to make positive changes through the evocation of hope and confidence (Miller & Rollnick, 1995). It is guided by a number of general principles: (1) expressing empathy, by use of reflective listening; (2) developing discrepancy between client goals and current problem behavior; (3) avoiding argumentation by assuming that the client is responsible for the decision to change; (4) rolling with resistance, rather than confronting or opposing it; and (5) supporting self-efficacy and optimism for change (Miller & Rollnick, 1991).

Since hope and hopefulness lends itself to the motivation to seek treatment, the main theory guiding this research is grounded in C.R. Snyder's Hope Theory as "Hope Theory has been used as the framework for pretreatment therapy preparation" (Snyder, 2002, p.262).

### **Hope Theory**

In 1991, Snyder and colleagues defined hope as "a positive motivational state that is based on a derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)" (p.287). According to Snyder, agency thinking refers to the level of intention, confidence and the affective ability to follow the pathways to the desired future, whereas pathways thinking is the cognitive ability to generate different pathways towards that future goal. Snyder (1995) emphasized the relevance of hope in the context of doing, pointing to success and the capacity to achieve goals with the assumption of that human actions are goal directed. According to this theory, hope is primarily a way of thinking, with feelings playing a contributing role. This concept of hope, combining cognition and emotion, serves as the theoretical underpinning of how hope may "show up" in a provider-patient relationship when the diagnosis is OUD.

According to Snyder et al. (2007), a high-hope person pursuing a specific goal, will plan and produce with confidence, a plausible route to goal attainment and will do so with enough flexibility in their mind-set to come up with alternate routes as well. Conversely, a low-hope person, may come up with a less articulate route to goal achievement and is unlikely to produce alternate routes as their mind-set may not be as flexible. Correlating Hope Theory to a provider-patient relationship, even if the goal for recovery and treatment is agreed upon, a low-hope provider or patient may not be able to plan well enough to meet the goal. Snyder (1995) and

Edey et al. (1998) also maintain that both the client and the therapist must possess hope for the therapeutic process to be successful.

### **Appraisal Theory**

The cognitive aspect of hope, which includes agency and pathway planning, is one element and another is how the individual's emotions may play a role. Lazarus (1991), states that there are two reasons to treat hope as an emotion. First is that hope may arise, in part, as a desire to be in a circumstance different than one's present situation and that it is possible, with the efforts of their own or the aid of others, to get to that place. Second, the experience of hope usually involves a change in one's mental and emotional state. "Emotions are not the equivalent of goals, but they arise from the presumed fate of goals" (Lazarus, 1999, p. 663).

Relating specific types of cognitive activity to specific emotions and developing a system of thought that specifies what a person must want and think in order to experience each kind of emotional response has been the work of appraisal theorists such as Lazarus (1968) and Roseman (1979). According to this theory, an "appraisal," is a term used to describe the cognitive activities directly related to emotion. Roseman (1979) proposed that five appraisals influence emotions: (a) motivational state (potential reward or punishment); (b) situational state (present reward or punishment); (c) probability (certainty or uncertainty of an outcome); (d) legitimacy (deserved positive or negative outcome); and. (e) agency (whether the outcome is influenced by circumstances, self or others). In testing this theory, it was found that the theme of hope combined an appraisal that existing conditions are not yet met the way the person wants them to be (important to the person but motivationally incongruent), with a future expectation of

motivational congruence. However, wanting things to be different and working towards things to be different for the future is partly dependent on one's self-efficacy.

Someone's perceived emotional and cognitive capacity to identify, create and follow pathways to reach desired goals, is equating hope with self-efficacy. Self-efficacy is a personal belief in one's capability to perform a multitude of behaviors or skills and has been used to explain a wide range of human functioning. This will be further explored through the lens of Bandura's Self-Efficacy Theory.

### **Self-Efficacy Theory**

According to Bandura, self-efficacy can have influence on a person's choice of activities and settings, as well as their coping efforts and persistence, but how perceived self-efficacy influences performance does not imply that expectation is the sole determinant of behavior (1977). Expectations of self-efficacy can be analyzed through four major sources of information: performance accomplishments, vicarious experiences, social persuasion, and emotional arousal. To explicitly make the connection between self-efficacy and possible behaviors of a patient with OUD, each of the four will each be reviewed through the lens of a fictional patient with OUD.

Performance accomplishments can raise or lower expectations of recovery. If a patient with OUD attempted and failed treatment repeatedly, then it is possible that their perceived behavioral control may be reduced. Vicarious experiences, such as knowing someone who is successfully in recovery, could possibly increase one's perceived behavioral control. Social persuasion, through verbalizing that they can cope successfully with whatever has overwhelmed them in the past, could elicit a positive behavioral control mindset. However, if the persuasive

words are not met with conditions to facilitate effective recovery (i.e. medication assisted treatment, available bed in a treatment facility) then it will most likely lead to failures that discredit the persuasive provider and further undermine the patient's self-efficacy. Emotional-arousal, elevated anxiety and fear, typically conjures negative thoughts thereby reducing perceived behavioral control (Bandura, 1977). If the patient with OUD is in a fear-based situation such as an overdose or a confirmed medical diagnosis related to their disease, a hopeful health care provider may be able to assuage that fear and keep the focus on the patient's self-efficacy towards recovery.

Snyder's Hope Theory derived thinking processes involved in hope. Lazarus's Appraisal Theory studied hope as an emotion. Bandura's Self-Efficacy Theory viewed hope through a behavioral lens. However, the combination of the theories provided a backdrop with which to view the effects of an immersive education experience on participants' levels of hope and use of hopeful language. The potential evocation of hope through hope appeals and persuasive messages, while not a heavily researched area in health care, was researched in the context of climate change communication and seasonal flu prevention in studies conducted utilizing Chadwick's Persuasive Hope Theory (PHT) (2010).

### **Health Communication Messages**

Hope appeals, according to Chadwick (2018), are messages that evoke appraisals that constitute hope and present ways that the receivers of that message can act on hope. Hope appeals are one type of emotional appeal which aim to create a "feeling" response. After the immediate feeling response, cognitive and affective reactions interact resulting in a specific response to the message (Murphy, 1990). A fear appeal is another example of an affective

persuasive message that emphasizes the harmful physical or social consequences of failing to comply with message recommendations (Maibach & Parrott, 1995). Chadwick's (2015) research on the effectiveness of hope and fear appeals in climate change communication indicated that hope appeals may be a more effective approach than fear appeals as it related to climate change communication. However, the findings in this research did not demonstrate a positive effect on behavior or behavioral intention as was seen in the previous study.

In Chadwick's PHT, the researcher sought to conceptualize and operationalize persuasive hope in the field of communication science. Two quasi-experimental studies were conducted, and the findings supported the relationships between hope and appraisals of importance, goal congruence, future expectation, and possibility as predicted by PHT. The findings also indicated that communicators can design messages that create subjective feelings of hope and increase appraisals associated with subjective feelings of hope (Chadwick, 2010).

In trying to reach a broad population with health-related messaging, public health campaigns often rely on two strategies: fear appeals and straightforward presentations of facts (Maibach & Parrot, 1995). However, commercial advertisers tend to avoid the negative and focus on the positive side of life and research has demonstrated that advertisements that arouse positive emotions result in a more positive feeling about a product and increase the likelihood that the consumer will comply with the message (Batra, 1986; Thorson & Friestad, 1989). Conveying optimism for change and designing appeals that create subjective feelings of hope and increasing appraisals associated with subjective feelings of hope may play a vital role in helping people cope with, and recover from, stressful events (Chadwick et al., 2016). In this study, the researchers measured the physiological effects of both hope evocation messaging and

rumination messaging on participants. For the purposes of the study, a rumination was viewed as a repetitive pattern when someone repeatedly and undesirably focuses on negative past events. The study determined that hope evocation messages resulted in lower anxiety, fewer negative emotions, and more positive emotions.

In a situation of a patient with OUD, the provider's utilization of hope appeals may allow for the patient to relax enough to begin to disclose more about their use disorder and plan for the future whereas as rumination messages may increase stress and keep the focus on their past and failed attempts to recover. In addition, this study postulated that hope evocation messages may be a form of supportive communication which may be important to add to one's Hope Therapy Toolkit.

### **Methodology**

The study was conducted in a mixed-methods QUAN→*qual* sequential design (Morse & Niehaus, 2009) approach with a quasi-experimental study as the core component and a qualitative study as the supplementary component. "The purpose of mixed-methods research is to build on the synergy and strength that exists between quantitative and qualitative research methods to understand a phenomenon more fully than is possible using either quantitative or qualitative methods alone" (Gay, Mills & Airasian, 2009, p 462).

The core component involved a quasi-experimental group (referred to as the "immersive education experience") group and a control group (referred to as the "education-only") group. Quasi-experiments are studies that aim to evaluate interventions but do not use randomization. The purpose of the quasi-experiment study was to gauge causality between the educational



interventions and the outcomes. This type of study design often utilizes both pre-intervention and post-intervention measurements as well as non-randomly selected control groups.

### **Sample**

Two Lehigh Valley Pennsylvania based Career and Vocational programs agreed to participate in this research study. The Emerging Health Professionals (EHP) Program is a partnership between LVHN, Lehigh Career & Technical Institute (LCTI), Lehigh Carbon Community College, and Penn State University-Lehigh Valley. It combines career and technical education for high school seniors interested in health care careers with college/university courses in Anatomy and Physiology, and health care setting observations. A sample size of 61 students participated in the immersive education experience, or experimental group, at LVHN's Interdisciplinary Simulation Center on October 8, 2019.

The other program, the Academy of Medical Science (AMS), is a partnership of LVHN and Bethlehem Area Vocational and Technical School (BAVTS). The curriculum is designed to provide high school seniors interested in health care with the necessary information and skills to be considered safe in a clinical environment. The clinical component of the curriculum offers various health care experiences for a multifocal overview of professional health careers. The sample size of 39 students participated in the education-only standard education, or control group, at their school on October 10, 2019.

The combined and purposive sample size of 100 students was invited to voluntarily participate. Participants received a letter of participation, (Appendix D), detailing the events of the program and voluntarily consented, (Appendix F), and assented (Appendix G) to

participation in the education. The students took part in the research after informed consent was obtained from participants (if over the age of eighteen) or parents (if under the age of eighteen) and were verbally assented prior to the delivery of the educational programming.

### **Description of the Educational Experience**

The educational experience under study consisted of an immersive education experience which began with a prebrief, ended with a debrief and had four main components. In the first component, the participants received a PowerPoint presentation from a trained outreach educator from CHC. The program titled HOPE, is an acronym for Heroin and Opioid Prevention Education. The topics presented included: an explanation of what heroin and other opiates are; how opiates affect the brain and body; that OUD is a chronic, relapsing brain disease; people with OUD who experience stigma have poorer outcomes; and that recovery from OUD is possible. This first component of the immersive education experience took place in a classroom setting within LVHN's Department of Education.

In the second component, the participants watched a pre-recorded video created by LVHN and features the experience of a standardized patient, "Sarah," who is found unresponsive by her family. In the video, Sarah's family finds her and calls 911 to initiate the emergency response. The video segment is eight minutes of video interspersed with seven minutes of semi-structured questions and discussions conducted by a trained facilitator.

During the third component, the participants transitioned to a live simulation in the Department of Education Interdisciplinary Simulation Center, where the participants observed the Emergency Medicine and Addictions Medicine team work together to plan and manage

Sarah's care while in the simulated hospital environment. The facilitator followed the Opioid Use Disorder Youth Programming Facilitator's Guide (Appendix C) which provided specific stopping points and semi-structured questions to ask the participants as they continued through the simulation.

During the final component, participants entered the Intensive Care Unit room with Sarah and her "Mom" and were able to listen and observe as the Addictions Recovery Specialist ("Hope Dealer") uses a non-judgmental tone and language while she recounts her own personal story of substance use disorder and utilizes motivational interviewing techniques to persuade Sarah to enter into treatment directly from the hospital. In health care as it related to patients with substance use disorders; this is termed a "warm hand-off."

In order to best determine the effects of the immersive education experience on participants' levels of hope and use of hopeful communication, a standard or control group was used with which to compare. This group was the education-only participants from BAVTS and they received the same HOPE PowerPoint presentation that the immersive education experience group received from a trained outreach educator representing CHC. The topics presented included: an explanation as to what heroin and other opioids are; how opioids affect the brain and body; that OUD is a chronic, relapsing brain disease; people with OUD who experience stigma have poorer outcomes; and that recovery from OUD is possible. The education-only standard education presentation took place in the participants' own classroom environment.

## **Data Collection**

The Youth Programming Opioid Use Disorder Survey (Appendix A), digitally created using with Qualtrics, was administered upon arrival to the participants' classroom at the BAVTS or to LVHN's Simulation Center. Participants completed the pre/post surveys utilizing their own devices and a Quick Response (QR) code which linked directly to the Qualtrics Youth Programming Opioid Use Disorder Survey Instrument.

The self-reported data was collected from the participants and included two single item Likert scale (Likert, 1932) survey questions and one open-ended response survey question. Initial core data collection occurred at two points in time: pre- and post- the immersive education experience and pre- and post- the education-only. In addition, during the supplemental component, a repeat posttest was administered to the focus group participants only to measure the 30-day impact of the education.

The qualitative component of the mixed-methods study included the open-ended responses collected in the initial pre/post survey, responses from a 30-day repeat posttest with focus group participants only and feedback from focus groups. One focus group was conducted with the immersive education experience participants and one with the education-only participants. Each focus group took place approximately 30 days following the education-only with the BAVTS AMS participants and the immersive education experience with the LCTI EHP participants. The researcher served as the facilitator and utilized a set of semi-structured questions (Appendix B). The questions allowed for further probing, to increase the richness of the data, and to create an enhanced understanding of the core component results.

According to Creswell (2018), a good qualitative study includes the “fundamental characteristics such as an evolving design, the presentation of multiple realities, the researcher as an instrument of data collection and a focus on participants’ views” (p.47-48). Once participant data collection was complete, it was determined by three content experts that the study necessitated a fourth expert’s opinion regarding the hopeful nature of participants’ responses. As such, the study evolved to include a follow-up discussion between the researcher and the Hope Dealer. The discussion was intended to elicit the Hope Dealer’s expert opinion regarding the participants’ messaging, as both an Addictions Recovery Specialist trained as a Motivational Interviewer, as well as a person with lived experience. The Hope Dealer’s expert opinion and feedback was then used to help guide the analysis of the research questions as they related to both construction of hopeful messaging as well as the personal impact the immersive education experience had on participants.

Lastly, data collected from the focus groups were audio-recorded, uploaded to a digital transcription service through Rev.com, Inc. and converted to text. Survey and focus group data was stored electronically in a password protected file and only the principal investigator and study team members had access to the data.

### **Data Analysis**

Qualtrics survey data was exported into IBM SPSS Statistics for Windows and statistical tests for the magnitude of the education effect were measured for within groups as well as between groups. Data analysis for the qualitative component of the study followed Creswell’s (2018) three analysis strategies which consist of “preparing and organizing the data for analysis;

then reducing the data into themes through a process called coding or condensing the codes; and finally representing the data in figures, tables, or a discussion” (p. 183).

Open-ended response question data from the survey tool were read purposively by the researcher and substantiated by content experts who helped to develop the coding framework. “Coding involves aggregating the text or visual data into small categories of information, seeking evidence for the code from different databases being used in the study, and then assigning a label to the code” (Creswell, 2018, p.190). As such, content experts were sent de-identified data from the survey and were asked to purposively read the response for certain phrases, words, and/or themes for approximately one-quarter of the data. During a scheduled conference call on November 22, 2019, the content expert team discussed initial findings and developed a coding framework with which to continue the coding process. Each member of the team worked on the data independently and the researcher synthesized the results and uploaded them into a computer-based research platform, Dedoose, for further analysis.

Dedoose is an example of a computer software program that serves to facilitate mixed-methods and qualitative data analysis. According to Creswell (2018), computer programs assist by storing and organizing diverse forms of data; locating and sorting text with a code or theme; retrieve and review common excerpts that relate to two or more codes; compare and relate among code labels; support the researcher to conceptualize different levels of abstraction; and to represent and visualize codes and themes.

Transcribed focus group data was also read purposively by the researcher and discussed with the study team. Using the coding framework from the initial study, the supplemental qualitative data from the focus groups were purposively read for certain phrases and words.

Findings from the supplemental qualitative study were integrated with those from the responses and the Likert scale question data. The focus group data, both from the 30-day post repeat survey, and the transcribed focus groups, was also uploaded into Dedoose to further enhance description, understanding and explanation of the data.

### **Definition of Terms**

The following terms are defined according to their usage in the study.

*Adversity Appeals:* Ideas regarding strategies to persuade another that they can overcome obstacles throughout the process of seeking treatment or entering recovery.

*Cognitive Appeals:* Ideas regarding strategies to persuade another to change behavior through the dissemination of facts, statistics, and other forms of information.

*Debriefing:* To conduct a session after a simulation event where educators/facilitators and learners re-examine the simulation experience for the purpose of moving toward assimilation and accommodation of learning to future situations.

*Health Care Simulation:* A technique that creates a situation or environment to allow persons to experience a representation of a real health care event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions.

*Hope:* A positive motivational state that is based on a derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals) (Snyder, 1995)

*Hope Appeal:* Ideas regarding specific strategies to persuade another that hope has the potential to be a powerful motivator for influencing behavior seeking treatment or entering recovery.

*Immersive Education Experience:* An integrated simulation within an existing educational curriculum which provides a comprehensive, authentic context for learning coupled with guidance from expert modeling.

*Individual Appeals:* Ideas regarding specific strategies to persuade another that they can exert control over their own motivation, behavior and social environment as it pertains to seeking treatment or entering recovery.

*Interprofessional:* Collaborating as a team with a shared purpose, goal, and mutual respect to deliver safe, quality health care.

*Life Appeal:* Ideas regarding strategies to persuade another that seeking treatment or entering recovery will improve their life and the life of others around them.

*Long-term Recovery:* The Substance Abuse and Mental Health Services Administration's (SAMHSA) working definition of recovery from mental disorders and/or substance use disorders is a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential.

*Medication Assisted Treatment:* Medication assisted treatment (MAT) is the use of medications in combination with counseling and behavioral therapies for the treatment of substance use disorders. A combination of medication and behavioral therapies effective in the treatment of substance use disorder which can help some people to sustain recovery (SAMHSA).

*Motivational Interviewing:* Motivational interviewing is a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence. It is



most centrally defined not by technique but by its spirit as a facilitative style for interpersonal relationships.

*Normalizing Appeals:* Ideas regarding strategies to positively persuade another that their experiences with the chronic disease process are not “abnormal” and even common.

*Opioid Use Disorder:* Opioid use disorder is a medical condition characterized by a problematic pattern of opioid use that causes clinically significant impairment or distress. It often includes a strong desire to use opioids, increased tolerance to opioids, and withdrawal syndrome when opioids are abruptly discontinued. Addiction and dependence are components of a substance use disorder and addiction represents the most severe form of the disorder. Opioid dependence can manifest as physical dependence, psychological dependence, or both.

*Prebriefing:* “Setting the stage” for simulation and assists participants in achieving scenario objectives. It is also used for establishing a psychologically safe environment for participants and orienting participants to the equipment, the “fictional aspect” of simulation, the time allotment and, the scenario.

*Reflection:* An active process of witnessing one’s own experience in order to take a closer look at it, sometimes to direct attention to it briefly, but often to explore it in great depth.

*Relationship Appeals:* Strategies that are designed to persuade another that they have support in seeking treatment or entering recovery.

*Scenario:* In health care simulation, a description of a simulation that includes the goals, objectives, debriefing points, narrative description of the clinical simulation, staff requirements,

simulation room set up, simulators, props, simulator operation, and instructions for standardized patients.

*Simulation:* A technique that creates a situation or environment to allow persons to experience a representation of a real event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions.

*Standardized Patient:* An individual trained to portray a patient with a specific condition in a realistic, standardized, and repeatable way and where portrayal/presentation varies based only on learner performance; this strict standardization of performance in a simulated session is what can distinguish standardized patients from simulated patients.

*Stigmatizing Appeals:* Ideas regarding strategies to negatively persuade another that they are the cause of their disorder and they should have control over as it pertains to seeking treatment or entering recovery.

*Warm Hand-Off:* The PA Department of Drug and Alcohol Programs defines a warm hand-off as a seamless transition for opioid overdose survivors from emergency medical care to specialty substance use disorder treatment that improves their prospects for recovery.

### **Limitations and Delimitations**

The limitations and delimitations of this study considered several factors. The delimitations were related to the variables and the design of the study to measure hope and

hopeful communication only as it relates to the topic of OUD, and only with preprofessional health care students.

The following are potential limitations of the study. The participants in this study were chosen through a purposive sample, with an uneven distribution of gender, therefore the generalization of data collected will only be linked to this specific population of high school seniors from two established LVHN youth programming programs, Emerging Health Professionals of LCTI and students from BAVTS' AMS. In addition, while the researcher worked with the instructors and guidance counselors of the schools to identify students that they felt could potentially bias the research based solely on their knowledge of the student, it was not able to account for all potential bias.

Another limitation of the study is the measurement. Although there is evidence supporting the validity of single-item measures, this measurement needs to undergo continued analysis of its measurement properties. The analysis should be carried out in varied settings and populations, to determine its validity. The final limitation is in the design and delivery of the immersive education experience itself. Hopeful messaging embedded in the simulation, while theoretically influenced, may not be generalizable to other situations outside of the immersive education experience. Additionally, unforeseen factors occurring with the students, the facilitators of the simulation, and the standardized patients, chosen and trained, could have affected the intended impact of the experience. Lastly, the standardized patient utilized in the immersive education experience was a White female, approximately five years older than the participants. Participants in this study, predominantly White females, may have connected with the standardized patient emotionally and biased the results of the study.

### **Significance of the Study**

Within health sciences literature, the “professional relationship is considered a primary and vital source of patient hope” (Larsen & Stege, 2010, p. 288). Cheavens and colleagues concluded that “higher hope virtually always is related to more beneficial outcomes” (Cheavens, Michael & Snyder, 2005, p. 127). Research on narratives with people living with chronic illness, “indicated the importance of hope both as a mechanism they use to cope with setbacks and as a motivator for changing health behaviors” (Makarem, 2015, p. 210). Health communication research on using emotional appeals as a motivational system for health behaviors, have been conducted heavily utilizing fear, guilt, humor and anger (Nabi, 2015), however, there is dearth of related literature on the use of hope messaging as motivation.

In addition, although studies have indicated that “simulation may be an appropriate educational methodology for developing empathy and/or empathetic behaviors in preservice health professional students” (Bearman et al., 2015, p. 316), there has not been documented research on the use of simulation-based immersive education experiences in the development of hope or hopeful communication in preprofessional health care students. These findings demonstrate the need for educational innovations that address both the development of hope in our future healthcare workforce as well as the creation of motivational messaging using hope as the construct.

Information obtained from studies such as these have the potential to inform the delivery of OUD focused curriculum not only to preprofessional health care high school students but also to undergraduates, medical students, residents and fellows. Leaders and administration within health science departments of colleges, universities, medical schools and hospitals could also

implement immersive education experiences that focus on hope for recovery and hopeful provider-patient communication.

### **Organization of the Study**

This study was divided into five chapters. The first chapter provided a brief overview of the opioid epidemic, its impact on society, the training of the future health care workforce and what one health network is doing to combat the crisis through prevention, oversight and education. The purpose of the study, statement of the problem, the research questions, a definition of terms, theoretical framework and an overview of the methodology were also described.

Chapter 2 introduces the literature that was used to provide the context of the problem, the current understanding of the problem, and a thorough review of previous research identifying gaps and current implications. Chapter 3 provides an overview of the methodology, research design, description of the participants, study setting, survey instrumentation and the data collection and analysis procedures. Chapter 4 presents the results of the data analysis, a discussion of the meaning of the results with relation to study participants and literature, shortcomings of the study data and a summary of the results. Lastly, Chapter 5 features conclusions from the study, their broader implications, limitations of the study and recommendations for further research.

### **Summary**

As society struggles to find the answer to the opioid epidemic, health care institutions such as LVHN, have created innovative approaches to better prepare the current and future

health care workforce impacted by this crisis. The intent of this study is to measure the effects of one such innovation on its preprofessional health care participants' hope for patients with OUD, hope for themselves as future caregivers of patients with OUD and the use of hopeful language.

Chapter 1 provided an introduction, background information, purpose and significance of the study, research questions, and the organization of this comprehensive study aimed at fostering the development of hope in the health care language of preprofessional health care students. Chapter 2 will provide an overview of the literature related to the disease of OUD, the stigma and bias related to substance use disorder, the addiction medicine training for health care professionals, the use of simulation as a pedagogy, and the language of hope and health care communication as it relates to hope.

## CHAPTER 2

## REVIEW OF RELATED LITERATURE

**Introduction****Criteria for Selecting the Literature**

Several types of literature were chosen for the literature review, including books, published and unpublished dissertations, peer-reviewed journal articles and meta-analytic reviews of previous studies. A methodical analysis of the journals specifically related to addiction medicine were found from sources such as *Academic Medicine*, *Journal of Substance Abuse*, and *Addiction Research & Theory*. Sources related to healthcare communication studies and hope were found in *The Journal of Consumer Affairs*, *Health Communication*, *Journal of Family Communication*, *Journal of Applied Communication Research*, *Communication Quarterly*, *Western Journal of Communication*, *Journal of Communication*, *International Journal of Listening* and *Communication Research Reports*.

Resources utilized related to the use of simulation as a component of the immersive education experience were found in *Patient Education and Counseling*, *Simulation in Healthcare*, and *Medical Teacher*. The interprofessional and preprofessional health care student publications were found in the MedEdPortal of *The Journal of Teaching and Learning Resources*, *Journal of Interprofessional Care*, and *The Journal for Research and Practice in College Teaching*. Lastly, resources used to design the methodology for the study included, *Qualitative Research & Design*, *Choosing Among Five Approaches*, *Mixed Method Design*, *Principles and Procedures* and *Discovering Statistics using SPSS*.

### **Context of the Problem**

Often, OUD education is taught through the lens of neurotransmitters and pharmacology detailing the physiological signs and symptoms that correspond to the use and abuse detailing the statistics related to the prevalence of overdose. Less often taught, is the humanistic content related to addiction such as teaching empathic communication, simulating motivational interviewing techniques in patient interactions and addressing OUD through the hopeful lens that patients can and do enter recovery every day. While much research has been done on simulation being used as an educational methodology for teaching empathy to preprofessional health care students, the researcher has not been able to identify any studies done on educational innovations focused on hope and hopeful communication with future health care workers.

### **Current Understanding of the Problem**

According to Lloyd (2013), there are several nursing and medical curricula that do not effectively prepare doctors or nurses for assessment and management strategies for caring for patients addicted to heroin. In addition, Bina et al. (2008), found that if problematic opioid use is identified, many social workers lack the experience or training to appropriately address the issue to promote treatment engagement. These studies suggest that training and clinical experiences in the field of addiction medicine across health care disciplines may be inadequate, and in some cases non-existent.

Ram & Chisolm (2015), in their study on improving substance abuse training in medical schools detailed collaboration among health care professionals and trainees from multiple disciplines being needed to transform the culture of care around treatment. As literature suggests,



less stereotyping and greater collaboration in health care delivery teams, in turn, could result in improved outcomes, such as: greater patient satisfaction (Gariola, 1997) and higher quality of care (Ducanis & Golin, 1979). In Mann et al. (2009), the primary goal of the “seamless care” model was to develop students’ interprofessional patient-centered collaborative skills through experiential learning. In this model, researchers followed fourteen student teams each including at least one student from medicine, nursing, pharmacy, dentistry, and dental hygiene. This created a situational learning community where students could learn with, from and about each other with the end goal of being able to collaborate effectively on patient care. The findings provided a guide to planning educational innovations for student learners, faculty and patients.

The design and implementation of this study’s immersive education experience created to be delivered by an interprofessional health care team was informed by research on health care simulation, interprofessional education and the combination of the two as it relates to preprofessional health care students. Monteiro et al. (2017) found that a designed interprofessional workshop focused exclusively on OUD lead to high levels of satisfaction and demonstrated significant increase in knowledge from pretest to posttest. In addition, this interprofessional workshop allowed students from a variety of health care professions, with varied levels of previous exposure to and knowledge of opioid misuse, to gain practical experience in a low-stakes setting.

Measuring the impact of an educational innovation designed to allow preprofessional health care student learners to observe and reflect upon experienced health care professionals communicating effectively, compassionately, and hopefully with a standardized patient with OUD, serves as the basis for this study. Currently, no model exists for preprofessional health

care students to gain this type of OUD based simulated experiential learning, therefore, outcomes data to inform this research was non-existent.

In order to supplement the current understanding of the problem, a comprehensive literature review was conducted and began with a focus on a review of literature related to OUD epidemic, the stigma and bias related to substance use disorder, the addiction medicine training for health care professionals, the theoretical framework of hope, the language of hope and the health care communication as it relates to hope.

### **Review of Previous Research, Findings and Opinions**

#### **Opioid Use Disorder and Health Care Implications**

Opioid misuse and OUD are often only seen by first responders and emergency department providers because unless there is an additional medical reason for admission, the patient will be discharged. This implies the need for emergency department providers to be able to screen for and provide a brief intervention in hopes of initiating a treatment plan immediately upon discharge. However, in a nationally representative study of the quality of care delivered conducted by McGlynn and RAND found that only 15.5% of hospitalized trauma or hepatitis patients have any indication in their medical records that alcohol or drug use was assessed, despite the evidence that 40 to 60% of trauma admissions were caused by alcohol or drug use.

Related to this were results from a national survey, in which 32% of primary care physicians and psychiatrists reported they do not ask patients about illicit drug use; and when physicians were aware of patients' drug use, referrals to substance use treatment programs were not routine (Friedman et al., 2001). Moreover, when active substance abuse is a factor in clinical

interactions, both providers and patients often display mutual distrust (Merill et al., 2002). These studies indicate missed opportunities for treatment engagement between medical providers and opioid misusers and the research has demonstrated that this may be attributable to stigma.

### **Stigma and Biases**

People with substance use disorders are viewed by society as weak-willed (Schomers et al., 2011) even though evidence has shown that their adherence to treatment is comparable to people with other chronic medical conditions, such as diabetes or hypertension (McLellan et al., 2000). The stigma of being an “addict” weighs on many people and often keeps them from getting the help they need to treat the disease. A substantial body of evidence has shown that there is a negative relationship between stigma and wanting to seek help for their substance use disorder (Clement et al., 2015; Corrigan et al., 2014) and even families and friends of individuals with substance use disorders may experience the “courtesy” burden of stigma. Courtesy stigma is when families and friends of people with substance use disorder experience stigmatizing attitudes from others (Corrigan et al., 2015).

Stigma may also affect one’s health through barriers it creates in clinical interactions, adding to social stress and increasing discrimination (Link & Phelan, 2006). Specifically, the stigma surrounding opioid-addiction has perpetuated negative attitudes of health care professionals (Lloyd, 2013). “Culturally reinforced deviant stereotypes of heroin users as ‘intimidating,’ ‘violent,’ ‘manipulative,’ ‘automatically drug seeking,’ ‘unreliable,’ and ‘poor parents,’ has demonstrated poor outcomes for this vulnerable population as stigma can result in missed health care opportunities (Braden et al., 2011, p. 460). Since many patients hold health

care professional's opinions in high regard, clinicians have great opportunities to address substance abuse disorders if they have the "know-how," inclination and time to do so.

"Features of patient provider interaction—such as personal rapport, exchange of information, empathy, and trust—are accomplished or undone, based on the repertoire of specialized cultural resources that patients bring to the health care encounter, in combination with providers' fostering of and receptiveness to those resources" (Shim, 2010). Describing someone as a "substance abuser" or an "addict" may mean the same thing as describing someone as having a "substance use disorder," but what feelings do they evoke from either the describer or the person being described? "Clinicians exposed at random to the "substance abuser" term were significantly more likely to judge the person as deserving of blame and punishment than the exact same individual described as "having a substance use disorder" (Kelly & Westerhoff, 2010). Furthermore, Kelly et al. (2016), stated "addiction is not a choice, but our language and terminology in how we, as a society, describe it and those suffering from it, is" (p. 122). But speaking appropriately and respectfully is just one aspect of communication, another is listening.

Listening facilitates one's understanding of another person's underlying motives, beliefs, dispositions, intentions, and goals, but it is a process through which we constitute our own individual psychological ways of being as well (Bodie, Worthington, & Gearhart, 2013; Halone & Pecchioni, 2001; Lipari, 2010). "To truly comprehend another's meaning requires adjusting our own ways of thinking" (Umphrey & Sherblom, 2018). If health care workers think that heroin users in the Emergency Department are drug seeking, manipulative, and a waste of time and health care money, then they may consciously or unconsciously listen for cues that reinforce that belief. If however, they think that heroin users in the Emergency Department are patients

with a chronic disease that need education regarding their condition, a treatment plan, and assurance that adherence to their treatment plan could result in long-term recovery, then they may not only listen for cues that reinforce that belief, but they may also elicit patient trust and confidence.

A lack of trust and confidence on the side of the provider may lead to conscious or unconscious discriminatory behaviors which drug users may perceive and consciously or unconsciously respond to. In a study conducted by Brener et al. (2010), they used a mixed-methods approach with 92 clients in a residential facility and administered a series of quantitative measures assessing drug history, severity of drug use, treatment history, perceptions of staff discrimination and treatment motivation and found that perceptions of discrimination were a significant predictor of treatment completion, with greater perceived discrimination associated with increased dropout. This finding further supports patients' perceptions of discriminatory behaviors and how stigma may affect patients' follow through with further treatment.

The qualitative component of this same study was aimed at identifying what the health care workers may have done or said to make clients believe that they were being discriminated against. This was conducted in the form of interviews with 13 treatment clients and eight health workers from the same treatment facility. They uncovered that in some cases, clients acknowledged the negative societal views of drug users may have impacted their belief that they were being treated unfairly. In other instances, they reported their own feelings of self-blame, low self-worth, past experiences with treatment and their perceptions that they both deserve and will be exposed to negative treatment may have affected their discrimination-based belief

system. This points to an overall theme that their perception of discriminatory provider behavior had less to do with the provider and more to do with their beliefs in themselves and how they believe society views them. It is also important to note that clients identified that staff who themselves had been drug users were more “credible” and “that these staff were more able to genuinely interpret client issues, particularly real or perceived discrimination” (Brener, 2010, p. 495). People who are living successfully and openly with substance use disorders are extremely powerful proximal sources (Borschmann et al., 2014; Corrigan et al., 2012; Griffiths et al., 2014; James & Glaze, 2006; Yamaguchi et al., 2013). In this study, the proximal source is referred to as the Hope Dealer because they embody “I have a substance use disorder. I have a life, a career and am living successfully in long-term recovery.”

Genuineness in verbal and non-verbal communication may come more naturally between a patient with OUD and a health care provider “who has been there, done that” but what if the health care provider has not. The concept of negotiating substance use stigma and the role of cultural health capital in provider-patient interactions was the basis of research conducted by Chang et al. (2016). Chang’s work utilized Shim’s (2010) cultural health capital theoretical tool to determine how substance use stigma unfolds in and through provider-patient exchanges. Cultural health capital as conceptualized by Shim (2010), and expanded upon by Chang et al., identified that “possessing good communication skills, sensitivity to interpersonal dynamics and the ability to adapt one’s interactional style are key elements that promote the exchange of cultural health capital” (Chang et al., 2016, p. 5) and are valuable to both patients and providers. Further noted, were elements that patients specifically value in providers and they included

medical expertise, understanding the personal context of illness and approaching sensitive topics non-judgmentally (Dubbin et al., 2013).

This study concluded that there are concrete communication strategies that providers could use to shift the stigma dynamic and promote the exchange of cultural health capital and they included: addressing, rather than ignoring substance use; creating a non-judgmental clinical atmosphere; being open to mutual and realistic goal setting; and learning about the patient's lifestyle and environment to better understand the substance use (Chang, 2015). Another approach a health care provider may take in shifting stigma is using the process of normalization.

Living with chronic illness research conducted by Joachim and Acorn (2000), demonstrated that researchers have studied and interpreted the chronic illness experience through either a lens of stigmatization or normalization. The study of chronic illness through a stigmatization lens tends to focus on how the individual suffers from stigma, while studying chronic illness through a normalization lens tends to focus on how the patient achieves normalcy despite having a chronic condition. Joachim and Acorn's (2000) study examined the point of interface and determined that research from the stigmatization field tends to overlook the positive energy and forward movement in the normalization process whereas research from the normalization field may underestimate the social impact that stigma may produce in the individual as well as the friends and family of that individual. This is important in the field of substance use disorder as Goffman (1963) expressed that the main goal of stigmatized people is to be accepted as "so called normal" and Thorne (1993) reported that to be normal means to "fit in." For a patient with OUD, "being viewed as normal is the opposite of being discredited, with the fear and alienation that accompany the discredited state" (Joachim & Acorn, 2000, p. 40-41).

Normalization is one of many de-stigmatizing strategies which could provide the foundation for addiction medicine training for future providers so they could develop a genuineness in their care for this vulnerable population as these patients may enter into the health care environment on the defensive, with perceived thoughts of anticipated discrimination and a pre-conceptualized negative experience. The next section of the literature review will address current programming in place to develop our future health care workforce to be competent and confident in aspects of addiction medicine.

### **Addiction Medicine Training for Health Care Providers**

The recent implementation in the USA of the Mental Health Parity and Affordable Health Care Acts means that substance-using individuals will be able to access the health care system for treatment, as it is now considered an essential service of health care plans (Beronio et al., 2013). This combined with the rising rates of opioid abuse means that certain demographic groups are seeking treatment in numbers greater than before and that more physicians and other health care workers will be faced with addressing the problem of opioid abuse (Ram & Chisolm, 2016).

Preparing the future health care workforce to effectively screen/diagnose, manage and refer substance-using patients to treatment is an ever more important goal due to the opioid epidemic and the expanded health care coverage. Currently however, on average, US medical schools devote only 12 hours of curricular time to substance abuse, with most formal curricula closely linked to psychiatric didactics (Rasyidi et al., 2012). Further, in a survey by the Liaison Committee for Medical Education, 119 of the 125 US accredited medical schools reported that they provided substance abuse education as part of a larger required course, but of those, only 12



medical schools had a separate required course and only 45 schools offered a separate elective course (Yoast, 2008).

In addition to didactics, clinical clerkships also offer opportunities for medical students to gain experience with substance use patients but during this time it is not uncommon for students to observe unprofessional behavior in their peers and role models, towards patients who use substances (Ram & Chisolm, 2016). Lastly, most substance abuse training typically occurs in the Emergency Department, hospital or inpatient psychiatry, therefore medical students are more likely to encounter the most severely ill substance-using patients and have limited exposure to patients who recover and enter successful long-term recovery (Davis et al., 2001).

One newer approach to address this short coming in medical student preparation is the development of curricular models where medical students complete the necessary training to be eligible to prescribe opioid medications to treat OUD by the time the students graduate from medical school. One curricular model created through a partnership of Warren Alpert Medical School of Brown University and the Rhode Island Department of Health, spans the entire four years of medical school with classroom didactics providing: (1) an overview of the assessment and treatment of substance use disorders; (2) training on behavior change; (3) training on pain management, including assessment and appropriate use of opioid and non-opioid alternatives; and, (4) patient simulations to provide practical experience. “Making addiction medicine a standard part of medical school curriculum helps to normalize this area of practice and may contribute to the reduction of stigma and increased likelihood that physicians will engage in the treatment of opioid use disorder” (McCance-Katz et al., 2017, p. 318).

In March of 2018, in following this standardization, the Commonwealth of Pennsylvania, updated the Pennsylvania's Medical Students Core Competencies to include curriculum for the prevention and management of drug misuse and abuse specific to opioids. Similarly, it has been proposed that states might also want to collaborate with nurse practitioner and physician assistant training programs to help "curb this epidemic through training that will result in large numbers of clinicians able and willing to provide care to their patients struggling with opioid use disorder" (McCance-Katz et al., 2017, p. 318).

Aspects of this training could be implemented across the health care continuum and could be delivered through interprofessional education workshops to simulate the complex medical and social issues surrounding substance abuse and highlight the importance of teamwork in providing care to patients with OUD (Monteiro et al., 2017). Interprofessional education occurs when two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes (WHO, 2010). Among students, interprofessional education has been a useful strategy to help change their attitudes, develop their interests in patient care, and improve their medical and clinical knowledge (Nango & Tanaka 2010).

Simulation has been increasingly used as an educational methodology for teaching preprofessional health care students about clinical communication. The purposeful design of the interprofessional immersive education experience in this dissertation study was to allow students to observe cooperation, collaboration, and hopeful communication between the standardized patient, the standardized patients' family, and the health care team.

While there have been many studies done specifically with preprofessional health care students and the use of simulation for the purposes of learning empathy, there have not been any

done specifically isolating hope. For this section of the literature review, studies done utilizing simulation to teach empathy and other interventions designed to teach compassion to preprofessional health care students will be used to inform this study's design for the fostering of hope and hopeful language.

### **Use of Simulation as Pedagogy**

In the second half of the 20<sup>th</sup> century, simulation-based training was being utilized in the aviation, aerospace and nuclear industries along with the origins of the modern era of medical simulation (Bradley, 2006). In the early 1960's, the development of a realistic simulator to teach mouth-to-mouth resuscitation, a mannequin which could reproduce any cardiac disease by altering blood pressures, heart sounds, pulses and breathing along with the beginning of the use of actors to portray a specific disease state were all emerging (Jones et al., 2015). These simulation-based tools have been integrated into medical education and a pedagogical shift from the traditional apprentice based medical education to the incorporation of immersive, hands-on simulation-based training is becoming an increasingly used instructional methodology in health professions curriculum (Kalanti and Campbell, 2015). In research conducted by Salfi (2011), it was determined that "given the centrality of communication skills in fostering teamwork and collaboration, it will be important for educators to develop innovative, experiential events" and that "a learning experience that incorporates standardized patients and feedback from faculty facilitators can promote authentic interprofessional learning and develop students' confidence to communicate" (p. 9).

In a systematic literature review, conducted by Bearman et al. (2015), on learning empathy through simulation, it was determined that simulation may be an appropriate

educational methodology for developing empathy or empathetic behaviors in preservice health professional students. This research retrieved 27 studies and identified two themes for the promotion of learning. The first theme was “being a health professional” and was designed for students to develop skills in communication while interacting with a standardized patient or as part of a peer role play. The second theme was “being a patient” and was designed for the learner to simulate the patient through role-play. Of the 17 studies where the learners were “being a health professional,” only one focused solely on empathy development while the others measured empathy development along with other skills such as motivational interviewing, communication skills and interpersonal skills. In addition, the randomized controlled studies in this literature review suggested that the simulation approach that seems most beneficial is one that asks learners to play the role of the patient as if to “walk a mile in their shoes.”

In other work facilitated by Schweller et al. (2014), the authors examined the impact of simulated medical consultations using standardized patients on the empathy levels of medical students. This study utilized the medical student version of the Jefferson Scale of Physician Empathy created by Hojat (2001) with 124 fourth year students and 126 sixth year students in a Brazilian medical school and measured empathy levels before and after a simulated medical consultation with a standardized patient. The findings concluded that there was a significant difference between pretest and posttest scores and therefore an improvement in medical students’ empathy levels. This research also identified one of the main limitations was that empathy was measured through self-reporting and even though the students had higher empathy levels after the simulation, this may not necessarily translate to future empathetic behaviors. This is important to note as this is a limitation to most simulated learning, but the authors also state “that

the increase in the levels of empathy observed in our study may indicate at least the intention of being more empathetic, which is important, because the will precedes the act and the attitude” (Schweller et al., 2014, p. 636.)

Compared to research on interventions designed to teach empathic behaviors and communication, there has been a dearth of literature on the training of compassion. Shapiro et al. (2006) wrote that medical education is “guilty of continually exhorting students to maintain compassion and composure while providing little actual training and practice in how to do so” (p. 30). To address this concern, Shapiro et al. (2006) designed an elective course for third-and-fourth year medical students called “The Art of Doctoring”, with one of the goals being to develop “empathy and compassion towards patients.” The education consisted of 25 small group contact hours, 15 hours of reading (including the topic of compassion) and 80 hours of completing assignments and while quantitative and qualitative student evaluations indicated a “favorable response to the course,” no data was reported on changes in compassion. However, the authors concluded that “when students are given the time and guidance to attend to the process as well as the content of medicine, they report becoming more empathic, compassionate and caring, more self-aware, and better able to learn from their ongoing clinical experience” (p. 34).

With regards to compassion in nursing education, it has been said that “there is currently an international concern that student nurses are not being adequately prepared for compassion to flourish and for compassionate practice to be sustained upon professional qualification” (Curtis, 2013, p. 476). In 2016, Hofmeyer et al. conducted research on a two-week online compassion module for undergraduate nursing students. The online program was intended to help nursing

students gain a better understanding of compassion in health care, being compassionate towards others, compassion towards oneself, cultivating resilience and identifying factors that may help or hinder compassionate care. The study looked at 17 responses to five questions on the pre-intervention survey and 25 responses to 12 questions on the post-intervention survey. While the data were small, non-randomized and qualitative in nature, the design of the pre and post-intervention survey and the themes that emerged helped to identify how compassion is understood and practiced by nursing students and aided in informing this dissertation study.

### **Teaching Empathy and Compassion but, where is Hope?**

While these studies don't point directly to the use of simulation to teach hope and hopeful communication to preprofessional health care students, they do serve to inform both the design of the pedagogical approach and the methodology for data collection and analysis. In the following section of this literature review, the construct of hope and the practice of hopeful communication in health care will be explored. An emphasis on the use of hopeful language, hope appeals, and persuasive messaging will be reviewed in order to determine what types of messages may affect a future health care worker's construct of hope and its impact on provider-patient communication.

### **Theoretical Framework for Hope in Communication**

According to the National Academy of Sciences (2016), communication science provides a basis for understanding the effects of message features on four outcomes: cognitive, affective, persuasive and behavioral, and largely depend on the target audience, the message source, the media platform and the content structure. Health care organizations can be seen as a microcosm

of society illustrating the importance of using various aspects of communication, carefully honed and directed towards positive outcomes for patients. Explicitly not using certain language in communication efforts may be equally important as explicitly using other types of language. One type of language that has been studied in health care, psychotherapy and counseling settings is that of hopeful language or hope talk.

In one study conducted by Elliot and Olver (2002), they examined how the word *hope* appeared unsolicited during health care conversations with 23 terminally ill cancer patients. One finding was how hope, when viewed as a noun, functioned in two primary ways. First, if the patient viewed hope as existing independent of themselves, they believed that hope was out of their control and that hope could only be objectively determined by their physician. However, if the use of hope as a noun was subjectively held by the patient, hope appeared to fluctuate in amount according to the patient's own perception. These findings, albeit with terminally ill patients, point to the importance of hope levels within the provider-patient relationship and was further demonstrated in another study. Westburg and Guindon (2004) as cited in Crain & Koehn (2012) "found that healthcare providers from a variety of disciplines (e.g., nursing, social work, counseling, psychology, administration) working with persons infected with HIV had high levels of hope and that instilling hope during counseling was the most critical intervention for promoting adherence to treatment" (p. 171).

Additionally, hope has consistently been identified as a key component of, or even a prerequisite for, recovery because it is viewed as both a trigger of the recovery process and a maintaining factor (Schrank et al., 2008). This finding points to the need for educational innovations aimed at fostering hope. "Practitioners have to be proactive in conveying an

explicitly hopeful message to their patients, emphasizing that recovery is not only quite possible, but also quite common” (Schrank et al., 2011, p. 234) which points to the need for education designed to develop the use of hopeful language. These combined findings demonstrate the necessity for hope-focused educational experiences for preservice health care students which may serve to “fill a *hope therapy toolkit* that contains the necessary tools for helping clients to build upon their foundation of strengths and thereby construct their personal house of hope” (Lopez, Floyd, Ulven, & Snyder, 2000, p. 124).

Communication tools are a part of the Hope Therapy Toolkit and may serve a variety of functions within the provider patient relationship. In health care communication research conducted by Parrott (2011), the author provided insights that may be applied to the provider practice of health communication. Four of the insights resonated with the research conducted for this study and included: (1) assurance that the provider intended patient exposure to strategic health communication occurs; (2) health information alone is seldom enough to form and maintain healthy habits of patients; (3) communication about health should be considered for the potential to create barriers to patient disclosure; and, (4) people remember health content included in news and entertainment media, and those messages should be examined for false or inaccurate expectations.

State and nationwide public health campaigns aimed at addressing the opioid addiction and heroin crisis, have attempted to create attitude and behavior changing messaging as a part of their prevention campaign but can be perceived as positive or negative, hopeful or hopeless, depending on the consumer. Some of the mixed messages include: “Serious Addiction Can Start with a Simple Prescription” (Wellspan Health), “Road to Recovery- Life is Possible After



Overdose” (SAMHSA), “You Can Stop Overdose Death” (New Jersey Governor’s Council on Alcoholism and Drug Abuse), and “Prescription opioids can be addictive and dangerous. It only takes a little to lose a lot” (Vermont Department of Health). Public health messages can be constructed to induce fear or promote optimism, but the goal is typically to encourage behavior change.

Fear arousing persuasive messaging has been studied for its ability to motivate attitude and health behavior change. In Leventhal’s (1971) work on fear appeals and persuasion, he presented two theoretical approaches to the use of fear in health communication. The first was the traditional drive model which assumes that the emotion of fear and fear reduction provides motivation for either the acceptance or rejection of the persuasive message and the second was the parallel response model in which a person receives a warning message and their appraisal of the threat creates a fear control response or a danger control response. This means in constructing effective messaging, the health care provider needs to consider what information they should use to convey the health danger to the patient (perceived severity), create appropriate relevance of the danger to the patient’s life (perceived susceptibility), assist the patient in health change behavior plans (perceived response efficacy), all while attempting to prevent the arousal of avoidance techniques (perceived self-efficacy). Perceived agency and self-efficacy also play a large role in Snyder’s (1991) Hope Theory, Lazarus’s (1991) Appraisal Theory and Bandura’s (1977) self-efficacy theory where hope is viewed from the cognitive, emotional and behavioral lens.

According to more recent work done by Nabi & Myrick (2019), the threat component of fear appeals associates with fear responses, but the fear appeals’ efficacy component likely

associates with hope. In their study on sun safety intentions, they sought to determine if hope, generated by a fear-based message's efficacy component, enhanced the persuasive effectiveness of the skin cancer fear appeal. The results evidenced a small but significant relationship between hope, self-efficacy and behavioral intentions which may support that the feelings of hope in response to a fear appeal, contribute to their persuasive success.

Persuasive message strategy in the form of hope appeals was the basis of doctoral research conducted by Chadwick (2010). Chadwick's study focused on climate change communication appeals and the need for a formal theory of persuasive hope. "Without a clear articulation of what hope is and its potential role in persuasive contexts, researchers and practitioners will not know how to create effective messages that evoke hope, nor will they know what effects an appeal to hope might create" (Chadwick, 2010, p. 19). Findings from her two-quasi-experimental studies, as studied through the lens of persuasive hope theory, indicated that communicators can design messages that create subjective feelings of hope and that hope appeals can increase appraisals of importance, goal congruence, positive future expectation, and possibility. As part of her theory on persuasive hope, Chadwick described how a hope appeal could be designed to induce hope and provided guidelines in its construction. She stated that the message should emphasize that the future is possible, is important, is consistent with the receiver's goals and can create a positive future (Chadwick, 2015b). Continued research on the efficacy of hope appeals in the form of memorable messages was the topic of a study completed by Merolla et al. (2017).

Based on Snyder's hope theory (2002), Merolla et al.'s (2017) study, tested if significant cross-sectional associations exist between the nature of people's memorable messages and hope

levels. This mixed method study first examined online survey responses regarding recall of memorable messages related to academics, relationships and finances from 299 participants of two universities. The data was coded to derive memorable message categories for both message content and form. Three items in the survey measured both the degree to which the message was perceived by the participant as positive in nature, and the efficacy of the message. Additionally, four items measuring the pathways dimension of hope from the Adult Dispositional Hope Scale (Snyder et al., 1991) and a domain-specific hope measure was factored into pathways and agency. Correlational findings from this study indicated that dispositional hope and domain specific hope were positively associated with memorable messages positivity and efficacy. One interpretation of these findings consistent with hope theory is that positive and efficacious memorable messages are sources of hopeful thinking, particularly agency (goal-based) thinking.

Hope Theory and PHT focus on the cognitive and behavioral aspects of hope but designing messages to arouse positive emotions may be just as important in agency thinking. Affective appeals refer to messages and responses to messages that include a subjective or feeling component and influence subsequent cognitive processing (Maibach & Parrot, 1995). Positive affective appeals, such as ones evoking empathy and compassion, may result in the message receiver to reframe an issue in a new light (Maibach & Parrot, 1995). In this study, the immersive education experience was designed to evoke hope for a person with OUD to enter long-term recovery and hope for participants to see themselves as positive agent of change in the opioid epidemic.

Consistent with previous research, hopeful messages are mostly positive (Rand & Cheavins, 2009; Leung et al., 2009) but Johnson's (2016) results also found that hope is not

always welcome and can have negative outcomes. “Messages of hope may follow a script of what social networks believe to be most positive. However, these messages, while helpful to some, may not account for the individual caregivers’ needs, desires, or beliefs” (Johnson, pgs. 90-91, 2009). This is an important finding to note as patients’ needs, desires, and beliefs may change dramatically over the course of even several hours after a traumatic event such as an overdose and messages of support are often received during critical or confusing times in a person’s life (Stohl, 1986, Medved et al., 2006, Burleson, 1994). This implies the need for emotionally intelligent providers, ones which can empathically and strategically embed hopeful messages, so that the messages have the greatest chance of being perceived as positive.

### **Summary**

The choice of words in messaging and communication is important when it comes to substance use disorders, as the use of certain terms can perpetuate stigmatizing attitudes that influence the effectiveness of public health policies addressing them and may induce implicit cognitive biases against those suffering from addiction (Kelly, et al., 2010, Kelly, Westerhoff, 2010, & Kelly et al., 2016). While it may take longer to describe someone as a “patient with or suffering from, an opioid use disorder” than it does to describe the person as an “addict, drug user, or heroin patient,” those few extra words could make all the difference in the patient’s health as even this slight shift in language could affect a provider-patient encounter in a positive way. This potential impact starts with the development of non-stigmatizing and hope-based clinical language in preprofessional health care students.

Chapter 2 provided the context and current understanding of the problem, a review of extant literature on OUD, the stigma and bias related to substance use disorder, addiction medicine training for health care professionals, the language of hope and health care communication as it relates to hope. Chapter 3 will detail the research methodology used in this study.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### **Introduction**

Conveying hopeful inspiration to patients with chronic diseases, such as OUD, is important to individuals in taking the next steps towards treatment and recovery. As such, this study examined the effects of an immersive education experience on preprofessional health care students' (1) hope for patients with OUD to enter into long-term recovery; (2) hope that they could have a positive impact on the OUD epidemic; and, (3) their use of hopeful communication. In addition, this study aimed to identify which pedagogical elements of the immersive education experience impacted participants' messaging construction as well as to better understand the personal impact the experience may have had on participants.

Chapter 3 includes an overview of the study design and research methodology; an explanation of the selection of participants; the study setting; the instruments created and piloted for data collection; the data collection procedures; the process for data analysis; and a summary of the chapter.

#### **Research Design**

This study was a QUAN→*qual* (Morse & Niehaus, 2009) sequential design which consisted of a core quasi-experimental quantitative component and a supplemental qualitative component. In a sequential mixed-methods design, the core component is completed before the supplemental component is initiated and could be planned at the proposal stage. "If, at the design stage of the study, the researcher can foresee the gaps and inadequacies that will occur in the

completed study because the core method is not comprehensive for the research questions, the researcher may then, at the proposal stage, design a supplemental component to make the project comprehensive” (Morse & Niehaus, 2009, p. 48). The benefit of a mixed-methods design is a stronger design than a single method because the supplemental component enhances the validity of the project (Morse & Niehaus, 2009). In this study, the researcher aimed to determine how participants’ hope levels and use of hopeful language were impacted after an immersive education experience as compared to the standard or control offering of an education-only PowerPoint presentation.

The quantitative core data collection was collected using the Youth Programming Opioid Use Disorder Simulation Survey (Appendix A), which consisted of quantitatively driven Likert scale questions as well as a qualitative question. Two single-item Likert scale indicators in the survey provided the core component of this mixed-methods study. Single-item indicators were chosen because they “often provide valuable information about an individual’s perception of the concept under study” (Youngblut & Caspar, 1993, p. 5). The measurement of participants’ concept of hope for a patient with OUD, as well as for themselves as a future health care professional, served as the quantitative core component. The single open-ended response question in the survey contextualized the use of language in the participants’ messages of hopeful motivation to a fictional patient with OUD.

The design for the supplemental data collection was using focus groups. The rationale for the supplemental component of the study sought to elaborate, enhance, and clarify the results from the quantitative core component. “Focus groups are often used to develop a description of a particular topic or to develop a theoretical frame that will be used” (Morse & Niehaus, 2009, p.

91). In this study, the theoretical construct of hope and how it appeared in participants' messaging, was further developed by the focus group feedback. The focus group supplemental findings, along with findings from a discussion with the study's Hope Dealer were then integrated into the core component to further develop and explain the results.

### **Research Questions**

The research questions in this study examined the role that an immersive education experience had on a participant's hope that a patient with OUD could enter long term recovery and hope that they as a future health care worker could have a positive impact on the OUD epidemic. The researcher utilized qualitative responses from an open-ended survey question, semi-structured focus groups and an interview with the Hope Dealer to examine the impact that the immersive education experience had on participants' use of hopeful language. In addition, this study sought to better understand the personal impact the immersive education experience had on participants.

1. How does an immersive education experience impact participants' hope that a patient with OUD could enter long term recovery?
2. How does an immersive education experience impact participants' hope that they could have a positive impact on the OUD epidemic?
3. How does an immersive education experience impact participants' use of hopeful language?
4. How does an immersive education experience impact participants on a personal level?



## Overview of the Study

### Selection of Participants

Participants were students from two LVHN affiliated vocational school based preprofessional health care career programs, the EHP from LCTI and the AMS students from BAVTS. Both programs are application based and only accept students that are rising seniors with a GPA of 3.0 or better, have an excellent attendance record, have completed biology, chemistry and trigonometry with a B or better; and have submitted a letter of recommendation from their high school counselor. The programs are both considered academically rigorous and are designed to expose students to a variety of health care careers through hands-on learning and clinical study at LVHN. These students were purposively chosen due to the likelihood of them entering health care professions in the future.

Participants in each of these programs were required to complete LVHN Youth Programming Letter of Participation paperwork (Appendix D) which gathers demographic information and consents for participation in interviews, tests, and questionnaires. Initially, 108 students were invited to participate in the study, 66 students from LCTI and 42 students from BAVTS. On the dates of the educational interventions, 61 students from LCTI and 39 students from BAVTS took part in the study. The demographics for LCTI's study population included: 87% female, 12% male, and 2% gender queer, and 83% White/Non-Hispanic, 5% Hispanic/Latino, 7% Asian, and 5% Black/African American for both race and ethnicity. Demographics for the BAVTS's study population included: 80% female and 20% male, and 72% White/Non-Hispanic, 18% Hispanic/Latino, 5% Asian, and 5% Black/African American. In

previous years, it was estimated that 100% of the students graduate from high school and 95% of students continue with post-secondary education, with most of them entering the health sciences.

Due to the nature of the content and the possible emotional or psychological distress if personally related to the simulated scenarios and discussions, the researcher worked with both the instructors of the programs as well as a guidance counselor from each school prior to conducting the research to help with the inclusion criteria. Students identified as having personal or familial experiences related to substance use disorder could participate in the education, if they chose to, but their data would not be included as it could potentially bias the study. Throughout the course of the study, no students were identified as potentially biasing the study therefore, no data was excluded. In addition, participation was voluntary, and participants were informed that at any point during the study they were able to opt out of the research and alternate activities would have been provided to them. No students opted out of the study allowing all pre/post collected data to be included in the study.

In order to provide psychological and emotional support to the potential participants of the study, LCTI and BAVTS had a guidance counselor onsite for each of the study dates. LCTI and BAVTS also have a Student Assistance Program (SAP) within their school environment which supports students experiencing such issues as: (1) stressful situations and life pressure; (2) poor communication skills, self-image, or coping skills; (3) death, loss, and grief concerns; (4) divorce, separation, and family issues; (5) peer issues/bullying/relationship concerns; (6) alcohol, drug abuse, or experimentation; (7) risk-taking behaviors, and/or (8) depression or other mental health concerns. The Student Assistance Program is designed to help students and parents by

making in-school and community resources more available to students and to help facilitate connection to those resources.

LVHN served as the IRB regulatory oversight for this study and as such, the study needed to follow LVHN's research policies and procedures. As per LVHN's Research policy the Principal Investigator and LVHN's Senior Education Consultant on the research team were required to complete LVHN's Network Office of Research and Innovations consent training course. Participants' parents/guardians were required to complete the Participant Research Consent Form adhering to LVHN consent procedures (Appendix F) and instructors for both LCTI's EHP and BAVTS's AMS programs were provided Instructor Permission Forms (Appendix E). In addition to written consents, verbal assents (Appendix G) were also read at the onset of the core component and the supplemental focus group component. The assent stated that at any point if a participant becomes uncomfortable or experiences psychological or emotional distress, they may opt out or discontinue participation and alternate activities would be provided for them.

Another requirement of LVHN's IRB policies required the use of a debriefing form (Appendix H) which reiterated the study's purpose; provided additional resources, if the nature of the content should trigger any emotional or psychological distress; and provided the study's principal investigator and LVHN's IRB contact information should participants have any questions or concerns once the study had been completed.

**Study Setting**

The immersive education experience was conducted in the Lehigh Valley Hospital Interdisciplinary Simulation Center, 1247 S. Cedar Crest Blvd, Allentown, PA 18104. The simulation center is an 8,500 square foot facility utilized to provide education to individuals and teams of all specialties and disciplines. The simulation curriculum and the use of realistic immersion learning helps to prepare both clinical and non-clinical staff in performing their duties which can be translated into the clinical environment. Besides workforce development, the simulation center is also utilized by medical students and other graduate learners. The education-only was conducted at the Bethlehem Area Vocational Technical School, 3300 Chester Avenue, Bethlehem, PA 18020 in the student's regular education classroom.

In addition, each of the focus groups were conducted in a pre-determined, convenient classroom setting in which only the participants of the study were permitted to be present. The physical addresses of the schools are Lehigh Career & Technical Institute, 4500 Education Park Drive, Schnecksville, PA 18078 and Bethlehem Area Vocational Technical School, 3300 Chester Avenue, Bethlehem, PA 18020.

**Data Collection****Youth Programming Opioid Use Disorder Pre/Post Survey**

The Youth Programming Opioid Use Disorder Survey (Appendix A), served as the pretest/posttest tool for the purpose of gathering both quantitative and qualitative data to answer Research Questions 1, 2 and 3. The survey, digitally created with Qualtrics, consisted of both structured and unstructured questions. Two single-item indicators created with a Likert-type five-

point scale were used to determine participants' level of hope for a patient with OUD to enter long-term recovery and hope for themselves as future health care workers to have a positive impact on the OUD epidemic. One question addressed the written communication participants may use to provide messages of hope or motivation for a fictional patient with OUD to take further steps in treating their disorder. Additional information collected in the survey included participant name, their future professional-self aspirations (e.g. physician, nurse, physical therapist) and whether the participants had any clinical observations of patients with OUD.

### **Survey Procedure**

The survey tool was validated through the International Association for Medical Education seven-step survey scale design for medical education researchers (Gehlbach et al., 2011). The steps included: (1) completing literature review; (2) conducting interviews with subject matter experts; (3) synthesizing the literature review and interviews; (4) developing items; (5) conducting expert validation; (6) conducting cognitive interviews; and (7) conducting pilot testing.

In 2018, the researcher began by conducting an initial literature review for the Opioid Use Disorder Simulation. Next interviews were conducted with subject matter experts in the field including Alyssa Campbell, DNP, LVHN's Department of Education, Education Consultant-Simulation; Gillian Beauchamp, MD, LVHN's Department of Emergency and Hospital Medicine, Section of Medical Toxicology; Paige Roth, LVHN's Addictions Recovery Specialist; and, Lisa Wolff, Program Manager for the Center of Humanistic Change. This aided in conceptualizing the construct of hopeful communication. Next, the interview feedback and literature search identified a gap in the literature with regards to the use of simulation as a

pedagogy to aid in the fostering of hope and hopeful communication in preprofessional health care students. Potential survey items were then developed, validated by the subject matter experts and then cognitive interviews with the pilot study participants were employed as part of the debriefing process after the initial pilot in May of 2018. Follow-up pilot testing to assess validity and reliability was then conducted from November 2018 through June of 2019.

### **Pilot Study**

The Youth Programming Opioid Use Disorder Simulation Survey was administered in 16 pilot studies conducted between May 2018 and June 2019. Pilot data helped to identify potential problems in the survey procedure and assess whether the research project was feasible.

Information collected in the pilot survey included: (1) participant information (name, email address, future professional self); (2) participants' perception of a "typical patient with OUD" (demographics such as age, gender, race, ethnicity, level of education, employment status); (3) response prompts related to memorable messages about the opioid epidemic; (4) response prompts related to the treatment of a patient with OUD; and (5) two single-item indicators measuring hope for a patient with OUD and hope for themselves as future health care worker.

The pilot study served to standardize the use of the Youth Programming Opioid Use Disorder Facilitator's Guide (Appendix C) for consistency in programming, and to validate field testing and administration procedures for the delivery and use of Qualtrics online survey for the data collection. After collecting pilot data, the responses were entered a spreadsheet and the dataset was cleaned for non-matched responses and incomplete responses. Based on the results, nine questions were eliminated due to lack of clarity with directions, question ambiguity and participant lack of knowledge surrounding the meaning of memorable messages. The survey was

then revised to include seven questions which served as the survey instrument in this research study.

The immersive education experience was piloted with 265 preprofessional health care students and a convenience sample of 153 pre/post surveys were collected and analyzed. Table 1 depicts the results from the pilot study.

**Table 1**

*Frequency Counts for Research Questions 1 and 2 - Pilot*

Question	Likert scale (1-5)									
	Very hopeless		Somewhat hopeless		Neutral		Somewhat hopeful		Very hopeful	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
RQ 1	0	0	0	0	23	4	68	56	62	93
RQ 2	0	0	0	0	14	7	74	48	65	98

*Note.* The sample ( $N = 153$ ) represents 58% of total students participating in the immersive education experience.

The pilot's findings demonstrated a decrease in frequency for "neutral," a decrease in frequency for the somewhat hopeful and an increase in frequency for the very hopeful from pre-immersion to post-immersion, for the Research Question 1 (RQ1) question; "As a future health care worker, how hopeful are you that a patient with an OUD could enter into long-term recovery?" Results were similar for the question for Research Question 2 (RQ2), "As a future health care worker, how hopeful are you that you could have a positive impact on the Opioid Use Disorder epidemic?"

The question responses from the 153 pre/post survey were copied into a spreadsheet labeled by participant name for matching purposes. Initial analysis of the participants' responses was conducted by the researcher and reviewed by content experts. The responses were counted for frequency, aggregated and formed the basis of the tentative categories. Definitions were then created and exemplars for each category were highlighted and further depicted in Table 2.

**Table 2**

*Content Categories and Frequency Counts for Pilot*

Category	Frequency	Definition	Exemplar
Hope Appeals	98	Ideas regarding specific strategies to persuade another that hope has the potential to be a powerful motivator for influencing behavior.	"It's ok...there's a lot of people that recover from using this and there's hope for you."
Individual Recovery Appeals	89	Ideas regarding specific strategies to persuade another that they can exert control over one's motivation, behavior and social environment as it pertains to seeking treatment or entering recovery.	"Don't let it control you. You control it and you are a master of your own body."
Social Recovery Appeals	61	Ideas regarding specific strategies that are relationship focused to persuade another that they have support in seeking treatment or entering recovery.	"We will guide you every step of the way."
Chronicity Appeals	42	Ideas regarding specific strategies that provide a framework for patient understanding regarding the implications of chronic health conditions for the affected person.	"Rome wasn't built in a day and overcoming this will take time."



### **Conception of Reliability**

The pilots provided reliable evidence that there were differences in participant hope levels and their use of hopeful messaging from pre to post immersive education experience. Reliability is generally defined as the consistency of a measure, or the degree to which scores approximate each other across multiple assessments of an instrument or multiple ratings of the same event (Syed & Nelson, 2015) and reliability can be addressed in qualitative research by establishing “intercoder agreement based on the use of multiple coders to analyze transcript data” (Cressman, 2018, p. 264). The patterns and categories within the messaging from the survey responses were identified by two of the members of this study’s research team. This established consistency between researchers to increase inter-rater reliability as well as consistency over time with the same researcher serving as principal investigator.

### **Study Protocol**

The results of the pilot informed this doctoral study’s utilization of a mixed-methods QUAN→ *qual* sequential design with a quasi-experimental quantitative core component pretest/posttest survey design. Once the quantitative core was analyzed, preliminary results were used to identify potential participants for follow-up focus groups as a part of the supplemental qualitative component to enhance understanding of the core findings. The next section details the study timeline and procedures involved in data collection for both the core component as well as the supplemental component.

### **Study Timeline**

In July of 2019, it was determined that LVHN was providing regulatory oversight for the study. As such, the researcher followed LVHN's Network of Research and Innovation's (NORI) three step process with the first step being to gain Scientific Review and Resource Adequacy Attestation from the Department of Education. Once that was obtained, the second step was to submit the initial protocol to the NORI Feasibility Review team and gain approval. Upon approval, the researcher submitted the full protocol with accompanying approvals from each of the participating schools' leadership as well as the from LVHN's Chief Academic Officer.

On September 6, 2019, participants and parents/guardians received a letter of participation for either the LCTI's EHP program or BAVTS' AMS program detailing the educational events of the programs (Appendix D). On September 20, 2019, instructors were emailed the consents (Appendix F) which needed to be printed, sent home to each potential participant and returned on the day of the educational experience.

Participants from the LCTI's EHP immersive education experience participated in the study on October 8, 2019. This group received a PowerPoint education presentation on the topic of opioids and OUD and participated in an immersive education experience group demonstrated the health care of a patient with OUD. The total time of the education was two hours per group of participants.

Participants from the BAVTS's AMS education-only group participated in the study on Thursday, October 10, 2019. This group received a PowerPoint education presentation on the

topic of opioids and OUD. The AMS group's education was approximately one hour of time per group of participants.

The second part of this study involved proportionately recruiting eight students from the education-only group and eleven students from the immersive education experience group. Participants were chosen based on information from survey data and discussions with the instructors and counselors of each of the schools as to availability and willingness of students to participate. The instructors aided in the scheduling of the focus group date, the allotted amount of time (approximately 45 minutes to one hour) and the procurement of a quiet space for the researcher to conduct the focus group discussions. The Focus Group guide (Appendix B) contained semi-structured interview questions and the sessions were audio-recorded with permission from the students. Analysis of the core component of the study was completed within thirty days of the delivery of the education. Analysis of the supplemental component was completed during the month of December 2019. Final analysis of both the core and supplemental components was completed by January 2020.

### **Data Collection Procedures**

On October 8, 2019, 61 previously consented participants from LCTI's EHP arrived at the LVHN's Department of Education, for the immersive education experience. The participants were divided into three groups and were accompanied by their instructors and a guidance counselor from the school. Each group was greeted by the LVHN's Youth Programming Senior Education Consultant and were escorted to their predetermined classroom. The Senior Education Consultant prebriefed the participants utilizing the Opioid Use Disorder Youth Programming Simulation Facilitator's Guide (Appendix C).

The Senior Education Consultant followed the script for assent to participate (Appendix G) and let the participants know that if at any point, the content was making them feel uncomfortable and they did not want to continue their participation, they were welcome to opt out, and other activities would be made available to them. Each participant then utilized their own devices to access to the Youth Programming Opioid Use Disorder Survey (Appendix A) instrument using a QR code. Participants were given approximately ten minutes to complete the survey. Next the assented participants remained for a PowerPoint presentation from CHC's HOPE program. The presentation was delivered by a trained facilitator from the CHC. The topics presented included: an explanation as to what heroin and other opioids are; how opioids affect the brain and body; that OUD is a chronic, relapsing brain disease; that people with OUD that experience stigma have poorer outcomes; and that recovery from OUD is possible.

Upon completion of the HOPE presentation, the participants continued to the Youth Programming Opioid Use Disorder Simulation as detailed in the Opioid Use Disorder Youth Programming Simulation Facilitator's Guide (Appendix C). The first aspect of the simulation was the video component where students watched a pre-recorded scene of standardized patient Sarah's probable overdose followed by the standardized patient's Mom calling 911 and communicating with the Emergency Dispatcher. The video continued as first responders arrived at the scene and dosed Sarah with 4 milligrams of Narcan Nasal Spray is indicated for the emergency treatment of known or suspected opioid overdose. In the final scene, a paramedic and paramedic-trainee provided care as she was transported to the hospital.

Next the facilitator, hurriedly escorted the students into LVHN's Interdisciplinary Simulation Center's hospital based- simulated Emergency Department environment where

students observed the interprofessional health care team take care of standardized patient Sarah. Lastly, students entered the Intensive Care Unit patient room where they listened and observed as an Addictions Recovery Specialist, the Hope Dealer, use motivational interviewing techniques and compassionately discuss the next steps towards Sarah's treatment and recovery. After the simulation, the participants returned to the classroom and the facilitator guided the debriefing discussion. Following the debriefing, the participants were asked to complete the post-survey on their devices using the QR code. They were also instructed that they would could talk with the school counselor (if they should choose) and additional education and community resources were handed out to each participant.

Once post-survey data had been collected, the principal investigator read aloud the debriefing form and disclosed the deception by stating "we did not tell you everything about the purpose of the study because we were specifically interested in the participants' hopefulness. The success of the study depended on participants' authentic experience and related perceptions. As the researcher, I did not want participants' experiences or perceptions influenced prior to the start of the study." This completed the initial LCTI data collection for the core component of the study.

On October 10, 2019, 39 previously consented BAVTS's AMS participated in the education-only presentation in their own classroom at BAVTS. The participants were divided into four groups and were accompanied by their instructor. A guidance counselor was on-site but was not present for the education.

The Senior Education Consultant followed the script for assent to participation (Appendix G) and let the participants know that at any point, if the content was making them feel

uncomfortable and they did not want to continue their participation, they were welcome to opt out, and other activities would be made available to them. Each participant utilized their own devices to access to the Youth Programming Opioid Use Disorder Survey (Appendix A) instrument through a provided QR code. Participants were given approximately ten minutes to complete the survey.

Next the assented participants remained for a PowerPoint presentation from CHC's (CHC) HOPE program. The presentation was delivered by a trained facilitator from the CHC. The topics presented include: an explanation as to what heroin and other opioids are; how opioids affect the brain and body; that OUD is a chronic, relapsing brain disease; that people with OUD that experience stigma have poorer outcomes; and that recovery from OUD is possible.

Once the HOPE presentation was over, participants were asked to complete their post-survey on their devices using the QR code. They were also instructed that they could talk with the school counselor (if they should choose) and additional education and community resources were handed out to each participant.

Once post-survey data had been collected, the principal investigator read aloud the debriefing form and disclosed the deception by stating "we did not tell you everything about the purpose of the study because we were specifically interested in the participants' hopefulness. The success of the study depended on participants' authentic experience and related perceptions. As the researcher, I did not want participants' experiences or perceptions influenced prior to the start of the study." This completed the initial BAVTS data collection for the core component of the study.

On November 7, 2019, a focus group session was conducted by the researcher at the LCTI site and on November 8, 2019, a focus group session was conducted by the researcher at the BAVTS site. Eleven participants were selected from LCTI and eight participants from BAVTS. Participants for each focus group were chosen purposively based on information from core survey data. Criteria used to determine focus group selection were Likert scale responses, their future professional aspirations and a change in messaging from pre to post. The aim was to gather a variety of future professions with varied responses from pre to post educational experience (increase in hopefulness, a decrease in hopefulness or no change in hopefulness). In addition, participants' messaging that would have been coded as a hope appeal, a social recovery appeal, or an individual recovery appeal in the pilot study were chosen as well as the emergent codes of a normalizing, education and stigmatizing. The focus group selection criteria were presented to the dissertation committee and the committee agreed to the criteria for inclusion in the focus groups. In addition, discussions with the instructors and counselors of each of the schools as to availability and willingness of students to participate and whether they learned of any personal or familial connections to substance use disorder further informed participant focus group inclusion.

A private, quiet space for the researcher to conduct focus group discussions was requested at each school and only participants involved in the study were permitted to be in the room. The researcher, a trained focus group facilitator, began by reading the assent script (Appendix G) and set forth expectations for the focus group. The focus groups were facilitated by the researcher in the study and utilized a semi-structured set of questions (Appendix B). The facilitator reviewed with each group the educational intervention delivered in the previous month

to refresh their memories. Six base questions along with probing questions were utilized when needed to further clarify the participants' thoughts or reactions to the immersive education experience and the education-only interventions.

### *Focus Group Questions*

1. Since your education experience on Opioid Use Disorder, how hopeful do you feel that a person with OUD could enter long-term recovery?
2. Since your education experience on Opioid Use Disorder, how hopeful are you that you could have a positive impact on the OUD epidemic?
3. Since your education experience on Opioid Use Disorder, how might you provide some words of encouragement, motivation or hope to someone with OUD?
4. Since your education experience on Opioid Use Disorder, can you tell us what aspect(s) of it were most memorable?
5. Since your education experience on Opioid Use Disorder, how have you been impacted by what you observed/heard/learned?
6. Since your education experience on Opioid Use Disorder, have you told anyone else about your education experience?

The researcher stimulated discussion between the focus group members, providing opportunities for all to participate without letting one member dominate the conversation. Focus Group sessions were audio-recorded with permission from the students. The focus group sessions ended with the researcher reading over the debriefing form (Appendix H), and again providing participants with community-based educational resources and the opportunity to speak with the guidance counselor, if they should choose to.



### **Data Management and Confidentiality**

Participant applications, consents, and other study related data were kept on file within LVHN's Department of Education on a password protected folder in the LVHN "X" drive and only the researcher and the Senior Education Consultant had access to the data. Paper research files will be kept in a locked drawer within the Department of Education for a period of three years as per LVHN's IRB policies and procedures. The Qualtrics online survey used for data collection is a password protected individual subscription through LVHN's Department of Education. Rev.com, Inc., which supplied the audio-recording transcription services for the focus groups, is also a password protected individual subscription through LVHN's Department of Education. IBM SPSS Statistics for Windows used for the quantitative analysis was made available through a LVHN license and was installed directly onto the researcher's computer.

Lastly, Dedoose, a cloud-based research platform, was used to analyze the data and is a password protected individual subscription accessed by the researcher only. Qualtrics, Rev.com, Inc., and Dedoose take steps to protect personal data from loss, misuse, and unauthorized access, disclosure, alteration, or destruction. In addition, LVHN has an Information Systems security team that continuously monitors the security of all applications across LVHN.

### **Data Analysis**

In this mixed-methods QUAN→*qual* sequential study, the core component contained two questions that utilized a five-point Likert scale and one open-ended response question. The survey data was initially exported into an excel spreadsheet and the data from the two Likert scale questions was analyzed using comparison group pretest/posttest design to compare scores pre/post for with-in each group as well as between the education-only and immersive education

experience groups. Descriptive statistics used to summarize the frequency patterns were organized into an excel spreadsheet and uploaded into SPSS Statistical Package for Windows for an inferential statistical analysis. Two non-parametric statistical tests were used to analyze the Likert scale data. The Mann-Whitney test (Mann & Whiney, 1947) compared the pre to post scores between the education-only and immersive education experience groups and the Wilcoxon signed-rank test (Wilcoxon, 1945) compared scores from pre to post within each group.

For the qualitative component, open ended response questions from the survey tool were read purposively by the principal investigator and team of content experts for certain phrases, words, and themes. Data was analyzed utilizing a constant comparative technique meaning the codes and categories were compared with original data and new data as it was acquired (Mills, Bonner, & Francis, 2006). Each expert devised their own list of codes for content and form and then discussed their categorical findings. After sharing their initial ideas, revised code lists were created to add in the development of the coding framework. “Codes are labels that assign symbolic meaning to the descriptive or inferential information compiled during a study” (Miles, Huberman, & Saldana, 2014, p. 71). Fifty-seven codes and sub-codes, initially developed in collaboration with the content experts, were narrowed down and further collapsed into the eight categories of messaging within the coding framework represented in Table 3.

The coding framework, along with the both the quantitative and qualitative data, was uploaded to Dedoose. The mixed-methods data management system allowed for excerpting and coding as well as the ability to integrate other pre-determined descriptors. The descriptors used in this study were identification by number, gender, future profession and their Likert scale

scores on the pre/post survey. Integrating the quantitative and qualitative allowed for additional within-groups and between-groups analysis.

Transcribed focus group data was also read purposively by the principal investigator for certain phrases, words, and themes and analyzed utilizing a constant comparative technique. The transcripts from the focus groups were then uploaded into Dedoose and the excerpts were coded utilizing the same coding framework. Findings from the supplemental qualitative data were integrated with those from the survey open-ended responses and the Likert scale question data to discover and explore patterns thereby creating themes. In mixed-methods design, this integration is referred to the point of interface (Morse & Niehaus, 2009) and is when the core component and the supplemental findings are sequentially integrated adding enhanced understanding of the core results.

**Table 3**

*Coding Framework*

Categories	Codes and Sub-codes	Definitions	Exemplars
Relationship Appeals	Support Collaborative Relationships Not alone Others to help Togetherness "I" Statements "We" Statements Family appeal Understanding	Ideas regarding specific strategies that are designed to persuade another that they have support in seeking treatment or entering into recovery.	"I will help you through this." "We're here to help you anytime." "You are not alone in your recovery." "Your family will be by your side."
Individual Appeals	Individual Agency Self-efficacy Strength "You" Statements	Ideas regarding specific strategies to persuade another that they can exert control over their motivation,	"You can get past this." "You are strong." "You will beat this."

Categories	Codes and Sub-codes	Definitions	Exemplars
	Individual responsibility	behavior and social environment as it pertains to seeking treatment or entering recovery.	“You have the willpower.”
Hope Appeals	Possibility Positivity Everything will be okay Explicit use of the word hope Motivational	Ideas regarding specific strategies to persuade another that hope has the potential to be a powerful motivator for influencing behavior.	“Everything will be ok.” “There is hope” “Recovery is possible.”
Life Appeal	Bettering Future focused Your life matters People need you Responsibility to others	Ideas regarding strategies to persuade another that seeking treatment or entering recovery will improve their life.	“Remind them of the future they have to look forward to.” “Your friends and family will be so happy for you.”
Normalizing Appeals	Others sharing similar experiences Destigmatizing references Recovery is common Validation Compassion	Ideas regarding strategies to positively persuade another that their experiences with the chronic disease process are not “abnormal” and even common.	“Many people go through this.” “Substance use is very common.” “Many people have tried and succeeded at recovery.”
Stigmatizing Appeals	Questioning one’s self-regulation Minimizing Shaming Judging Evoking fear	Ideas regarding strategies to negatively persuade another that they are the cause of their disorder and they should have control over it.	“Continued use is killing your brain.” “Opioids are not the right way to cope with your issues.”
Cognitive Appeals	Resources Facts and statistics Information	Ideas regarding strategies to persuade another to change	“There are tons of resources out there.”

Categories	Codes and Sub-codes	Definitions	Exemplars
	Education Knowledge Expert role	behavior through the dissemination of facts, statistics and other forms of information.	“You can get help with Medication Assisted Treatment.”

In the practicing of qualitative research, some researchers are against counting codes because “counting conveys a quantitative orientation of magnitude and frequency contrary to qualitative research” (Creswell, 2013, p. 185) while other researchers view frequency as a “useful indicator for the importance of a given code” (Elliot, 2018, p. 2857). This study employed the use of frequency counts through a web-based computer application, Dedoose, which allowed both the quantitative and qualitative data that had been “tagged” with a code to be visualized and reviewed together enabling the creation of categories of importance.

Upon completion of the data collection and analysis by the research team, the researcher employed the use of the code “great quote” to identify excerpts from the responses and the focus groups that were tagged with multiple codes during the data analysis process. The excerpts were de-identified, removing names and assigned educational intervention, and copied into a spreadsheet.

On January 3, 2020, the researcher met with the Hope Dealer, now with the title of LVHN’s Program Coordinator of Addictions Recovery Services, to review the spreadsheet and gather her feedback as both an Addictions Recovery Specialist and a person in long-term recovery. The researcher read aloud each excerpt, asking the Hope Dealer for her thoughts on how hopeful or motivational the language read as a subject matter expert. The researcher took notes throughout the process, writing down words or phrases that the Hope Dealer felt were

stigmatizing, hope inspiring, compassionate, and/or misinformed. The researcher used the Hope Dealer feedback to better understand the findings from the study, obtain her subject matter expertise on which messaging resonated with her as hopeful and why, and to use the Hope Dealer insight to further develop the research conclusions.

### **Ethical Considerations**

The ethical principles this study abided by included: (a) minimizing the risk of harm; (b) obtaining informed consent; (c) protecting anonymity and confidentiality; (d) addressing the study's use of a deceptive practice; (e) providing the right to withdraw; and, (f) provision of the full education experience post data collection to the group which served as the quasi-experimental control group.

Due to the nature of the educational content in this study, the researcher worked closely with the instructors and guidance counselors associated with each program to assure that the participants had resources available to them if the content triggered any emotional responses. They were also given the opportunity to end their participation in the education or the study at any point if they chose. LVHN provided the IRB oversight and as such, provided the templates for the informed consents. The informed consents were signed by either the participant, if over the age of 18, or by the parent/guardian if the participant was a minor. All consents were signed, returned and a copy of the informed consent given to the participant. The informed consents will be maintained in a paper format within a locked drawer at LVHN's Department of Education and

only the researcher has key access to the files. In addition, all digital files related to the study will be kept on a password protected folder on the network's drive.

The study's use of deception was addressed with each participant in the debriefing form which was read aloud by the researcher after the post survey data was collected. The debriefing form (Appendix H), explained the reason for the deception in the study and resources were provided if the use of deception or the educational content resulted in any psychological distress. Lastly, the students in the education-only group, once data collection was completed, were invited back to LVHN's simulation center to participate in the simulation component of immersive education experience so that all 100 students in this study had equitable educational experiences.

### **Summary**

The goal of this study was to determine the impact that an immersive education experience had on preprofessional health care participants' hope for patients with OUD, hope for themselves as future caregivers of patients with OUD and the creation of hopeful language in working with this patient population.

In this chapter, several types of data sources were utilized including survey feedback on two single-item indicators measured with a Likert scale, open-ended survey responses to one question and focus group feedback. Participants for the study were chosen based on their affiliation with LVHN's Department of Education and their future interest in health care careers.

Chapter 4 provides a comprehensive analysis of the impact an immersive education

experience on participants' hope levels and use of hopeful messaging. Chapter 5 summarizes the research findings, the limitations of the study, and the recommendations for further research.



## CHAPTER 4

## FINDINGS

**Organization and Structure of the Research**

This study investigated the effects of an immersive education experience on preprofessional health care students' hope that a patient with OUD could enter long-term recovery and hope that they as future health care workers could have a positive impact on the opioid epidemic. In addition, this research sought to better understand how participants crafted hopeful messaging when asked to write two to three hopeful or motivational things they would say to a future patient to encourage them to take further steps in treating their OUD.

For the purpose of this study, an immersive education experience is an integrated simulation within an existing educational curriculum which provides a comprehensive, authentic context for learning coupled with guidance from expert modeling. The immersive education experience took place at LVHN's Interdisciplinary Simulation Center on October 8, 2020 with 61 students from LCTI's EHP. The first component of the immersive education experience consisted of a standard education PowerPoint presentation titled, HOPE: Heroin and Opioid Prevention Education and was presented by a trained facilitator from CHC. The second component, delivered by a LVHN trained facilitator, began with a video depiction of a patient who had suffered an opioid overdose and followed by an immersion into a live simulation within a realistic hospital setting, where the participants listened and observed the healthcare team's approach to caring for the patient.

The standard education PowerPoint presentation titled, HOPE: Heroin and Opioid Prevention Education, was presented by a trained facilitator from CHC to 39 students from

BAVTS's AMS on October 10, 2019. The delivery of the standard education in isolation of the immersive education experience created an education-only control group, which aided in understanding the overall impact of an immersive education experience.

The study was a mixed-methods QUAN→*qual* sequential design (Morse & Niehaus, 2009) with a quantitative core component and a supplemental qualitative component. The quantitative component included a seven-item survey which collected participants' first and last name; their future professional health care interest; whether or not they had any clinical observation experiences with patients with OUD; their responses to two Likert scale questions regarding their hope levels; and one open-ended survey question response eliciting hopeful or motivational messaging to a fictitious patient.

The data from the open-ended responses as well as the Likert scale survey results were used in the focus group participant selection process. Gender, future professional self, survey and responses all served as criteria for focus group selection. This chapter presents both the quantitative and qualitative data from both the survey and the focus groups as they relate to the four research questions.

1. How does an immersive education experience impact participants' hope that a patient with OUD could enter into long-term recovery?
2. How does an immersive education experience impact participants' hope that they could have a positive impact on the OUD epidemic?
3. How does an immersive education experience impact participants' use of hopeful communication?

4. How does an immersive education experience impact participants on a personal level?

### Data Collection and Descriptive Analysis

In this study, the researcher collected data using a pre/post survey and the focus group interviews. The pre/post survey data was collected through an online survey tool, *Qualtrics*, exported to an excel spreadsheet and uploaded into *SPSS* for quantitative statistical analysis. Additionally, open-ended responses from the survey tool were read purposively by the researcher and content experts for phrases, words, and themes to create a coding framework. The coding framework along with the survey and the focus group data was uploaded to the web-based data research platform, Dedoose, for further analysis of the textual responses and the focus group data. Integrating the quantitative and qualitative allowed for additional within-groups and between-groups analysis.

Sixty-one students from LCTI's Emerging Health Professionals Program participated in the immersive education experience group and the descriptive results from their surveys as they relate to Research Questions 1 and 2 are represented in Tables 4 and 5.

**Table 4**

*Frequency Counts for Research Questions 1 and 2 - Immersive Education Experience*

Question	Likert scale (1-5)									
	Very hopeless		Somewhat hopeless		Neutral		Somewhat hopeful		Very hopeful	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
RQ 1	0	0	0	0	2	2	25	14	34	45

Question	Likert scale (1-5)									
RQ 2	0	0	1	0	4	2	18	11	38	48

*Note.* Participants ( $N = 61$ ) represent the Emerging Health Professionals of LCTI.

**Table 5**

*Descriptive Statistics for Research Questions 1 and 2 - Immersive Education Experience*

Question	Mean	Standard Deviation	Minimum	Maximum
RQ 1				
Pre	4.52	0.57	3	5
Post	4.70	0.53	3	5
RQ 2				
Pre	4.52	0.70	2	5
Post	4.75	0.51	3	5

*Note.* Participants ( $N = 61$ ) represent the LCTI's EHP.

The results demonstrated an overall increase in mean hope levels from pre to post for both participants' hopefulness that a patient with OUD could enter long-term recovery and participants' hopefulness that they as a future health care worker could have a positive impact on the opioid epidemic.

Thirty-nine students from BAVTS's AMS participated in the education-only group and the descriptive survey results as they related to Research Questions 1 and 2 are shown in Tables 6 and 7.

**Table 6***Frequency Counts for Research Questions 1 and 2 – Education-Only Group*

Question	Likert scale (1-5)									
	Very hopeless		Somewhat hopeless		Neutral		Somewhat hopeful		Very hopeful	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
RQ 1	0	0	0	0	3	1	19	9	17	29
RQ 2	0	0	0	0	2	0	17	6	20	33

*Note.* Participants ( $N=39$ ) from the BAVTS' AMS.**Table 7***Descriptive Statistics for Research Questions 1 and 2 – Education-Only Group*

Question	Mean	Standard Deviation	Minimum	Maximum
RQ 1				
Pre	4.36	0.63	3	5
Post	4.46	0.60	3	5
RQ 2				
Pre	4.72	0.05	3	5
Post	4.85	0.37	4	5

*Note.* Participants ( $N=39$ ) from the BAVTS' AMS.

Similar to the results from the immersive education experience, the participants in the education-only group also demonstrated an overall increase in mean hope levels from pre to post for both participants' hopefulness that a patient with OUD could enter into long-term recovery and participants' hopefulness that they as a future health care worker could have a positive impact on the opioid epidemic.

Thirty days after students participated in either the immersive education experience or the education-only interventions, the researcher conducted focus groups with a purposive sampling of participants at each of the schools. At the onset of the focus groups, participants were asked to complete a repeat post-survey using their own devices and a QR code which directed them to the Qualtrics Youth Programming Opioid Use Disorder Survey (Appendix A). The frequency counts of the survey data for the eight participants in the education-only focus group and the eleven participants in the immersive education experience are represented in Table 8 and served as additional impact data for Research Questions 1 and 2.

**Table 8**

*Frequency Counts for Research Questions 1 and 2 - Focus Groups*

Question	Likert scale (1-5)									
	Very hopeless		Somewhat hopeless		Neutral		Somewhat hopeful		Very hopeful	
	<u>EHP<sup>a</sup></u>	<u>AMS<sup>b</sup></u>	<u>EHP</u>	<u>AMS</u>	<u>EHP</u>	<u>AMS</u>	<u>EHP</u>	<u>AMS</u>	<u>EHP</u>	<u>AMS</u>
RQ 1	0	0	0	0	0	0	4	2	7	6
RQ 2	0	0	0	0	0	0	5	3	6	5

*Note.* <sup>a</sup> EHP (Emerging Health Professionals) participated in the immersive education experience.

<sup>b</sup> AMS (Academy for Medical Sciences) participated in the education only.

The thirty-day post results demonstrated that participants’ perceptions of hopefulness that a patient with OUD could enter long-term recovery and that they as future health care workers could have a positive impact on opioid epidemic remained at very or somewhat hopeful.

### Quantitative Data Analysis

The quantitative portion of this study utilized a mixed-design which contained a between-group factor as well as a within-group factor analysis using non-parametric tests for ordinal data analysis. This study employed the Mann-Whitney statistical test, which tests the differences between two conditions when different participants have been used in each condition and the Wilcoxon signed-rank statistical test which compares two sets of scores between the same participants (Field, 2009). In this case, the Mann-Whitney test was used to measure differences in pretest/posttest Likert data between the education-only and immersive education experience groups and the Wilcoxon signed-rank test was used to measure the pretest/posttest data difference within each group.

The Mann-Whitney and the Wilcoxon signed-rank tests both necessitate the importance of reporting effect sizes so readers have a standardized measure of the size of the observed effect, which can then be compared to other studies. These measures utilize Cohen's *d* (1988) criteria for statistical effect size descriptors with 0.10 to < 0.30 being small, 0.30- <0.50 being medium and  $\geq 0.50$  being large.

For the immersive education experience group, the Wilcoxon Signed-rank test (Table 9) revealed a statistically significant increase in hope for themselves as future health care workers in having a positive effect on the opioid epidemic,  $z = -2.52$ ,  $p < .05$  with a medium effect size ( $r = .323$ ) but did not reveal a statistically significant increase in hope that a patient with OUD could enter into long-term recovery,  $z = -1.717$ ,  $p < .05$  (Table 9).

**Table 9***Wilcoxon Signed-rank Test Immersive Education Experience*

Question		<i>N</i>	Mean Rank	Sum of Ranks
RQ 1	Negative Ranks	8 <sup>a</sup>	15.38	123.0
	Positive Ranks	19 <sup>b</sup>	13.42	255.0
	Ties	34 <sup>c</sup>		
	Total	61		
RQ 2	Negative Ranks	4 <sup>d</sup>	12.13	48.50
	Positive Ranks	17 <sup>e</sup>	10.74	182.50
	Ties	40 <sup>f</sup>		
	Total	61		

*Note.* <sup>a</sup>. patient hope time 2 < patient hope time 1 <sup>b</sup>. patient hope time 2 > patient hope time 1  
<sup>c</sup>. patient hope time 2 = patient hope time 1 <sup>d</sup>. hope for themselves time 2 < hope for themselves time 1  
<sup>e</sup>. hope for themselves time 2 > hope for themselves time 1 <sup>f</sup>. hope for themselves time 2 = hope for themselves time 1

**Test Statistics <sup>a</sup>**

	Hope for Patient	Hope for Themselves
<i>Z</i>	-1.717 <sup>b</sup>	-2.521 <sup>b</sup>
Asymp.Sig. (2-tailed)	0.086	0.012

<sup>a</sup>. Wilcoxon Signed-rank test

<sup>b</sup>. Based on negative ranks

For the education-only group, the Wilcoxon Signed-rank test (Table 10) revealed both a statistically significant hope for patient with OUD to enter into long-term recovery,  $Z = -2.480$ ,  $p = < .05$  with medium to high effect size ( $r = .397$ ) as well as for themselves as future health care



workers to have a positive impact on the Opioid epidemic,  $Z = -3.273$ ,  $p = < .05$  with large effect size ( $r = .524$ ).

**Table 10**

*Wilcoxon Signed-rank Test Education-Only*

Question		<i>N</i>	Mean Rank	Sum of Ranks
RQ 1	Negative Ranks	6 <sup>a</sup>	10.50	63.00
	Positive Ranks	17 <sup>b</sup>	12.53	213.00
	Ties	16 <sup>c</sup>		
	Total	39		
RQ 2	Negative Ranks	2 <sup>d</sup>	9.00	18.00
	Positive Ranks	16 <sup>e</sup>	9.56	153.00
	Ties	21 <sup>f</sup>		
	Total	39		

*Note.* <sup>a</sup>. patient hope time 2 scale < patient hope time 1 <sup>b</sup>. patient hope time 2 > patient hope time 1 <sup>c</sup>. Patient hope time 2 = patient hope time 1 <sup>d</sup>. hope for themselves time 2 < hope for themselves time 1 <sup>e</sup>. hope for themselves time 2 > hope for themselves time 1 <sup>f</sup>. hope for themselves time 2 = hope for themselves time 1

**Test Statistics <sup>a</sup>**

	Hope for Patient	Hope for Themselves
<i>Z</i>	-2.480 <sup>b</sup>	-3.273 <sup>b</sup>
Asymp.Sig. (2-tailed)	0.013	0.001

<sup>a</sup>. Wilcoxon Signed-rank test

<sup>b</sup>. Based on negative ranks

Participants' hope that they as future health care providers could have a positive impact on the opioid epidemic, ( $U = 1113.0$ ,  $z = -0.794$ ,  $ns$ ,  $r = .0794$ ) or that someone with OUD could enter into long-term recovery ( $U = 1180.50$ ,  $z = -0.083$ ,  $ns$ ,  $r = .0083$ ) did not differ significantly between the education-only group and the immersive education experience group as revealed by the Mann-Whitney test (Table 11).

**Table 11**

*Mann-Whitney Test*

Question	Intervention	N	Mean Rank	Sum of Ranks
RQ 1	EHP (Pre)	61	53.17	3243.50
	AMS (Pre)	39	46.32	1806.50
	Total:	100		
	EHP (Post)	61	50.35	3071.50
	AMS (Post)	39	50.73	1978.50
	Total	100		
RQ2	EHP (Pre)	61	52.23	3186.00
Question	Intervention	N	Mean Rank	Sum of Ranks
RQ 2	AMS (Post)	39	47.79	1864.00
	Total:	100		
	EHP (Post)	61	49.25	3004.00
	AMS (Post)	39	52.46	2046.00
	Total	100		

**Test Statistics <sup>a</sup>**

	Hope for Patient (Pre)	Hope for Patient (Post)	Hope for Self (Post)	Hope for Self (Post)
Mann-Whitney U	1026.500	1180.500	1084.000	1113.000
Wilcoxon W	1806.500	3071.500	1864.000	3004.00
Z	-1.303	-0.083	-0.854	-0.794
Asymp.Sig. (2-tailed)	0.193	0.934	0.393	0.427

*Note.* Emerging Health Professionals (EHP) participated in the immersive education experience and the Academy for Medical Sciences (AMS) participated in the education-only.

*Note.* <sup>a</sup> Grouping variable: intervention.

In summary, the participants in the education-only demonstrated a statistically significant increase in hope for a patient with OUD to enter into long-term recovery as well as for themselves to have a positive impact on the opioid epidemic, whereas the participants in the immersive education experience group only demonstrated a statistically significant increase in hope for themselves to have a positive impact on the opioid epidemic. In addition, quantitative data analysis did not reveal a statistically significant difference in participants' hope between the immersive education experience and education-only groups.

**Qualitative Data Analysis of the Survey**

The survey served as both a quantitative as well as a qualitative tool to collect data as it related to participants' hope for a patient with OUD to enter into long-term recovery, hope for themselves that as future health care workers that they could have a positive impact on the opioid epidemic, and their statements of hopeful messages they would use to encourage a patient with OUD to take the next steps towards treatment and recovery.

In the survey, participants were given the following prompt: “As a future health care worker, you may have the opportunity to work with a patient who could use some messages of motivation and/or hope to take further steps in treating their OUD. Please write 2-3 things you might say to this patient.” Participants’ pre and post intervention responses were gathered electronically, deidentified and organized into spreadsheet with only the Likert scale data and responses as descriptors. The spreadsheets were then distributed to the content experts who served as coders to assist with the coding framework for the study.

The coding framework, along with the data from the core component of the study, was uploaded into Dedoose, an application-based mixed-methods and qualitative research platform, and served as an organizational tool, creating visual relationships between the quantitative and qualitative data. The coding framework, including sub-codes, the frequency with which the codes were applied to the excerpts from both the pre and post responses, as well as examples of exemplars are depicted in Table 12 for the immersive education experience group and Table 13 for the education-only group.

**Table 12**

*Frequency Counts for Research Question 3 - Immersive Education Experience*

Codes and Sub-codes	Frequency		Exemplars
	Pre	Post	
Support	36	37	“Everyone is here for support and guidance along the way.”
“I”	7	17	“I will do anything in my power to help you.”
“We”	7	13	“We’re going to help you.”

Codes and Sub-codes	Frequency		Exemplars
Agency	35	20	“Keep thinking of why you want to get better and work towards that.”
<i>“You”</i>	30	17	“You are strong.”
Hope	24	30	“It’s going to be ok.”
<i>“Motivational”</i>	16	15	“Recovery is completely doable and possible.”
Life	19	21	“You have the opportunity for a brighter future.”
Adversity	14	10	“It will be hard to accomplish.”
Stigmatizing	10	6	“Realize who are affecting with this drug.”
Normalizing	5	24	“I’ve seen many people in the same situation as you.”
<i>“Destigmatizing”</i>	4	5	“I would let them know that we are not judging them.”
<i>“Normalizing Recovery”</i>	0	12	“Many people have tried and succeeded in recovery.”
Education	4	6	“Here is how you get help.”

*Note.* Participants ( $N = 61$ ) from the immersive education experience group.

**Table 13**

*Frequency Counts for Research Question 3 – Education-Only*

Code and Sub-codes	Frequency		Exemplars
	Pre	Post	
Support	18	21	“There is support all around you.”

Code and Sub-codes	Frequency		Exemplars
<i>"I"</i>	6	3	"I believe in you."
<i>"We"</i>	6	7	"We are going to get through this together."
Hope	17	10	"Everything is going to be ok."
<i>"Motivational"</i>	8	7	"You can do it!"
Agency	15	15	"Your willpower is very strong."
<i>"You"</i>	11	10	"You have the willpower to get through this."
Stigmatizing	12	7	"You're killing your body."
Life	8	6	"This will definitely have positive impact on our life in the future."
Adversity	8	9	"Your recovery is going to be hard and painful."
Normalizing	2	9	"There are many people in situations similar to yours."
<i>"Destigmatizing"</i>	1	6	"Having a substance use disorder does not make you a bad person."
<i>"Normalizing Recovery"</i>	1	4	"So many people get past this and live a great life."
Education	2	13	"There are tons of resources out there."

*Note.* Participants ( $N = 39$ ) from the education-only group.

### Relationship Between the Quantitative and Qualitative Results

Coded excerpts from the immersive education experience were compared to participants' responses to the Likert scale questions and reported in Tables 14 and 15. These tables represent

the number of excerpts that were associated with the eleven codes and sub-codes separately for each sub-group (i.e. responded “very hopeful”; “somewhat hopeful”) within a descriptor field (i.e. ”pre hope for patient”; “post hope for self”). The data is presented in frequency percentage to allow for comparison between the unequal participant groups.

**Table 14**

*Intersection of Quantitative and Qualitative Data- Frequency Percentage of Coded Excerpts Research Questions 1 and 3 - Immersive Education Experience*

Code	Percentage		Percentage		Percentage	
	Very hopeful		Somewhat hopeful		Neutral	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Agency	51.7	77.0	42.5	23.0	5.7	0.0
Sub-code “You”	50.9	75.5	45.3	24.5	3.8	0.0
Support	55.0	75.2	41.0	19.4	3.1	5.4
Sub-code "I"	64.0	80.0	36.0	20.0	0.0	0.0
Sub-code "We"	28.6	85.7	66.7	4.80	4.8	9.5
Hope	49.3	78.3	49.3	20.3	1.4	1.4
Life	56.0	68.0	40.0	30.0	4.0	2.0
Adversity	61.5	76.9	38.5	19.2	0.0	3.8
Stigmatizing	63.2	73.7	31.6	15.8	5.3	10.5
Normalizing	56.8	70.3	43.2	18.9	0.0	10.8
Education	83.3	83.3	16.7	16.7	0.0	0.0

*Note.* Participants ( $N = 61$ ) from the immersive education experience.

**Table 15**

*Intersection of Quantitative and Qualitative Data- Frequency Percentage of Coded Excerpts Research Questions 2 and 3 - Immersive Education Experience*

Code	Percentage		Percentage		Percentage		Percentage
	Very hopeful		Somewhat hopeful		Neutral		Somewhat hopeless
Code	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>
Agency	69.0	80.5	17.2	16.1	10.3	3.4	3.4
Sub-code "You"	66.0	79.2	20.8	17.0	9.4	3.8	0.0
Support	64.3	83.7	26.4	13.2	8.5	3.1	0.8
Sub-code "I"	84.0	92.0	16.0	8.0	0.0	0.0	0.0
Sub-code "We"	42.9	95.2	42.9	4.8	14.3	0.0	0.0
Hope	65.2	81.2	30.4	17.4	2.9	1.4	1.4
Life	58.0	70.0	30.0	26.0	10.0	4.0	0.0
Adversity	84.6	88.5	15.4	7.7	0.0	3.8	0.0
Stigmatizing	42.1	73.7	52.6	21.1	5.3	5.3	0.0
Normalizing	67.6	91.9	27.0	5.4	2.7	2.7	2.7
Education	41.7	83.3	58.3	16.7	0.0	0.0	0.0

*Note.* Participants ( $N = 61$ ) from the immersive education experience.

Additionally, the coded excerpts from the education-only group were compared to participants' responses to the Likert scale questions and reported in Tables 16 and 17. These tables represent the number of excerpts that have been associated with the eleven codes and sub-codes separately for each sub-group (i.e. responded very hopeful; somewhat hopeful) within a descriptor field (i.e. "pre hope for self"; "post hope for self").



**Table 16**

*Intersection of Quantitative and Qualitative Data- Frequency Percentage of Coded Excerpts Research Questions 1 and 3 – Education-Only*

Code	Percentage		Percentage		Percentage	
	Very hopeful		Somewhat hopeful		Neutral	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Agency	46.2	79.5	48.7	17.9	5.1	2.6
Sub-code "You"	34.8	78.3	56.5	17.4	8.7	4.3
Support	48.1	78.8	46.2	21.2	5.8	0.0
Sub-code "I"	33.3	88.9	66.7	11.1	0.0	0.0
Sub-code "We"	50.0	92.9	35.7	7.1	14.3	0.0
Hope	43.3	86.7	46.7	13.3	10.0	0.0
Life	42.9	57.1	50.0	35.7	7.1	7.1
Adversity	44.4	72.2	33.3	27.8	22.2	0.0
Stigmatizing	26.1	73.9	65.2	21.7	8.7	4.3
Normalizing	33.3	75.0	66.7	25.0	0.0	0.0
Education	52.9	70.6	47.1	29.4	0.0	0.0

*Note.* Participants ( $N = 39$ ) from the education-only.

**Table 17**

*Intersection of Quantitative and Qualitative Data- Frequency Percentage of Coded Excerpts Research Questions 2 and 3 – Education-Only*

Code	Percentage		Percentage		Percentage	
	Very hopeful		Somewhat hopeful		Neutral	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Agency	66.7	87.2	33.3	12.8	0.0	0.0
Sub-code "You"	60.9	87.0	39.1	13.0	0.0	0.0
Support	59.6	88.5	32.7	11.5	7.7	0.0
Sub-code "I"	66.7	100.0	22.2	0.0	11.1	0.0
Sub-code "We"	57.1	92.9	42.9	7.1	0.0	0.0

Code	Percentage		Percentage		Percentage	
	Very hopeful		Somewhat hopeful		Neutral	
Hope	46.7	86.7	53.3	13.3	0.0	0.0
Life	35.7	71.4	64.3	28.6	0.0	0.0
Adversity	44.4	83.3	55.6	16.7	0.0	0.0
Stigmatizing	52.2	78.3	39.1	21.7	8.7	0.0
Normalizing	50.0	100.0	50.0	0.0	0.0	0.0
Education	64.7	94.1	23.5	5.9	11.8	0.0

*Note.* Participants ( $N = 39$ ) from the education-only.

### Qualitative Data Analysis for the Focus Groups

Focus groups were employed in the supplemental component of this study to gain a better understanding of participants' level of hope for a patient with OUD to enter long-term recovery and hope for themselves as future health care workers to have a positive impact on the opioid epidemic. In addition, focus group feedback was aimed at providing insight as to the construction of their hopeful messaging and gathering feedback on which aspects of the immersive education experience or the education-only created the most impact. This allowed the researcher to delve into the personal effects that each of the interventions had on participants. Table 18 compares the frequency of coded excerpts from Research Question 3 (RQ 3) between the immersive education experience EHP group and the education-only AMS group.

**Table 18***Frequency Counts for Focus Groups - Research Question 3*

Code	Frequency		Exemplars	
	EHP	AMS	EHP	AMS
Support	10	2	“We will get you all the help you could need.”	“I know we can do this together.”
Agency	1	4	“Use your strength and faith to get you through this.”	“Seek help to stop the use of the opioids.”
Hope	6	2	“It is possible to recover.”	“It will get better.”
Life	2	2	“Your life isn’t over, and you can get better.”	“If you start to get better, your life will get better.”
Adversity	1	3	“It may not be an easy road.”	“The recovery process is going to be difficult.”
Stigmatizing	0	0	No excerpts	No excerpts
Normalizing	1	1	“I’ve seen people recover from this.”	“I have known many people who have been in your same situation.”
Education	0	0	No excerpts	No excerpts

*Note.* Thirty-day post survey results from immersive education experience EHP group ( $N = 11$ ) and education-only AMS group ( $N = 8$ ).

Coded excerpts from both the immersive education experience and the education-only focus group surveys were compared to participants' responses to the Likert scale questions. Tables 19 and 20 represent the number of excerpts that have been associated with the eight codes separately for each sub-group (i.e. responded very hopeful; somewhat hopeful) within a descriptor field (i.e. "pre hope for patient"; "post hope for self"). The data is presented in frequency percentage to allow for comparison between the unequal participant groups.

**Table 19**

*Intersection of Quantitative and Qualitative Data- Frequency Percentage of Coded Excerpts Research Questions 1 and 3 - Focus Groups*

Code	Percentage		Percentage	
	Very hopeful		Somewhat hopeful	
	<u>EHP</u>	<u>AMS</u>	<u>EHP</u>	<u>AMS</u>
Agency	100.0	100	0.0	0.0
Support	35.3	50.0	64.7	50.0
Hope	42.9	50.0	57.1	50.0
Life	0.0	100.0	100.0	0.0
Adversity	0.0	66.7	100.0	33.3
Stigmatizing	0.0	0.0	0.0	0.0
Normalizing	0.0	66.7	100.0	33.3
Education	0.0	0.0	0.0	0.0

*Note.* Thirty-day post survey results from immersive education experience EHP group ( $N = 11$ ) and education-only AMS group ( $N = 8$ ).

**Table 20**

*Intersection of Quantitative and Qualitative Data- Frequency Percentage of Coded Excerpts Research Questions 2 and 3 - Focus Groups*

Code	Percentage		Percentage	
	Very Hopeful		Somewhat hopeful	
	<u>EHP</u>	<u>AMS</u>	<u>EHP</u>	<u>AMS</u>
Agency	100.0	50.0	0.0	50.0
Support	64.7	100.0	35.3	0.0
Hope	57.1	50.0	42.9	50.0
Life	0.0	66.7	100.0	33.3
Adversity	0.0	66.7	100.0	33.3
Stigmatizing	0.0	0.0	0.0	0.0
Normalizing	100.0	100.0	0.0	0.0
Education	0.0	0.0	0.0	0.0

*Note.* Thirty-day post survey results from immersive education experience EHP group ( $N = 11$ ) and education-only AMS group ( $N = 8$ ).

Focus group transcripts were entered into Dedoose for analysis. Using the coding framework for Research Question 3, excerpts were tagged with the same base set of codes and additional codes were created to distinguish between elements of the immersive education experience and the education-only interventions. Additional codes included: Hope Dealer, HOPE Education, and Hope Theory, and all excerpts related to Research Questions 1, 2, 3 and 4. Table 21 provides the frequency results and exemplars from both focus groups.

**Table 21***Frequency Counts from Focus Group Transcripts*

Code	Frequency		Exemplars	
	EHP	AMS	EHP	AMS
Support	13	1	“Basically, just letting them know that they are not alone, and I support them.”	“I tell that there’s always people along the way that will help you.”
Agency	6	5	“It’s more of the patient’s responsibility to get better.”	“They can stop at any time if they want.”
Hope	2	2	“Oh yeah, she was once like me. Like she was in the same situation, but now she has a job and a career, and she has a life now. So, it just seems hopeful.”	“I was more hopeful seeing all the stories of the people who did recover.”
Life	2	5	“Like whatever they are going through doesn’t matter to the rest of the population.”	“Talk about the time involved, the opportunities that they could potentially miss out on because of their substance abuse.”
Adversity	2	2	“If you could see the state of the patient and how they were struggling.”	“Put the fear of the work behind them and just begin.”
Stigmatizing	5	11	“When you get a drug, it’s not always pure and people don’t know what they are getting themselves into.”	“Show them the stories that people who didn’t go into recovery and ended up ruining their lives and dying.”
Normalizing	15	8	“She said she knows a lot of stories about people who were able to overcome the addiction.”	“Many people have gotten over substance use.”

Code	Frequency		Exemplars	
RQ 1	5	5	“I think maybe they realized how much addiction was out there and then realized that it wasn’t so easy.”	“Yes, we can see that you have this problem and then we can kind of fix that and they can get through.”
RQ 2	8	2	“We need to look at other treatment options. Maybe like mental health, looking at home life, looking at all this stuff that you can affect and change.”	“Yeah, it was like high relapse rates. So, like what’s the point of helping him if he might just go back to drugs.”
RQ 3	6	8	“Like telling them that you’re there, you’ll always support them.”	“I’ll tell them about how there’s some people that had a successful recovery.”
RQ 4	16	6	“I actually talked to my sister about it because she had a friend who was prescribed Vicodin for pain and got addicted to it.”	“Uh, I think personally, like I’m terrified of becoming, like I don’t want that to happen.”
Hope Dealer	8	0	“But XXX [Hope Dealer] specifically, she sat down; she really listened.”	No excerpts
HOPE Education	8	14	“Made me think more about what is prescribed by a doctor.”	“That when you start certain drugs, it stunts your brain growth and you get stuck emotionally.”

*Note.* Thirty-day post survey results from immersive education experience EHP group ( $N = 11$ ) and education-only AMS group ( $N = 8$ ).

## **Research Findings**

The course of this dissertation was to determine the impact on an OUD immersive education experience on preprofessional health care student's development of hope and hopeful communication. Four research questions guided the study and data was collected at multiple points in the research process to answer each of the questions. This section organizes and synthesizes the results based on each question, highlights the emerging themes and relates the findings back to the literature.

### **Research Question 1 Analysis**

The first question was: "How does an 'Immersive Education Experience' impact participants' hope that a patient with OUD could enter into long-term recovery?" The researcher examined the pre/post Likert scale survey responses to this question alongside the qualitative feedback collected from the open-ended survey responses and the focus group feedback to gain a better understanding of participants' hope.

Initial immersive education experience survey frequency counts demonstrated an increase in the number of students reporting that they were very hopeful after the experience (Table 4) as well as an increase in mean score (Table 5), however for the immersive education experience group, the Wilcoxon Signed-rank test did not reveal a statistically significant increase in participants' hope that a patient with OUD could enter into long-term recovery (Table 9).

For the education-only group, survey results demonstrated an increase in the number of students reporting that they were very hopeful after the education (Table 6) as well as an increase in mean score (Table 7). In addition, the Wilcoxon Signed-rank test revealed a statistically



significant increase in participants' hope that a patient with OUD could enter long-term recovery (Table 10).

The education-only group demonstrated a statistically significant increase in participants' hope that a patient with OUD could enter long-term recovery and the immersive education experience participants did not. This finding might presume that participants would congruently demonstrate an increase use of hopeful messaging. However, analysis of the qualitative results revealed an increased use of "Hope" coded messaging for the immersive education experience group and a decreased use of hope coded messaging for the education-only group (Tables 12, 13) post intervention.

Hope coded messages were defined under "Hope Appeals" (Table 3) as ideas regarding specific strategies to persuade another that hope has the potential to be a powerful motivator for influencing behavior. This aligns with Snyder et al.'s (1991) definition of hope as a positive motivational state and Chadwick's (2015b) guidelines for the construction of a hope appeal, which states that the message should emphasize that the future is positive and possible. In addition to hope appeals, data from the analysis of Research Question 1 also identified participants' use of relationship appeals and stigmatizing appeals as they constructed messages to encourage a patient with OUD to seek help for their disease.

Participants in the immersive education experience used hopeful phrasing such as: "it can only get better from here"; "there is hope for you too"; "recovery is possible"; "everything will be all right"; and, "it is possible to get through this and get past it." Similarly, participants in the education-only used hopeful phrasing such as "recovery is possible"; "there is hope"; and, "it will get better." However, the use of hope appeals for this group decreased post education.

Although both groups utilized hopeful messaging, participants in the education-only group, with a statistically significant increase in hope for a patient with OUD to enter long-term recovery (Table 10), demonstrated a decreased use of hopeful messages post education. Therefore, one key finding was that the immersive education experience impacted participants' hope levels in congruence with their use of hopeful messages, whereas the education-only impacted participants' hope levels incongruently with their hopeful messages.

### *Theme 1- Congruency between Hope and Hopeful Communication*

Qualitative data from the focus group transcripts (Table 21) revealed five excerpts directly related to Research Question 1 from both the immersive education experience group and the education-only group. During the focus group, the researcher asked, "Since your education experience on Opioid Use Disorder, how hopeful are you that a patient with OUD could enter into long-term recovery?" The results from the focus group survey (Table 8) indicated that all nineteen participants from the focus groups reported being very or somewhat hopeful that a patient with OUD could enter long-term recovery.

The excerpts from the immersive education experience focus groups, indicating they were somewhat hopeful, used language that conveyed messages of hope but it was cautious hopefulness. This was evident when they elaborated on the Hope Dealer's experience of working with many patients suffering from OUD and the following experts support this finding:

I said somewhat hopeful because when we were listening to the last speaker, she was telling us that obviously she's been surrounded by many people with opioid addiction and she said she knows a lot of stories about people who were able to overcome the addiction

and were able to get into recovery. (Immersive education experience focus group participant, personal communication, November 7, 2019)

However, another spoke about how sometimes even when people really try, the result may not be what they had hoped:

I said somewhat hopeful because it's not always certain that this will happen because you try to help. But even if you try your best, it won't always have the result that you intended. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

While another stated “they” [fictitious patient with OUD] may not have the necessary support:

I think there's like two sides to everything because a person even though they may try, they may not have support they need to help them get through it because it's a hard process. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

The education-only group also reported that they were very or somewhat hopeful that a patient with OUD could enter long-term recovery. One student mentioned societal tolerance of substance use as a possible reason to be hopeful but does not resonate as hopeful. The terms “tolerated,” “addicted,” and “substance abuse” in the following would be classified as stigmatizing, not hopeful:

I think also just the fact that it's more tolerated in society now. Like, it's not like, oh wow, they're addicted, or they have this substance abuse. (Education-only focus group participant, personal communication, November 8, 2019)

Another participant recounted a story about an individual who was in recovery, but still suffered from the lasting impact of their OUD, demonstrating that while the participants reported being “very hopeful,” their hopeful messages were incongruent to their reported hopefulness. The following excerpt exemplified this incongruency:

The one story she said, I forget what his name was, but he started using drugs when he was 14, so his pre-frontal cortex stopped developing and then when he was recovering, he acted like a 14-year-old again. So that really shows the impact of the drugs. (Education-only focus group participant, personal communication, November 8, 2019)

The congruency between hope levels and participants’ use of hopeful messages was examined further when integrating the quantitative and qualitative data from the survey, as well as the supplemental findings of the focus group and the Likert scale responses. Research Question 1, “How does an “Immersive Education Experience” impact participants’ hope that a patient with Opioid Use Disorder (OUD) could enter into long term recovery?” and Research Question 3, “How does an “Immersive Education Experience” impact participants’ use of hopeful communication?” were integrated based on coded excerpts from the open-ended survey response data and the focus group transcript data.

In the survey, participants were given the following prompt, “As a future health care worker, you may have the opportunity to work with a patient who could use some messages of motivation and/or hope to take further steps in treating their Opioid Use Disorder. Please write 2-3 things you might say to this patient.” The responses were tagged based on codes and sub-codes listed in Tables 12 and 13. When the coded excerpts were compared to Likert scale survey responses, the data revealed the percentage of students who reported being very or somewhat

hopeful in the immersive education group or education-only group based on each code descriptor.

Related to the theme of congruency between reported hope and the participants' conveyance of hope, participants from the immersive education experience group reported that they were very hopeful that a person with OUD could enter long-term recovery. However, they had a 10.5% increase (Table 14) in stigmatizing messaging from pre to post whereas the participants in the education-only group had a 47.8% increase in stigmatizing messaging (Table 16). In this study, stigmatizing messages were coded and categorized under stigmatizing appeals, which were defined as ideas regarding strategies to negatively persuade another that they are the cause of their disorder and they should have control over it.

In the immersive education experience group, examples of "Stigmatizing Appeals" included participant statements such as: "you don't need it; it's only going to hurt you" and "it is better to experience things sober and in their full capacity than it is to experience life through a drug". In the education-only group, examples of stigmatizing appeals included statements such as, "opioids are not the right way to cope with your illness"; "you were given a life, do not waste it by having an addiction"; "if you start to feel withdrawal symptoms, remember it is only going to make your stronger"; "turning to drugs is not going to help you in the long run"; and, "anyone can overcome addiction with the right mindset."

The latter statements question a patient's self-regulation, minimize feelings, impart shame, cast judgement and evoke fear, but most notably demonstrate an incongruence between the education-only participants reporting that they were very hopeful for a patient with OUD to enter in to long-term recovery and their use of hopeful messaging. While participants in the

education-only group may have purveyed hope, they did not convey hope to the same extent as the participants in the immersive education experience.” This finding will be further explored in the analysis of Research Question 4 (RQ 4).

### ***Theme 2 - Relationships in Recovery***

Another identified category of hopeful messaging was relationship appeals which tied back to the literature indicating that professional health care relationships serve as key sources of patient hope, and to inspire hope, one must genuinely feel hope themselves. relationship appeals were defined in this study as ideas regarding specific strategies that are designed to persuade another that they have support in seeking treatment or entering recovery (Table 3). Within the relationship appeal category was the code of support with “I” and “we” statements as sub-codes. These codes were investigated alongside participants’ hope levels for a patient to enter long-term recovery and depicted in Tables 14 and 16.

“I” and “we” messaging were tagged each time an excerpt used “I” or “we” statements when providing hopeful or motivational messaging to a fictitious patient with OUD. Participants reporting being very hopeful in the immersive education experience group had a 57.3% increase from pre to post experience of “we” messaging (Table 14) and a 42.9% increase for the education-only group (Table 16). Some examples of “we” messaging included: “we will get you all the help you could need”; “we will get through this together”; “we are here to help you”; “we will help you in treatment”; and, “we all believe in you”. “I” messaging for participants reporting being very hopeful that a patient with OUD could enter long-term recovery, increased 16% (Table 14) for the immersive education experience group and increased 55.6% (Table 16) from

pre to post for the education-only group. Some examples of “I” messaging included: “I am here to help”; “I will be here”; and “I believe in you.”

Data from the focus group survey (Table 19) revealed participants in the immersive education experience focus group had a higher use of support messaging when they identified as somewhat hopeful than when they identified as very hopeful. Reporting being somewhat hopeful that a patient with OUD could enter long-term recovery may have implied the need for additional patient support measures from a future health care worker perspective and was demonstrated in their construction of their messages. This subsumed need for additional support appeared in their use of “we” messaging indicating more of a collaborative approach towards treatment and recovery for the immersive education experience. In the education-only group, it was emphasized in the use of “I” messages, indicating more of an offering of individualized support for the fictitious patient.

This difference could have resulted from students’ participation in the immersive education experience where they observed a health care team utilizing “we” based support messaging throughout the simulation as they discussed Sarah’s treatment, whereas participants in the education-only group were not exposed to the health care team approach. Using “Relationship Appeals” in the form of “we” statements such as, “we can do this together” or “we are here to provide support to you,” can begin to establish a relationship which is critical to building initial trust. Participants use of relationship appeals are further explored in the analysis of Research Question 3.

### **Research Question 2 Analysis**

The second question was “How does an “Immersive Education Experience” impact participants’ hope that they could have a positive impact on the OUD epidemic?” The researcher examined the pre/post Likert scale responses to this question alongside the qualitative feedback collected from the open-ended responses and the focus group feedback to gain a better understanding of participants’ hope.

Initial immersive education experience survey results demonstrated an increase in the number of students reporting very hopeful that they could have a positive impact on the OUD epidemic after the intervention (Tables 4 & 5). Aligned with these results, the Wilcoxon Signed-rank Test showed a statistically significant increase in the immersive education experience group hope that they, as future health care workers could have a positive impact on the OUD epidemic (Table 9).

For the education-only group, post survey results demonstrated an increase in the number of students reporting very hopeful (Tables 6 & 7) that they could have a positive impact on the OUD epidemic. In addition, the Wilcoxon Signed-rank Test showed a statistically significant increase in participants’ hope they could have a positive impact on the OUD epidemic (Table 10).

Eight excerpts from the immersive education experience and two from the education-only focus group transcripts (Table 21) were directly related to Research Question 2. During the focus group, the researcher asked, “Since your education experience on Opioid Use Disorder, how hopeful are you that you could have a positive impact on the OUD epidemic?” The results from



the focus group survey (Table 8) indicated that all nineteen participants from the focus groups were very hopeful or somewhat hopeful that as a future health care worker, they could have a positive impact on the OUD epidemic. However, excerpts from the immersive education experience group contained statements of cautious hopefulness when referring to how health care workers may know more about the topic than the average person, but they utilized “maybe” language. A statement from one of the participants exemplified this notion:

Well, as a healthcare worker you may know more than the average person about these kinds of things. You can maybe talk them through it and show them what it really is. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

Additionally, the group brought up the notion that health professionals who work in the field of addiction medicine may also be stigmatized within our society. This aligns with cautious hopefulness as the possibility of stigmatization may make preprofessional health care students more cautious about “helping them” [patients with OUD]:

I feel like because of the whole stigma thing and we feel like people are involved in it. If they [health care workers] do tell people they might get judged, like, oh, I help people who have addiction and other people seeing as like, why are you helping them? It’s their fault and stuff like that. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

The education-only group also reported that they were hopeful that as future health care workers that they could have a positive impact on the OUD epidemic but mentioned high relapse

rates and questioned the point of even helping patients who suffer from OUD. The excerpts continued to highlight the incongruence of reported hope levels and conveyance of hope. In addition, it aligned with the messages of stigmatization which increased in the frequency of usage from pre to post in the education-only group:

There was this one guy that relapsed, even though he was in recovery, he relapsed and then ended up passing away. So, then you think not everyone can make it. Yeah, it was like high relapse rates. So, like, what's the point of helping him if he might just go back to drugs.

(Education-only focus group participant, personal communication, November 8, 2019)

Another student spoke about how some health care workers may be set in their ways so regardless of education, they may not be able to change someone's point of view to be less stigmatizing. The participant stated:

I think it depends on the person. Like, I know some [health care workers] are more set in their ways, but I think educating, like, the health professionals a little more could potentially change their point of view. But I don't know. I think it just depends on the person. (Education-only focus group participant, personal communication, November 8, 2019)

In summary, participants in the education-only group reported being very or somewhat hopeful in the survey, but their focus group feedback did not correspond with their survey data. Participants in the immersive education experience continued to use messages of cautious hopefulness that they, as future health care workers, could have a positive impact on the opioid

epidemic. An analysis of the open-ended survey responses related to Research Question 2 was also conducted to further explain incongruency and displays of cautious hopefulness.

In the Opioid Use Disorder Youth Programming Survey (Appendix A), participants were given the following prompt, “As a future health care worker, you may have the opportunity to work with a patient who could use some messages of motivation and/or hope to take further steps in treating their Opioid Use Disorder. Please write 2-3 things you might say to this patient.” The responses were tagged based on eleven codes and sub-codes (Tables 12, 13) and the coded excerpts were then compared to Likert scale survey responses. The data revealed the percentage of participants reported being very or somewhat hopeful in the immersive education experience group or education-only group based on each code descriptor.

Like the results from Research Question 1, Research Question 2 revealed an increased percent frequency of usage from pre to post experience for support, “we,” and “I” messaging (Tables 15, 17). The use of support messaging through “I” and “we” statements can begin to establish a relationship with a patient, but as previous literature supports, in order to make an impact, addressing patients’ perceived self-efficacy for eliciting health behavior change is also important. When prompted to create messages of motivation and/or hope for a patient to take further steps in treating their OUD, participants used adversity and life appeals to address self-efficacy by providing examples of obstacles that patients may have already overcome and that taking next steps can improve their lives. In this study, a life appeal was defined as ideas regarding strategies to persuade another that seeking treatment or entering into recovery will improve their life and the life of others around them, and an adversity appeal was defined as

ideas regarding strategies to persuade another that they can overcome obstacles throughout the process of seeking treatment or entering into recovery.

Participants reporting as being very hopeful that they as future health care workers could have a positive impact on the opioid epidemic, acknowledged a patient's potential for a better, healthy life using messages related to the code life. Life coded messaging had a 12% increase in frequency percentage (Table 15) from pre to post experience in the immersive education experience group and a 35.7% (Table 17) in the education-only group. Further, data from the focus group survey (Table 20) highlighted that 66.7% of participants who reported being very hopeful used life messaging in the education-only group. None of the immersive education experience participants who reported being very hopeful used life messaging. Examples of life appeals from post survey messaging included: "when you are well, you can do whatever you'd like"; "[you can] turn your life around"; "it will help you later in life"; and, "you have the opportunity for a brighter future."

When focus groups transcripts were examined for life appeals, one participant in the education-only group used an "I" statement and a negatively focused life appeal to potentially inspire a patient with OUD to take the next steps towards treatment:

I would kind of question about, like, their future. I'd, like, say, like, 'Oh, like, do you want to have a family later on in life? Like this thing about the time involved, the opportunities that they could potentially miss out on because of their substance abuse. (Education-only focus group participant, personal communication, November 8, 2019)

The immersive education experience focus group referenced the Hope Dealer and how her life may be inspirational to others. One participant elaborated:

About the woman who was talking about how she was in a similar situation [Hope Dealer], she said that she was once in the hospital bed like this person was and it stood out to me because kind of you could see, like, ‘oh yeah she was once me.’ Like, she was in the same situation, but now she has a job and a career, and she has a life now. So, it’s just hopeful. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

During the simulation, the Hope Dealer modeled a motivational interviewing counseling approach (Opioid Use Disorder Facilitator’s Guide Appendix C) in which the immersive education experience participants observed the Hope Dealer establish a relationship and provide support for the patient’s self-efficacy and optimism for change (Miller & Rollnick, 1991).

As cited in previous literature, motivational interviewing techniques are aimed at improving relationships, fostering self-esteem and self-efficacy and inspiring hope and optimism (Krentzman & Barker, 2017). However, Bandura’s (1977) work in self-efficacy, further denotes that emotional arousal, elevated anxiety and fear typically conjure negative thoughts thereby reducing behavioral control. The life appeal example from the education-only group may conjure patient negativity (i.e. “potentially not being able to have a family”; “missing opportunities”) whereas the life appeal example from the immersive education experience group may elicit hopefulness (i.e. “she was once like me”; “she has a job and a career, and she has a life now.”)

Additional examples of appeals that can conjure both negative and positive thoughts are adversity appeals. One example of an adversity appeal from an education-only group participant was the statement “this one guy relapsed, even though he was in recovery; he relapsed and then ended up passing away.” If this adversity appeal was used with a patient as a hopeful message to motivate them to enter treatment, it may have the opposite effect on behavior than what the messaging had intended.

Further results on adversity appeals demonstrated participants reporting being very hopeful that they as future health care workers could have a positive impact on the opioid epidemic, led to a 35% greater usage of adversity based messaging in the education-only group as compared to the immersive education experience group (Tables 15 & 17). Data from the focus group survey (Table 20) highlighted that 66.7% of participants who reported being very hopeful used adversity messaging in the education-only group compared to none in the immersive education experience group. Examples of adversity-based messaging included: “I know it’s hard”; “starting your journey to recovery might seem difficult”; “it’s going to be hard”; and, “I know this is a struggle.”

When focus group transcripts were examined for adversity appeals, one participant from the immersive education experience group recounted how the “state” a patient is in could affect a health care worker’s hope that they could have a positive impact on the opioid epidemic:

If you see that state of the patient and how they are struggling at the time, it could put you in the thought process of “it’s going to be really hard to get better from this” and they probably just wouldn’t think that they could do it. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

This comment aligned with the focus group survey responses “[you] can maybe talk them through it and show them what it really is” and “you can start helping them, giving them the reassurance that they need”, as these statements highlight the need for both, support from a health care worker and the necessary personal agency health care workers may need to positively impact the epidemic.

A participant from the education-only group used the difficult process of recovery as a motivational starting point, but quickly mentioned how they had the ability to stop treatment if they so desired. The participant stated:

If they are scared to go into recovery, tell them that they can stop at any time they want, and if it doesn't go well, they can always stop. But then once in recovery, they will think, “well, I've already gone through this much suffering in my pain to try to recover, so I'll keep going.” (Education-only focus group participant, personal communication, November 8, 2019)

Another participant used the concept of facing one's fears to take the initial step:

I think you should tell them to just, you know, put the fear of the work behind them and just begin. Because the longer they push it off, the longer they're pushing like the rest of their life away. (Education-only focus group participant, personal communication, November 8, 2019)

These remarks aligned with the focus group survey responses, as the education-only group, even though they reported being very hopeful as future health care workers that they could have a positive impact on the opioid epidemic, used examples such as the difficulty of recovering due to

high rates of relapse and the notion that people [health care workers] may be too set in their ways to change, again illustrating incongruency.

Overall findings from the analysis of Research Question 2 continued to highlight the immersive education experience group's depiction of cautious hopefulness as it related to their role as future health care workers in having a positive impact on the OUD epidemic. It also identified two additional categories related to participants' construction of hopeful messaging, the use of adversity appeals and the use of life appeals. Participants in the education-only group may have used adversity and life messaging more post-education because they felt acknowledging that the process is difficult, hard or prolonged, may be important in providing hopeful or motivational messaging to a future fictitious patient with OUD, whereas, participants in the immersive education experience did not see an increased need to use adversity or life appeals to inspire hope or motivation.

Additionally, the concept of agency and stigma as future health care workers, was conveyed by a participant in the immersive education experience group when they mentioned that "I help people who have addiction and other people seeing it as like, why are you helping them? It's their fault and stuff like that." Referring to the literature on stigma, this type of stigma is called courtesy stigma (Corrigan et al., 2015). The burden of courtesy stigma is when family and friends, and in this case, even health care workers, may experience stigmatizing attitudes from others because of their relationship with individuals with substance use disorder (Corrigan et al., 2015). This relationship between courtesy stigma and participants' self-efficacy as future health care workers will be discussed further in the analysis of Research Question 4.

### **Research Question 3 Analysis**



The third question was “How does an “Immersive Education Experience” impact participants’ use of hopeful communication?” The researcher examined the qualitative feedback collected from the open-ended responses alongside the focus group feedback to better understand how participants devised hopeful communication to encourage a patient with OUD to take the next steps towards treatment and recovery.

The answering of Research Question 3 began with the analysis of open-ended survey results for the questions displayed in Tables 12, 13 and 18. When examining both the immersive education experience and the education-only groups, each code was labeled for frequency and an exemplar provided. Messages coded for support had the highest frequency noted between the groups. The next highest frequency code for the immersive education experience group was agency messaging. The third highest in frequency for the immersive education experience group was the code for hope. Hope messaging was second in frequency for the education-only group and the next highest in frequency for the education-only group was the code stigmatizing. Stigmatizing appeared as sixth on the immersive education experience list with life and difficult as the next two codes for both groups. The code normalizing was the seventh and the least frequent code was education messaging.

The answer to Research Question 3 was more developed through the analysis of transcript data from the focus group discussions and focus group survey data. Focus group transcripts (Table 21) revealed six excerpts directly related to Research Question 3 from the immersive education experience group and eight excerpts from the education-only group. During the focus group, the researcher asked, “Since your education experience on Opioid Use Disorder, how might you provide some words of encouragement, motivation or hope to someone with

“...can a patient with OUD?” The results from the focus group survey (Table 8) indicated that all nineteen participants from the focus groups reported being very hopeful or somewhat hopeful that a patient with OUD could enter long-term recovery. Through the examination of both the focus group data and the survey responses, two additional categories of messaging, agency appeals, and normalizing appeals were identified.

Participants utilizing agency coded messaging stayed consistent from pre to post in the education-only group but decreased by 43% from pre to post in the immersive education experience group (Tables 12, 13). In addition, focus group survey data demonstrated that the education-only group utilized agency coded messaging with a greater frequency than the immersive education experience group (Table 18). Agency coded messaging was categorized as an individual appeal. Individual appeals are defined as ideas regarding specific strategies used to persuade another that they can exert control over their motivation, behavior and social environment to seek help or enter recovery (Table 3). Examples of agency-based messaging from the open-ended survey responses of the immersive education experience group included: “you will be able to overcome”; “you will make it out”; and, “you need to do this.” Examples of agency based messaging from the survey responses of the education-only group included: “this is going to take a lot of willpower”; “you have to keep fighting”; “you have the power to overcome any challenge you face”; “you will be able to overcome your substance use”; and, “you need to work hard at it.” Wording such as “willpower,” “fighting,” “work hard,” and “power to overcome” have the potential to impact a patient’s agency for a possible recovery, but it does so in a way that implies that the work will be painstakingly hard.

The participants in the education-only group pre-educational experience utilized individual appeals at a higher frequency than hope appeals post-educational experience (Table 13), whereas the immersive education experience group used hope appeals at a higher frequency than individual appeals post-immersive educational experience when prompted to inspire a patient with OUD to take the next steps towards treatment. Through this finding emerged an additional theme regarding how the educational experiences may have impacted participants use of inspirational or perspirational messaging

### ***Theme 3 - Inspirational versus Perspirational Messaging***

Individual appeals and hope appeals directly align with Snyder's Hope Theory (1995) in which hope is defined as "a positive motivational state that is based on a derived sense of successful (a) agency (goal directed energy) and (b) pathways (planning to meet those goals). This study found that how participants used agency to convey a positive motivational state differed between the types of education participants received. This was evident in the hope appeal messaging where hope was conveyed in a way that was more inspirational and relationship based and less perspirational, and individual based after participants' immersive education experience." Perspirational, means that the message creator, the [study participant], put the ownness of the hard work involved in recovery solely on the patient. Examples of participants' perspirational messaging were saying to a patient, "We will get you all the help you could need," as opposed to saying to a patient, "Use your strength and faith to get you through this" (Table 18). While the messages in these statements are subtly different, they may address a patient's agency from a relationship-based inspirational lens in the former and a perspirational lens in the latter.

Both the immersive education experience and the education-only groups utilized relationship appeals and support coded messaging post educational experience over individual appeals and the use of agency coded messaging post-experience (Tables 12, 13). However, it was evident that participants who observed the Hope Dealer as a part of the immersive education experience tended to use inspirational messaging related to “I” and “we” (Table 12). Examples of this included: “basically, just letting them know that they’re not alone. I support them” and “telling them you’re there, you’ll always support them.” In the follow-up focus groups, participants provided specific examples related to how the Hope Dealer inspired the patient to take the next steps towards treatment. One such example was:

The health care worker [Hope Dealer] that came in when she [standardized patient] was in the hospital bed, she was listening compassionately. She really cared about what the patient had to say. So, I feel like if a health care worker comes in and you’re trying, like you as a patient, are trying to talk to them, but you can tell that they don’t care what you have to say. I think that would really put a person down and make them feel like they’re not important and like, whatever they’re going through doesn’t matter to the rest of the population. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

In the excerpt above, the student explained how the Hope Dealer listened “compassionately” and “really cared” as opposed to how others may not “care what you have to say.” Caring and compassion in this example can establish a meaningful relationship between the patient and the health care provider. In the proceeding passage, another participant identified how the Hope Dealer used Motivational Interviewing techniques to ask questions, listen reflectively and utilize

relationship appeals to persuade the patient that they have support in seeking treatment or entering recovery:

How are you feeling? Do you like where you are? Where do you want to see yourself?  
How do you feel when you do this? It's important to motivate them to and see what they want because you want them to stop. You can start guiding them and saying, I'm here for you. We are here to help you. You're not alone. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

The education-only focus group participants also used more perspirational communication but in a way that contradicted the importance of addressing agency and self-efficacy towards a positive future state. One participant referenced below that the patient has no "control":

I thought it was interesting how she [HOPE Program Educator] went into some of how the brain is affected. Like specifically, with, like, the nucleus accumbens, how it's like not even their fault, the body and the physiology pretty much depend on it. It's not anything you can control. (Education-only focus group participant, personal communication, November 8, 2019)

Expressed in this passage is the sentiment that if a health care worker was to say to someone that "it's not anything that you can control," then why would the patient be inspired to begin the "hard work" of recovery if they have no control of the outcomes? Another participant used the comparison of OUD to another disease state to illustrate the potential high levels of relapse:

Make them feel better about recovering. The presentation [HOPE Program] even said that, like, asthma had a higher relapse rate. (Education-only focus group participant, personal communication, November 8, 2019)

Again, an education-only participant expressed the concern that if a health care worker uses the potential high rate of relapse to provide motivation, then a patient may not be hopeful and motivated to begin the process of recovery. A participant from the immersive education experience group also provided an example of how the HOPE program educator compared addiction to other disease states. The following participant included information addressing why the disease of addiction should not be stigmatized, which was not evident in the education-only group focus group feedback:

So, like when she compared it to diabetes and a heart attack with relapse, I saw, like, we're really just the same and you can't really stigmatize an addiction, because it's the same thing. (Immersive education experience, focus group participant, personal communications, November 7, 2019)

The comparisons made between the diseases of asthma and diabetes to addiction highlighted another finding in this study, and that was the use of messaging identified as normalizing appeals.

#### ***Theme 4 - Normalizing Opioid Use Disorder and Recovery***

Normalizing appeals in this study were defined as ideas regarding strategies to positively persuade another that their experiences with the chronic disease process are not “abnormal” and even common (Table 3). Normalizing, according to the literature (Goffman, 1963), expressed

that the main goal of stigmatized people is to be accepted as “so called normal”. In addition, the specific use of normalizing appeals to normalize the concept of recovery is important, as “practitioners have to be proactive in conveying an explicitly hopeful message to their patients, emphasizing that recovery is not only quite possible, but also quite common” (Schrank et al., 2011, p. 234). The education-only focus group surveys demonstrated a 350% increase (Table 13) in usage of messaging coded as normalizing and the immersive education experience group post survey showed a 380% increase (Table 12) in frequency of usage.

Examples of normalizing appeals from the post immersive education experience survey results included: “I saw many patients bounce back from this”; “millions of people are in long-term recovery”; and “many people go through this.” Examples from the education-only group post survey results included: “I don’t judge them for their substance abuse disorder, but I don’t want them to get hurt or die”; “you have a disease and you can beat it just like someone with cancer would beat it”; and “addiction is not a choice, it’s how your body reacts to said substance is what causes addiction.”

In addition to the survey results, excerpts from the focus group discussions also revealed examples of normalizing appeals. For instance, one participant from the immersive education experience group used the normalizing technique of creating a commonness regarding the condition as follows:

But also reinforcing the fact that there’s been many, many people before them who have also faced similar complex stuff, but they have gotten through it. So, it’s possible.

(Immersive education experience, focus group participant, personal communication, November 7, 2019)

Another participant spoke specifically about how a patient with OUD may respond more positively to someone who has gone through a similar situation:

I don't remember what kind of worker she was [Hope Dealer], but she was talking to her [Sarah the standardized patient] about her possible recovery options and then she brought her own experience into it, like how she was able to recover. So I think if I was a patient and I had a health care worker coming in and telling me that they went through the same thing that I did, but they got past it, I definitely think I would be more hopeful I could get through it. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

Lastly, another participant spoke about how the simulation part of the immersive education experience helped participants to visualize a successful recovery as an approach to normalize recovery:

It made it more hopeful, seeing the health care experience, because like someone telling you that you can do anything to get better, sometimes it's hard to visualize until you actually see an example of when someone is successful. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

Conversely, the education-only focus group demonstrated normalizing appeals using a more standardized cognitive-based approach. In the following statement, one participant stated what they would not say to a patient with OUD:



Well, I mean, I wouldn't use words like addiction and abuse but instead, use disorder. So, it doesn't make them feel so guilty. (Education-only focus group participant, personal communication, November 8, 2019)

Another participant detailed what they might say to normalize recovery:

I'll tell them about how there's some people that had a successful recovery and you know, talk to them about other people having success in stopping. (Education-only focus group participant, personal communication, November 8, 2019)

Normalizing techniques were observed, heard and discussed in the immersive education experience but only discussed in the education-only group which may have impacted their creation of hopeful communication with a fictitious patient with OUD. The immersive education experience and the education-only participants, in keeping with constructivist educational theory (Piaget, 1952), actively and socially built new knowledge constructing their own interpretation of reality. The interpretation of reality for the education-only group was limited to what they could hear, see, and understand from a PowerPoint presentation delivered in a classroom setting. The immersive education experience participants' reality was based on a true-to-life scenario of a young woman overdosing on heroin, her journey through the patient experience in a hospital setting and then her entry into treatment. The differences between these learning experiences and the narrowed construction of reality for participants in the education-only group may have contributed to the increased usage of cognitive appeals.

The education-only survey results post education showed a 550% increase in frequency of the usage of cognitive appeals and the immersive education experience group had a 50% increase

in usage of cognitive appeals (Tables 12, 13). While this is not necessarily a surprising relationship, it is an interesting one as it highlights the difference in the types of cognitive appeals utilized by both groups. Cognitive appeals for the purpose of this study were defined as ideas regarding strategies to persuade another to change behavior through the dissemination of facts, statistics and other forms of information. Education messages were one of the codes that related to the category of cognitive appeals and data displayed in Table 13 and 15 demonstrate the frequency of usage between the immersive education experience and education-only participants.

Data related to both Research Questions 1 and 3 showed that those participants in the immersive education experience who reported being very hopeful (Table 13), had a 0% increase in creating messages related to education. Participants who reported being very hopeful in the education-only group had a 41.6% increase in education messaging (Table 15). This finding indicated that even though both groups of participants were given the same standard education HOPE presentation, the education-only group post education had an increased usage of education messaging, whereas the immersive education experience participants were no more likely to use messaging related to education post-experience.

Participants in the immersive education experience used phrasing related to education such as “we offer plenty of resources if you ever need help” and “you have people and resources that will help you get through this”. The education-only group used more directive-based education statements such as “if they ever need to be seen in the hospital during their recovery period, remember to ask for no use of opioids”; “Opioids are very dangerous, and overdoses are fatal. Please get medical attention. Don’t wait for until medical attention/help finds you!”; and, “Inform them of the different ways they can get help from doctors and therapists.” These responses further

highlighted that the immersive education experience group made more statements that were from a collaborative “expert” role and the education-only group from a cognitive “expert” role. This finding will be further deconstructed in the analysis of Research Question 4 and further discussed in Chapter 5.

### **Research Question 4 Analysis**

The fourth research question was “How does an “Immersive Education Experience” impact participants on a personal level?” Focus group transcripts (Table 21) contained 16 excerpts from the immersive education experience group and six from the education-only group directly related to Research Question 4. The researcher also examined the qualitative feedback collected from the focus groups to learn more about which aspects of the experiences were most memorable; which aspects personally impacted them; as well as whether they shared their experiences with anyone such as friends or family members.

During each of the focus groups the researcher utilized three questions from the semi-structured interview questions that explicitly addressed Research Question 4. They were: (1) “Since your education experience on Opioid Use Disorder, can you tell us what aspect(s) of it were most memorable?”; (2) “Since your education experience on Opioid Use Disorder, how have you been impacted by what you observed/heard/learned?; and, (3) “Since your education experience on Opioid Use Disorder, have you told anyone else about your education experience?”

One participant from the immersive education experience group recalled that the most memorable aspect of the presentation HOPE education presentation was caution regarding someone's need for painkillers:

Well, I know during the one presentation they were talking about how you don't really need painkillers for certain things. Like try not to take them unless you really, really need them. And she used the example of taking it after you get your wisdom teeth out, which you can really handle not taking. So, I definitely remember that. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

Another cited the importance of not stigmatizing and seeing patients as people:

The lack of judgment is really important when dealing with the patient, so they know they're not being stigmatized. They are seen as a person. (Immersive education experience, focus group participant, personal communication November 7, 2019)

The Hope Dealer's impact also was referenced when the participant noted her modeling of supportive behavior:

XXX [Hope Dealer] specifically, it seemed like she really sat down, she really listened or like the other health professionals, like they were helpful. They were kind but it wasn't like they were really sitting down like asking her how she was. But I mean that's also XXX [Hope Dealer] job but, and that just stuck with me and it has kind of helped me to see like, oh, this kind of helps them like to support them and this is how you do it and this is how you approach them. And then we talked about how when you're talking to a patient, like she sat down so she was at the same level as a patient instead of standing up,

like talking down to them, which stood out to me. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

When the education-only participants were asked to provide information on what aspects of the education were most memorable, one participant cited information about the potential effects of drugs on the body. She recounted:

Um, that, when you start using certain drugs, it stunts your growth and you get stuck emotionally. (Education-only focus group participant, personal communication, November 8, 2019)

Another participant commented that she was “terrified” of becoming addicted herself and wanted to avoid addiction because it would get in the way of her achieving her future goals. She stated:

Uh, I think also just like, like, I don't know, like me personally, like I'm terrified of becoming, like I don't want that to happen cause like I have like, I have a future, like I want to keep, like, I have career goals of like, I don't wanna give up on everything cause I've seen as like people, you go down that road and struggle and have a really hard time getting back on their feet. So, I just, if I avoid it, like totally, and then remember those key, um, uh, steps to take, to not go down that path, I think it would really beneficial for the future. (Education-only focus group participant, personal communication, November 8, 2019)

Another participant elaborated on the chronicity of drug use:

Knowing that it has, like, a lasting impact on your life. It can just stay with you throughout the rest of your life. (Education-only focus group participant, personal communication, November 8, 2019)

These three excerpts demonstrated that the participants in the education-only group recounted that the most memorable aspects of the programming were the ones that touched upon their perceived susceptibility of succumbing to OUD themselves.

Lastly, during the focus groups, participants were asked, “have you told anyone else about your education experience?” One of the responses was reflective of the concept of courtesy stigma that emerged in the analysis of Research Question 1. A participant from the immersive education experience in a discussion with her father, a physician, talked about how the opioid epidemic is everyone’s problem to solve:

Well I talked to my dad, he's a physician and I know in his office, he stopped prescribing opioids because he's just a family physician. He doesn't perform major surgeries and stuff and he tries to work with his patients on like how they were saying most people focus on the money aspect. He cares about the work. I realized that he stopped doing that, so he doesn't get his patients involved in things. Like he tries to work with them through things rather than over-medicating up society and using stronger doses of medications. I was just seeing his perspective and he was like, ‘It's something that we just need to try to help solve and do our best because physicians are just overprescribing opioids.’ Just to see satisfaction in their patients when really, it's just a temporary satisfaction and not like it's not going to be lifelong pain relief. So, it's important to start but step in early and intervene, but instead of prescribing, instead of doing those kinds of things. (Immersive

education experience, focus group participant, personal communication, November 7, 2019)

Relatedly, another participant in the immersive education experience associated being able to talk to family about topics like drug use, without the fear of judgment or courtesy stigma:

And I know sometimes family members would have, like, a different family member who are addicted and there's like kind of shame to them and they don't want to take them to get help because they are afraid to get judged because of their family members. So, I think it's helpful to talk to them and tell them, "Hey, you should take this person to get some help and tell them, hey, you should take this prescription to get back on their feet. You're worried about them so much and they won't get judged for it because it's a judge free zone." (Immersive education experience, focus group participant, personal communication, November 7, 2019)

An immersive education experience participant detailed her desire to spread awareness about the topic as a potential preventive approach to getting the help people need sooner:

Okay. I know for a lot of people it's hard to understand the severity of a problem if they're not directly connected to it. Sometimes for people, if someone just tells you something, you don't really take it all in and kind of engage in the topic because it's really an out of sight, out of mind problem. But I feel if we tried to spread as much knowledge as we can throughout the healthcare community and we get those people thinking about those topics, even if it's just like, like, in the back of their minds, they might start to notice more people who could possibly have addiction and get them thinking about the whole

entire problem. (Immersive education experience, focus group participant, personal communication, November 7, 2019)

A participant who focused on talking to her parents about what doctors prescribe for her and even question a doctor as to the addictive qualities of a prescribed drug said:

It made me think more about accepting what is prescribed from doctors. I didn't think to myself; do I really need this? And I'll talk to my parents about it more. And I'd ask the doctor if it's possible to get addicted to certain medications because I know when I got my surgery, I was prescribed a lot of pain medications and now I'm thinking about like, "Did I really need those?" (Immersive education experience, focus group participant, personal communication, November 7, 2019)

While the first three excerpts spoke more to advocacy for patients with addiction and the need to decrease stigma by spreading awareness about the disease, the last excerpt which stemmed from the HOPE education presentation, called attention to the participant's perceived susceptibility. This was also seen in the education-only group when a participant mentioned taking Vicodin after a surgery:

I went home and I talked with my mom about Vicodin because I took that once when I got my surgery. I didn't know that I was possibly putting myself at risk for opioid use disorder. (Education-only focus group participant, personal communication, November 8, 2019)

An education-only group participant detailed the potential escalation of drug use:



I like went to people and talked about how even though you may start off small like that eventually it could get to like heroin addiction, it's like serious things and that also stuff could be like laced, but then I forget what it was but like it could really harm you like fentanyl. (Education-only focus group participant, personal communication, November 8, 2019)

Instead of focusing on the potential harms of drugs, one participant focused on the Good Samaritan Law and how she could spread the information to others:

And how a lot of people don't know about the Good Samaritan law about like cause teenagers these days, they go to a lot of parties and stuff and you never know what someone's doing. And so, if you stay with them, if someone overdoses you won't get in trouble for it. So, you could always save a life, which I told people about. (Education-only focus group participant, personal communication, November 8, 2019)

Participants receiving the HOPE presentation education in isolation of the immersive education experience conveyed a greater sense of perceived susceptibility to becoming addicted to drugs (i.e. “I’m terrified”; “possibly putting myself at risk”; and “laced with fentanyl”) and fearfully detailed the potential impact it could have on their lives (i.e. “stunts brain growth”; “get stuck emotionally”; and “ended up ruining their lives and dying.”) This was not the same impact that the education had when it was delivered in conjunction with the immersive education experience. Additionally, this messaging was also not congruent with participants reported high levels of hope for people with OUD to enter long-term recovery and for themselves as future health care workers to have a positive impact on the opioid epidemic.

Participants in the immersive education experience focus group used “Hope Appeals” in a greater frequency than participants in the education-only group (Table 18). However, participants who engaged in the education-only experience, in which the HOPE education presentation was delivered in isolation of the simulation experience, expressed an increased fear and perceived susceptibility of becoming personally addicted to opioids. An increase in fear and susceptibility was not reported by those participants in the immersive education experience group. Therefore, it appears that preventive drug education in isolation of the immersive education experience may lead to an increased perception of susceptibility and stigma. This finding exposed the final theme in this study.

#### ***Theme 5 - Preventive Drug Education, Perceived Susceptibility and Stigma***

While the education-only group HOPE presentation component is focused on providing awareness and education regarding opioids and OUD, its use of narratives and testimonials surrounding others suffering from OUD and the related consequences seemed to create personal fear in participants as evidenced by the excerpts from the education-only group. The education program may have intentionally or unintentionally appealed to participants perceived personal susceptibility of becoming addicted to opioids themselves. The data did not reveal why the education-only group had an increase in perceived sense of susceptibility and increased stigma post-educational experience.

Preventive health education programming delivered in high schools is often purposely aligned with the concurrent public health behavior change messaging of the time (i.e. “Just Say No”; “Stay Drug Free”; “Stay Alive! Don’t Drink and Drive”; “Get Yourself Tested!”; and “Are You at Risk?”) The HOPE program is one example of this type of educational programming. The

presentation provides: alarming statistics related to opioid use, abuse and overdose deaths; pictures of the signs and symptoms of overdose; a clinical overview of addiction on the brain and body; video testimonials from people with addictions who have relapsed and recovered or relapsed and died; information related to stigma; a depiction of the comparison between relapse rates for drug addiction and other chronic illnesses such as diabetes, hypertension and asthma; and resources and information on where to get help. education-only participants conveyed some of this “educational” information in their post educational experience open-ended survey responses and their focus group feedback. Furthermore, the education-only participants demonstrated an increased usage of cognitive appeals post education and in doing so, took on more of a cognitive “expert” role when providing hopeful inspiration to a patient with OUD.

Previous literature has focused on constructing effective health behavior change messaging through education. Relating this back to the HOPE educational presentation component, effective health behavior change messaging is aimed at touching on one’s perceived severity (pictures of the signs and symptoms of opioid overdose), perceived susceptibility (alarming statistics related to opioid overdose deaths), perceived response efficacy (a depiction of the relapse rates for drug addiction) and perceived self-efficacy (resources and information on where to get help). Often, preventive education programming, uses fear appeals to change one’s perception through a cognitive, emotional and behavioral lens.

Participants being exposed to the HOPE education presentation only, may have experienced the fear evoking opioid statistics and information, the patient narratives detailing relapses and death, and the behavior avoidance techniques, in a more heightened and memorable way than the participants of the immersive education experience group. The immersive

education experience group experienced the same education but in conjunction with the simulation which demonstrated the team-based compassionate care of a patient suffering from OUD and the successful inspiration of hope for the patient to enter treatment.

It is also conceivable that educational programming, such as the HOPE presentation, aimed at preventing certain dangerous health behaviors is the same educational programming that culturally reinforces “deviant stereotypes of heroin users as ‘intimidating’; ‘manipulative’; ‘automatically drug seeking’; and, ‘unreliable’ as found in the literature (Braden et al., 2011, p. 460). So, while the students in the education-only group reported being very or somewhat hopeful that a person could enter into long-term recovery, their messaging and focus group feedback was incongruent to reported hope levels.

The immersive education experience participants observed part of the education being delivered by a healthy, successful and competent health care worker, the Hope Dealer, who identified as being in recovery herself. In this study, the Hope Dealer, as a person living successfully and openly with a substance use disorder, was an extremely powerful proximal source (Borschmann et al., 2014; Corrigan et al., 2012; Griffiths et al., 2014; James & Glaze, 2006; Yamaguchi et al. 2013) and may have provided a broader experience surrounding hope that a person with OUD could enter into long-term recovery.

### **Summary**

The purpose of this mixed-methods research study was to determine the impact of an Opioid Use Disorder immersive education experience on preprofessional health care students’ hope that a person with OUD could enter into long-term recovery; hope that they as a future

health care worker could have a positive impact on the opioid epidemic; and their use of hopeful communication with a fictitious patient with OUD. It also investigated which aspects of the immersive education experience impacted the participants' construction of hopeful messaging and lastly, the personal effects the experience had on them.

In the quantitative core component of this study, the researcher found that the immersive education experience had a statistically significant impact on participants' hope that they as future health care workers could have a positive impact on the opioid epidemic but not on their hope for a patient with OUD to enter into long-term recovery.

Qualitative data related to participants' use of hopeful communication revealed the use of eight categories of messaging appeals. The construction of the appeals was in response to a survey question aimed at eliciting their use of hopeful and/or motivational messaging to a patient with OUD to take the next step towards treatment and recovery. In order of frequency for their pre-educational experience use was relationship appeals, individual appeals, hope appeals, life appeals, adversity appeals, stigmatizing appeals, normalizing appeals, and cognitive appeals. After the experience, their three highest in frequency of usage was: relationship appeals, hope appeals, and normalizing appeals.

Quantitative data from the education-only group revealed a statistically significant increase in hope levels for both a patient with OUD to enter long-term recovery and for themselves as a future health care worker to have a positive impact on the Opioid epidemic. The pre-educational experience qualitative data identified relationship appeals, hope appeals, and individual appeals as the highest in frequency usage and post-education, participants revealed a

higher frequency in messaging related to relationship appeals, followed by individual appeals and cognitive appeals.

Five themes emerged from analysis of the data. The first theme was that the immersive education experience impacted participants' hope levels in congruence with their use of hopeful messaging. Participants' expressed cautious hopefulness for a patient with OUD to enter long-term recovery. The second and third themes that emerged were related to participants' roles as future health care workers and their ability to create hopeful messaging. Participants' constructed and utilized inspirational messaging using support based "we" statements in relationship appeals and hope appeals to encourage a patient with OUD to take the next steps towards treatment and recovery. In doing so, they took on the role of a collaborative expert.

The fourth theme that emerged was the use of normalizing appeals which appeared at a much higher frequency post educational experience. Normalizing is a destigmatizing technique which was used by the Hope Dealer and helped to build a provider-patient relationship towards the goal of recovery. The final theme that emerged from the data was that when the HOPE education presentation component was delivered in isolation of the immersive education experience," the education-only participants' expressed fear and perceived susceptibility to becoming personally addicted to opioids and may have contributed to the stigmatizing language and behaviors it aimed to prevent. It did not have the same effect on participants' fear or use of stigmatizing language when the education was delivered in conjunction with the immersive education experience.

## CHAPTER 5

## CONCLUSIONS AND DISCUSSION

**Introduction**

The purpose of this study was to understand the impact of an OUD immersive education experience on preprofessional health care students' hope for a patient with OUD to enter into long-term recovery, hope for themselves as a future health worker that they could have a positive impact on the opioid epidemic, and their use of hopeful communication. In addition, this study investigated participants' construction of messaging aimed at encouraging a future fictitious patient with OUD to take the next steps towards treatment and recovery, as well as examining how participants personally responded to the experience.

Chapter 5 presents a summary of the problem, an overview of the methodology, as well as a review of the results discussed in Chapter 4. Chapter 5 also details a follow-up discussion with the Hope Dealer which informed the study's final conclusions. The broader implications of this study will be presented, as well as recommendations for practical applications of an immersive education experience." Lastly, the next steps for this study and recommendations for future research, as it relates to hope and the construction of hopeful messages, will be discussed.

**Summary of the Problem**

The number of drug overdose deaths in Pennsylvania is increasing more rapidly than drug deaths in any other state in the nation, according to data from the U.S. Centers for Disease Control and Prevention (CDC). To address this problem, LVHN, a community partner in

addressing the opioid epidemic, has developed an Opioid Task Force Committee to organize and monitor the work being done related to prevention, treatment and education regarding OUD.

According to Lloyd (2013) and Bina et al. (2008), nursing, medical and social work curricula do not prepare future nurses, doctors and social workers to effectively address, assess and manage the treatment of patients with OUD. The immersive education experience studied in this research is one example of an education innovation aimed at future health care professionals that focuses on reducing stigma surrounding patients with OUD and cultivating hope that they can have a positive impact on the opioid epidemic.

### **Methodology Overview**

Future health care professionals from two Lehigh Valley based Career and Vocational High Schools, affiliated with LVHN, agreed to participate in this research study. Sixty-one students from the LCTI EHP participated in the immersive education experience and thirty-nine students from the BAVTS AMS, participated in the education-only presentation.

The study was conducted in a mixed-methods QUAN → *qual* sequential design (Morse & Niehaus, 2009) with a quasi-experimental study as the main component and a qualitative study as the supplementary component. The quasi-experimental design involved an experimental group, the immersive education experience, and a control group, the education-only. The survey data was collected from the participants, pre and post intervention and included two single item Likert scale questions and one open-ended response survey question.

Focus groups were also conducted thirty days post intervention, where a repeat survey was given to eleven participants from the immersive education experience group and eight



participants from the education-only group. The researcher, utilizing a set of semi-structured questions, served as the facilitator and the feedback collected enhanced the understanding of the survey findings. Lastly, the researcher met with the Hope Dealer in a follow-up discussion to review the initial findings and gather her subject matter expertise on participants' construction of hopeful messaging.

### **Results Overview**

The quantitative core component of this study revealed that for both the immersive education experience group and the education-only group, the educational experiences had a statistically significant impact on the participants' hope that they, as future health care workers, could have a positive impact on the Opioid epidemic. Additionally, the education-only group showed a statistically significant increase in hope levels for a patient with OUD to enter long-term recovery, however the results for the immersive education experience group were not statistically significant.

In the analysis of the qualitative data from the Likert scale survey open-ended responses and the focus groups, eight categories of messaging appeals were identified in participants' construction of hopeful communication for a patient with OUD to take the next step towards treatment and recovery. Qualitative data showed that after the immersive education experience the order of highest frequency of messaging appeals usage was relationship appeals, hope appeals and normalizing appeals. The same data post education-only, showed that participants used a higher frequency of messaging related to relationship appeals, individual appeals, and cognitive appeals.

The following five themes related to message appeals and hope levels emerged from the Likert scale open-ended responses and the focus group qualitative data analysis. Data analysis revealed: (1) Post the immersive education experience participants constructed hopeful messaging in congruence with their reported hope levels and demonstrated a cautious hopefulness for a patient with OUD to enter into long-term recovery; (2) Post the immersive education experience participants' constructed "inspirational" messaging through the use of relationship appeals, as evidenced by their use of "we" statements and hope appeals to encourage a patient with OUD to take the next steps towards treatment and recovery; (3) Post the immersive education experience participants' demonstrated the role of a collaborative expert in their Likert scale survey messaging and focus group feedback; (4) Post the immersive education experience participants' used normalizing appeals which was a destigmatizing technique used by the Hope Dealer to help build relationships in recovery; and, (5) Post the education-only, experience, participants' fear and perceived susceptibility to becoming personally affected by opioids increased and may have contributed to the stigmatizing language it aimed to prevent.

## **Conclusions**

The Hope Dealer, whose story opened Chapter 1, served as the impetus for this study. After meeting the Hope Dealer for the first time, the researcher was intrigued by how her own thought process and language, surrounding substance use disorder and those affected by it, changed after an hour-long discussion. Upon completion of the data analysis, the content experts and the researcher deemed it important to present the research findings to the Hope Dealer so she could provide additional insight and deepen the understanding of the data analysis.

During follow-up discussion with the Hope Dealer, the researcher read aloud a variety of excerpts taken from the survey responses and the focus group feedback and asked that she provide her insight as both an Addictions Recovery Specialist and a person with lived experience. The Hope Dealer provided four additional themes that she deemed as most important in creating hopeful messaging to use with a patient suffering from a substance use disorder. The four themes included: (1) recovery is about relationships; (2) normalization decreases stigma and shame; (3) encouraging patient self-efficacy and agency through support is important; and, (4) practicing cautious optimism is essential. These additional themes were integrated with the findings of the data analysis to answer the research questions which were:

1. How does an “Immersive Education Experience” impact participants’ hope that a person with OUD could enter into long-term recovery?
2. How does an “Immersive Education Experience” impact participants’ hope that they could have a positive impact on the OUD epidemic?
3. How does an “Immersive Education Experience” impact participants’ use of hopeful communication?
4. How does an “Immersive Education Experience” impact participants on a personal level?

### **Research Question 1: Summary Findings**

Research Question 1 asked, “How does an “Immersive Education Experience” impact participants’ hope that a patient with Opioid Use Disorder (OUD) could enter into long-term recovery?” The immersive education experience participants self-reported Likert scale data did not show a statistically significant increase in hope levels for a patient to enter long-term

recovery. When the quantitative data was compared with the qualitative data, both the messaging and hope levels were congruent and provided evidence that participants were cautiously hopeful that a person with OUD could enter long-term recovery.

The feedback from the focus group indicated that participants may have doubted a patient's personal agency and support network, and so assumed that a health care professional would need to take more of a support role, which was apparent in their use of "we" messaging within relationship appeals. "We" messaging used in relationship appeals was integrated into the health care team's collaborative approach to caring for a patient with OUD in the immersive education experience. Moreover, participants in the immersive education experience group observed the Hope Dealer, successfully in long-term recovery herself, use relationship appeals and hope appeals to motivate the standardized patient, Sarah to take the next steps towards treatment and recovery.

The use of relationship appeals and cautious hopefulness also aligned with the Hope Dealer's themes of practicing cautious optimism and of recovery being about relationships. Thus, constructing appeals to create feelings of hope may play a vital role in helping people cope with and recover from stressful events (Chadwick et al., 2016), as was the case in the immersive education experience for the patient suffering from an opioid overdose. As such, a cautiously hopeful mindset and the use of relationship appeals and hope appeals may be needed in a Hope Therapy Toolkit for future health care providers.

### **Research Question 2: Summary Findings**

Research Question 2 asked, “How does an “Immersive Education Experience” impact participants’ hope that they could have a positive impact on the OUD epidemic?” Participants in the immersive education experience demonstrated a statistically significant increase in hope that they as future health care providers could have a positive impact on the opioid epidemic.

The qualitative data showed an increase in the usage of adversity appeals and life appeals which were a direct reflection of observing and listening to the motivational interviewing techniques the Hope Dealer used in the scripted simulation. An excerpt from the focus group transcripts described how the Hope Dealer “sat down” and “really listened” and “that [it] just stuck with me and it kind of helped me to see like, oh, this kind of helps them, like to support them and this is how you do it and this is how you approach them.” The participant spoke about the Hope Dealer’s body language and approach stating, “like she sat down, so she as at the same level as a patient instead of standing up, like talking down to them, which stood out to me.” The Hope Dealer’s modeling of this type of motivational interviewing technique may, as Snyder’s (1995) research showed, impact participants’ confidence and affective ability to follow the pathways to a desired outcome, not only for the patient but on behalf of themselves as future health care workers. In addition, this finding aligned with the Hope Dealer’s theme that using support-based hopeful messaging to encourage patient self-efficacy and agency is important.

In the follow-up discussion with the Hope Dealer, she stated that using life appeals in addressing the patient’s future life, one where they are not feeling sick all the time and spending their days trying not to feel sick, is also very important in providing hopeful inspiration. She also acknowledged that the use of adversity appeals is important in motivating patients to change

their behavior. Therefore, the use of adversity appeals and life appeals are two more tools that may added to the future health care professional's Hope Therapy Toolkit.

### **Research Question 3: Summary Findings**

The third question was “How does an “Immersive Education Experience” impact participants’ use of hopeful communication?” Analysis of participants’ hopeful messages from survey question 3 generated eight categories of appeals that were used most frequently to encourage a patient with OUD to take the next steps towards treatment and recovery. In order of greatest frequency of usage following the immersive education experience were relationship appeals, hope appeals, and normalizing appeals.

As was mentioned in the findings from Research Question 1, the immersive education experience group used more “we” messaging and the education-only participants used more “I” messaging. The difference in message can be attributed to the impact of the immersive education experience, as the participants saw the whole health care team working together to care for the patient which may have resulted in the increased use of the collaborative “we” messaging for this group. The education-only group did not experience the health care team using the collective “we.” Because they didn’t experience the use of “we” messaging in their educational experience, they tended to rely on the individual “I” messaging in their relationship appeals.

The appeal that was used second highest in term of frequency by the immersive education experience group was that of hope appeals while the education-only group used “you” messaging within individual appeals. The immersive education experience group, in using more hope appeals, provided inspirational support in their encouragement of a patient’s self-efficacy, where

the education-only group used perspirational support in their encouragement of a patient's self-efficacy and agency. This implied that the ownness and work to change behavior is on the patient and not on the collaborative "we" of the patient-provider relationship.

The Hope Dealer stated that the use of "I" and "we" based relationship appeals would be more encouraging to a patient than the use of "you" statements or individual appeals because patients suffering from substance use disorder often times enter in a health care facility with feelings of self-blame, low self-worth, and may have had past experiences with negative treatment, resulting in reduced self-efficacy and agency.

Patients' shame, self-blame and low self-worth may also demonstrate the need for another destigmatizing technique through normalization. Normalizing Appeals were seen at a much higher frequency following the immersive education experience and can be attributed to the Hope Dealer's modeling of this technique in the simulation component of the immersive education experience. As a person in recovery herself, the Hope Dealer reports that she has the benefit of utilizing normalizing appeals to make the initial connection and build trust more easily with patients than someone without lived experience. To normalize the patient's experience, she begins her interactions with them first disclosing that she is in long-term recovery. By first disclosing that she is long-term recovery, she begins to listen to the patient's story very closely so she can find commonalities with her own. She uses those commonalities to begin to normalize the patient's feelings, behaviors, low points, disappointments, and shame. Normalization is important to reducing stigma and getting patients to disclose more information about the current state of their disease. The Hope Dealer can normalize and empathize with the patient because of

her lived experience, but providers who don't have this type of experience may have a more difficult time in building a relationship with a patient.

Building relationships and credibility without personal experience so that patients perceive messages as positive was identified as another difference between the immersive education experience and the education-only groups. Health care workers who do not have personal experience with substance use disorder tend to utilize cognitive appeals, which are important in building patient confidence, but may be detrimental in building relationships. If a health care worker without lived experience uses cognitive appeals, gives directives and standardized fact-based information as an expert, it could have an unintended effect, such as the patient dismissing the expert information and advice. However, if the health care worker without lived experience approaches next steps in treatment from a collaborative expert approach, it might increase the likelihood that the patient perceives the messaging as positive. This supports the Hope Dealer hopeful messaging theme that recovery is about relationships, therefore interacting as a partner in care may be more important than interacting as an expert in care.

While the Hope Dealer provided further insight into the construction of relationship appeals, Chadwick provided insight into hope appeals", stating that a hopeful message "should emphasize that the future is possible, is important, is consistent with the receiver's goals and can create a positive future" (Chadwick, 2015b). For a health care worker to understand what a patient's goals are, they may first need to establish support and trust. Support can be established through relationship appeals, which for this study were defined as strategies that are designed to persuade another that they have support in seeking treatment or entering recovery. Trust could be accomplished through normalizing appeals which for this study are ideas regarding strategies



to positively persuade another that their experiences with the chronic disease process are not “abnormal” and even common. In a provider-patient relationship, support and trust may first need to be established for the hope appeal to be perceived as both genuine and positive.

#### **Research Question 4 Summary Findings**

Assessing how participants responded personally to the immersive education experience and the education-only was completed through both the open-ended Likert scale survey responses and feedback from the focus groups. When the education was delivered in isolation of the immersive education experience, participants’ fear and perceived susceptibility to becoming personally affected by opioids was more pronounced than when the education was delivered in conjunction with the immersive education experience. In addition, the participants in the immersive education experience focused their feedback more on how the experience might positively impact their care for patients as a future health care worker.

#### **Implications of the Findings**

Previous studies have shown that educational interventions, such as simulation, have a positive impact on self-reported empathy and compassion levels in preprofessional health care students. The results of the current study showed that participants of an immersive education experience had hope levels that were positive and congruent with their use of hopeful communication. Relationship appeals appeared to be the most important element of hopeful communication, followed by normalizing appeals and then hope appeals. When the educational experience was delivered in isolation of the immersive education experience, participants’ fear

and perceived susceptibility of succumbing to OUD increased and may have contributed to participant use of stigmatizing language.

Findings from this study can serve to inform the delivery of substance use disorder curriculum to undergraduate nursing, counseling and social work students along with undergraduate and graduate medical students. Embedding the construct of hope and the use of hopeful communication techniques into curricula could have a positive impact on how students view and interact with future patients, as the current addiction medicine information may lead to bias and stigma towards patients with substance use disorder.

Fear appeals in preventive health education programming are aimed at evoking fear through a presentation of a threat and then recommending specific actions to mitigate or avert the threat. With the topic of OUD, prevention programming aimed at high school students, is often presented as dangerous, deadly, morally reprehensible, and to be avoided at all cost because of the potential escalation to other, even more dangerous drugs. While this may have the intended effect for an individual at a personal level in that they see themselves as susceptible, understand the severity of it and then practice avoidance behaviors, the upstream systems-based effects of fear appeals should be further considered. Fear-based preventive health messaging may unintentionally create a health care system which breeds mistrust, bias and stigma towards people with substance use disorder.

The findings in this research study also add to the theoretical framework of PHT (Chadwick, 2010), furthering the literature on the use of hope appeals and fear appeals as they relate to the intersection of health care and communication sciences. Chadwick's continued work on the social issue of climate change communication found that hope appeals may be a more

effective communication approach than fear appeals. Fear appeals were shown to increase anger which made the messaging ineffective and potentially detrimental (Chadwick, 2015). In viewing substance use disorder as a social issue, the findings in this study align with the findings in Chadwick's research, that fear appeals could lead to the use of stigmatizing language when interacting with a patient suffering from OUD.

Lastly, Chadwick (2010) provided guidelines for the construction of a hope appeal to help communicators design messages that create subjective feelings of hope. However, missing from those guidelines is any reference to constructing messages of support, which was relevant to the findings in this research. In this study, participants utilized relationship appeals at a higher frequency than they did hope appeals or agency focused individual appeals which demonstrates the potential importance of including relationship- based language within a hope appeal. This topic will be further discussed in the recommendations for future research.

### **Limitations and Delimitations of the Study**

The present study was limited to a specific population of high school seniors from two established LVHN youth programming programs. Participants were enrolled in the LCTI EHP or in BAVTS' AMS. As a result, the following are potential limitations of the study. First, the participants in this study were chosen through a purposive sample, thus the findings cannot be generalized to other preprofessional programs. Second, the participants were a part of an application-based high school program and only high-achieving students were accepted into the program which reduces external validity of the findings. Third, most participants identified as White females and therefore do not provide an accurate representation of other gender, race and ethnic groups. In addition, the standardized patient utilized in the immersive education

experience was a White female, approximately five years older than the participants. Participants in this study, predominantly White females, may have connected with the standardized patient emotionally and biased the results of the study.

Fourth, the inclusiveness of participants was based on instructor and guidance counselor knowledge of the participants, therefore all potential bias could not be accounted for. Fifth, the study relied on self-reported data from the participants. Sixth, the facilitator of the simulation, the standardized patients, and volunteer faculty and staff could have affected the intended impact of the experience. Seventh, this study was conducted within a thirty-day time frame and does not represent the longitudinal impact of the experience. Lastly, the study was delimited by the variables and the design of the study to measure hope and hopeful communication only as it relates to the topic of OUD and only with preprofessional health care students.

### **Recommendations for Future Research**

The immersive education experience studied in this doctoral work was created by the researcher as part of a larger LVHN initiative to decrease stigma and cultivate hope surrounding patients with OUD. As such, the findings related to participants' hope levels and use of hopeful communication serve to inform future research in curriculum development, patient-provider relationships in health care, the use of hope appeals in communication science, preventive drug education, and the concept of normalization in the recovery community.

Replicating this study with other preprofessional health care groups such as nursing students, medical students and other students who complete clinical rotations as part of their curriculum, would provide additional context regarding the relationship between participants'

hope levels and their use of hopeful communication. Such studies could add to the academic literature of cultivating hope and constructing hopeful messaging. It could also inform curricular development aimed at increasing knowledge surrounding OUD and intent to change behavior as future health care workers.

Research should also be done with the current health care workforce to determine which components of the immersive education experience may have the greatest impact on provider hope and use of hopeful communication. Specifically, research should be conducted at the educational component level to determine which has the greatest impact on knowledge transfer and behavioral change in the clinical environment post education. This would be an important study from the perspective of the time and cost associated with the delivery of the full immersive experience and would help determine the scalability.

This study did not investigate the impact of the Hope Dealer in isolation or in conjunction with the only the education component. Future studies should investigate if education and motivational interviewing techniques modeled by a health care worker with lived experience provides the highest level of hope for patients, hope for themselves and the increased use of hopeful messaging in providers. Also, a further investigation into the use of hopeful communication with patients who suffer from other chronic disease states would further add to the literature on hope messaging as an important affective communication tool.

Additionally, there is a gap in the literature surrounding the process of normalization or the use of normalizing appeals in providing hopeful inspiration to patients with chronic disease. There is a dearth of studies related to normalization as a destigmatizing technique utilized by health care workers to better relate to the patient, reduce patient shame, and increase

comfortability in sharing their substance use history. Researchers should consider how providers with lived experience, such as Addictions Recovery Specialists, use normalizing appeals to provide patients with OUD, hope for recovery.

Hope appeals research, mostly conducted in climate change communication and public health messaging, should be researched at the patient-provider level to determine the effectiveness of messaging in changing patient behavior. Additionally, more recent research on the intersection of hope appeals and fear appeals in persuasive messaging should be further investigated within preventive health education curriculum designed to deter unhealthy behaviors. Examining how fear appeals embedded in preventive drug education impact participants' perceptions regarding people who use drugs would be a rich field of potential research as it relates to stigma.

Lastly, as mentioned in the implications of the study section, the construction of hope appeals based on Chadwick's (2010) design guide may be limited in the field of health care. In this study, when participants were prompted to write two to three messages of hope or motivation to a patient with OUD to further encourage them into treatment and recovery, participants constructed relationship appeals with the highest frequency, followed by normalizing appeals and thirdly, hope appeals. Conducting studies to measure the importance of the role and the attitude of the message conveyer using the hope appeal messaging may provide additional insight into constructing an effective hope appeal.

### Summary

The role of hope in health care has been a topic of research in the fields of nursing, counseling, social work and medicine, but research on the cultivation of hope and the construction of hopeful messaging is lacking. Research has shown that hope is critical in recovery; that providers may serve as key sources of patient hope; that the inspiration of hope to others, must come from genuine hope from self; and, that hope should be considered a professional competency that can be learned. Based on these research findings, it would be prudent for preprofessional health care curriculum to include course work related to hopeful communication. However, this is not the current practice in health care curriculum development. Because of the dearth of research related to hope and hopeful messaging in the health care field and the need for hopeful messaging to be integrated into healthcare curricula related to addiction medicine, this study investigated the impact of an OUD immersive education experience on preprofessional health care students hope and use of hopeful communication.

The current findings suggest that the immersive education experience had a positive impact on participant hope levels and was congruent with the use of participants' hopeful communication. Participants also used hope-based inspirational and support messaging appeals to encourage a patient to take the next steps towards treatment and recovery. In addition, participants used normalizing appeals, a destigmatizing technique founded in Motivational Interviewing, but their use as a communication tool in the field of addiction medicine has not been researched.

Lastly, when the education component of the immersive education experience was delivered in isolation, participants displayed increased fear and perceived susceptibility related to opioid use, which may have contributed to the stigmatizing language it aimed to prevent. This study showed that the purveyance of hope amidst the opioid epidemic and the conveyance of hope to a patient with OUD is important and that more research needs to be done to better understand its effects on patient-provider relationships.



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Appendix A

Youth Programming Opioid Use Disorder Survey

1) Please provide your last name.

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2) Please provide your first name.

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3) How do you hope to see your future professional self? I see myself as a(n) (you may choose more than one response):

- Diagnostic Imaging Technician (Sonographer, X-ray technician)
- Occupational or Physical Therapist
- Counselor/Psychologist
- Nursing Professional
- Physician/Doctor
- Public/Community Health Educator
- EMT/Paramedic
- Physician Assistant
- Other \_\_\_\_\_
- Unsure at this time

4) Have you had any clinical experiences with patients with Opioid Use Disorder (in your shadowing or observations)?

- Yes
- No

If yes, please describe your experience.

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5) As a future health care worker, you may have the opportunity to work with a patient who could use some messages of motivation and/or hope to take further steps in treating their Opioid Use Disorder. Please write 2-3 things you might say to this patient.

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6) As a future health care worker, how hopeful are you that a patient with an Opioid Use Disorder could enter into long-term recovery?

- Very hopeful
- Somewhat hopeful
- Neutral
- Somewhat hopeless
- Very hopeless

7) As a future health care worker, how hopeful are you that you could have a positive impact on the Opioid Use Disorder epidemic?

- Very hopeful
- Somewhat hopeful
- Neutral
- Somewhat hopeless
- Very hopeless

## Appendix B

## Focus Group Guide

Step 1: Read assent script to gain participant approval.

Step 2: Prebrief for Immersive Education Experience

About a month ago, you visited LVHN's Department of Education for an immersive education experience. While you were there, you had a presentation from Center for Humanistic Change who also brought with them a person in recovery. Then you saw a video of a simulated opioid overdose which ended with an ambulance taking the patient, "Sarah," to the Emergency Department. Next you went into the simulation center and observed as a team of health care workers took care of Sarah. Lastly, you were in the ICU room as the Addictions Recovery Specialist spoke with Sarah about going to treatment. I would like you all to think about the experiences you had that day. What you saw? What you heard? How you felt? After you have had some time to think back, I would like to ask you some specific questions that I have written down on this sheet of paper. My hope would be that we could have a group discussion where everyone takes turn answering questions and providing additional insights on your experience not only about that day, but also how that day may have impacted you, your friends, your family, etc.

Step 1: Read assent script to gain participant approval.

Step 2: Prebrief for education-only

About a month ago, you visited LVHN's Department of Education for a presentation from Center for Humanistic Change. I would like you all to think about the experiences you had that day. After you have had some time to think back, I would like to ask you some specific questions that I have written down on this sheet of paper. My hope would be that we could have a group discussion where everyone takes turn answering questions and providing additional insights on your experience not only about that day, but also how that day may have impacted you, your friends, your family, etc.

## Focus Group Questions

1. Since your education experience on Opioid Use Disorder, how hopeful do you feel that a person with OUD could enter into long-term recovery?
  - a. Further probes: Why do you think you feel hopeful or not hopeful?
  - b. What aspects of the education experience (review again the components of the education) did you feel made you more or less hopeful? Why?
2. Since your education experience on Opioid Use Disorder, how hopeful are you that you could have a positive impact on the OUD epidemic?
  - a. Further probes: Why do you think you feel hopeful or not hopeful?

- b. What aspects of the education experience (review again the components of the education) did you feel made you more or less hopeful? Why?
3. Since your education experience on Opioid Use Disorder, how might you provide some words of encouragement, motivation or hope to someone with OUD?
  - a. Further probes: Why would you choose words such as \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_?
  - b. What impact might those choice of words have?
  - c. What aspects of the education experience (review again the components of the education) may have impacted you choosing certain words over others? Why?
4. Since your education experience on Opioid Use Disorder, can you tell us what aspect(s) of it were most memorable? If needed, review the components of the education.
  - a. Further probes: What made them memorable?
  - b. Do you feel like some will be memorable for a long time? Why or why not?
5. Since your education experience on Opioid Use Disorder, how have you been impacted by what you observed/heard/learned? If needed, review the components of the education.
  - a. Further probes: How have you been impacted? What has changed as a result of your experience?
  - b. Why do you feel you were impacted in this way?
  - c. Do you feel this impact will last with you awhile? If yes or no then, why?
6. Since your education experience on Opioid Use Disorder, have you told anyone else about your education experience? If needed, review the components of the education.
  - a. Further probes: If yes, who did you share with and why did you choose to share with them?
  - b. How do you think sharing your experiences with them may have affected them? Why?
  - c. What might the impact of telling others be?

## Appendix C

## Facilitator's Guide- Immersive Education Experience

Facilitator will introduce themselves and identify their relationship to the study. This will be an additional assent process to follow-up parent/guardian/participant written assent.

*My name is Dr. Cheryl Arndt, Senior Education Consultant-Youth Programming at LVHN. You are here today because you and your parents/guardians consented to your participation in this study. In addition, your instructor(s) and your guidance counselor(s) allowed for your participation in this study.*

*If you feel you did not fully consent to participate today or have changed your mind about participating, you may choose to end your participation at any point today and alternate activities will be made available to you. Please let the guidance counselor know now or at any point today, if you do not want to participate in this study. If you've already taken a survey, it will be thrown out. Please know that this will not negatively affect your grades, your relationship with EHP, LCTI or LVHN.*

#### 1. Pre/Post Evaluation Procedure

On the day of the simulation, learners will be given a link to a survey. This survey will collect information regarding their:

- perceptual hope levels that a patient with OUD could enter into long-term recovery
- perceptual hope levels in their role as a future health care worker in treating patients with OUD
- use of hopeful language

This survey will be administered pre and administered again immediately upon completion of the simulation. iPads will be made available for students to complete pre/post surveys.

#### 2. General Simulation Theory and Definitions

Simulations have been successful in providing learners the opportunity to observe interprofessional teamwork, empathic communication methods and motivational interviewing techniques in a safe setting using a Standardized Patient (SP).

The SP in this simulation has been trained using a scenario based on a real opioid overdose patient case. This scenario follows the SP from a 911 call response in a home setting to an inpatient discussion with an Addictions Recovery Specialist and portrays the interactions of the team of health professionals caring for her.

The simulation is broken up into scenes with specific learner objectives and time built-in for reflection.

The overall simulation objectives are listed below.

After participating in the Opioid Use Disorder Simulation, learners will be able to:

- 1) Define Opioid Use Disorder (OUD) as medical terminology.
- 2) Understand the role that biases might play in the health care treatment of OUD patients.
- 3) Identify roles in providing emergent, transitional medical care for a patient with OUD.
- 4) Observe and reflect upon the empathic attitudes and communication between members of the health care team and the patient/family.
- 5) Understand the role of motivational interviewing and messages of hope in health care and patient change behavior.
- 6) List available community resources.

Simulation is an attempt to replicate some or nearly all the essential aspects of a clinical situation so that the situation may be more readily understood and managed when it occurs for real in clinical practice (Morton, 1995).

Phases of simulation include pre-briefing, scenario, reflections, and debriefing. Definitions of each term are below.

- 1) Prebriefing- “Setting the stage” for simulation and assists participants in achieving scenario objectives (INASCL, 2013). It is also used for establishing a psychologically safe environment for participants and orienting participants to the equipment, the “fictional aspect” of simulation, time allotment and the scenario (Rudolph, Raemer & Simon, 2014).
- 2) Scenario- In health care simulation, a description of a simulation that includes the goals, objectives, debriefing points, narrative description of the clinical simulation, staff requirements, simulation room set up, simulators, props, simulator operation, and instructions for standardized patients (Alinier, 2011).
- 3) Reflection- An active process of witnessing one’s own experience in order to take a closer look at it, sometimes to direct attention to it briefly, but often to explore it in great depth (Joy Amulya, Center for Reflective Community Practice, Massachusetts Institute of Technology).



- 4) Debriefing - To conduct a session after a simulation event where educators/instructors/facilitators and learners re-examine the simulation experience for the purpose of moving toward assimilation and accommodation of learning to future situations (Johnson-Russell & Bailey, 2010).

### 3. Simulation Process and Procedures

Pre-brief (15 minutes) (*for study purposes please see beginning assent script*).

Step 1: Greet learners in the DoE's Learning Center. Introduction and basic housekeeping. Administer survey if they haven't previously taken it.

The learners today will be \_\_\_\_\_. The schedule for the day can be found in this guide.

Step 2: Briefly explain the concept of simulation in health care and the four stages (pre-brief, scenario, reflection and debrief) and how that is built into their hour-long experience.

Step 3: Identify the topic of the simulation as patient case of someone with an Opioid Use Disorder (OUD) and proceed with the following anticipatory questions:

1. Can anyone tell me what an OUD is?
2. Can anyone tell me why this might be an important topic to discuss as future health care workers?
3. How many of you feel you may someday work with patients that have an OUD?
4. How many of you have had clinical observations of a patient with an OUD? Further probe: Does anyone care to share their experience?

Step 4: Set the stage

You may be able to ascertain the number of students that have had clinical experiences with OUD patients, but you will not know how many, if any, have personal connections with OUD. As a facilitator, you will need to be cognizant of this going into the simulation. Please create a safe space by explaining to the learners that not everyone is comfortable talking about OUD or hearing/seeing scenarios dealing with OUD and if at any point, someone does not feel well or feels uncomfortable with the subject matter, they can excuse themselves and go back to the Learning Center with a support person from their school or college/university.

Step 5: Explain the schedule for the day

Briefly explain that the students will begin with an education presentation from Center for Humanistic Change. Then they will remain for a video depicting a situation related to a patient with OUD. The “patient” is a SP in that has been trained using a scenario based on a real OUD patient case. This scenario follows the SP from a 911 call response in a home setting to an inpatient discussion with an Addictions Recovery Specialist and portrays the interactions of the team of health professionals caring for her. Let them know that the simulation will last approximately one hour and then they will return to the classroom to take their post survey and debrief. Pass out lanyards with a few possible health care worker roles and questions to think about while they listen and observe.

Step 6: Provide learners some “things to think about” as they move through the simulation.

1. How do you think the “patient” is feeling throughout the experience?
  2. How did the health care workers interact with the “patient” and the “patient’s family” throughout the experience?
  3. How did the health care workers communicate with each other in caring for the “patient”?
  4. What do think the health care workers may be feeling as they care for the “patient”?
  5. If you were on the health care team, how might you feel?
  6. If you were on the health care team, what might you have done or said differently?
4. Part 1- Video portrayal of an opioid overdose- In Learning Center

(10-15 minutes)

Step 1: Play the video and pause each time the screen goes to black and says Stop and Discuss. The reflective questions will be listed on the screen.

*Stop and Discuss One*

1. What is happening with Sarah?  
Further probes: What were some of the signs of drug use? Does anyone find this video difficult to watch? Why?
2. How did Sarah’s mom handle the situation?  
Further probes: How do you think the mom might feel in this situation?

*Stop and Discuss Two*

1. How did you feel about the communication between the 911 operator and Sarah’s mom?

Further probes: How do you think the mom felt about her interaction with the 911 operator? If you were calling 911 for a friend or family member, how would you like to be spoken to? What information would you want from the 911 operator?

*Stop and Discuss Three*

1. What are some of the differences in this phone call?  
Further probes: Why do you think the operator may have had that “tone” in the first call? Which call do you feel was more compassionate or empathetic on the part of the 911 operator? Why?
2. How does this scene make you feel about the patient?  
Further probe: Why might empathetic communication be important in health care emergencies or situations?

*Stop and Discuss Four*

1. Why was the police officer there?  
Further probes: How do you think the presence of a police officer might make people feel?
2. What did the police officer do?  
Further probe: How does Narcan work?

*Stop and Discuss Five*

1. What is the paramedic doing in this scene?  
Further statement: This is coined “restocking”, so police are never in the field without Narcan. What do you think police carry Narcan?  
Further probe: Why would police officers be trained to administer Narcan? Why would this be important?

*Stop and Discuss Six*

1. How did the conversation between the paramedic and the paramedic trainee make you feel?  
Further probes: Do you think stuff like this really happens?” Is so, why? If time permits, bring up the term “empathy fatigue”.

Step 3: Video ends with the ambulance pulling out. Tell the learners to hurry as we are headed to meet Sarah in person. Hurriedly walk to MPR-1 through the main hall in the DoE and stand the students in front of the two-way mirror surrounding the room.

5. Part Two- Sarah arrives in the Emergency Department (MPR-1)

(10 minutes)

Step 1: Walk students from learning center to MPR-1 through the DoE hallway. Before entering the room, ask the students to observe and listen closely to the health care communication between the Emergency Department team, Sarah and family.

Step 2: Situate learners on the back part of the wall as Sarah, mom and health care team will be in the room attending to Sarah's care.

*Stop and Discuss One*

1. What were some of the health care team roles you observed? (ED RN, Physician and Patient Transport...also mentioned a respiratory therapist, toxicologist)
2. What was some of the clinical language you heard? (EKG, Echo, blood cultures etc.) Further probe: Did the health care workers speak differently with each other than with Sarah? Why?
3. How do you think Sarah is feeling right now? What about Sarah's mom?

Step 3: Prepare students for the next scene. Tell them that many health care communications are conducted privately and not in patient care areas like nursing stations etc. Ask them why they think that might be important. Explain to them that we are going to be a "fly on the wall" at the nurse's station in the next scene. Ask for questions and if none, walk students into the Sim hallway for Scene 3.

6. Part Three- Interdisciplinary Health Care Worker Team Discussion (Sim Hallway)

(5 minutes)

Step 1: Walk the students to the sim hallway. Describe that the students will be listening to a private conversation between an ED RN, ED physician, Toxicologist and Addictions Recovery Specialist.

*Stop and Discuss*

1. What were some of the health care roles you heard about or saw in action? How might they contribute to the overall care of the patient?

Step 2: Tell the students that Sarah was diagnosed with endocarditis and will be staying a few days.

2. Ask students to describe the clinical language they heard. What is endocarditis? Medication Assisted Treatment (MAT)? Suboxone? COWS scale? How might MAT help Sarah? (If the students have had the Center for Humanistic Change's (CHC) HOPE presentation, then review some of their learning. If they hadn't had the CHC presentation yet, tell them they will learn more about it during the presentation).

Step 3: Prepare the students for the entrance to the ICU. Let them know that if they are not comfortable going in the room, then they can stand outside of it.

#### 7. Part Four- Medical Management and Treatment Planning (ICU Room)

(10-15 minutes)

Step 1: Arrange students in the ICU room and arrange students in the hallway (double doors will be open, and patient's bed will be angled for viewing). Explain to the students that Sarah's family is in the room with her as the nurse hooks her up for IV fluids etc. Let them know that they will be able to witness a conversation between Sarah and the Addictions Recovery Specialist (ARS).

Step 2: Scene ends with the mother re-entering the room and the students witness a tearful exchange.

Step 3: Take students back to Learning Center for debriefing.

#### *Stop and Discuss*

1. How did the conversation between Sarah and the ARS make you feel about Sarah's situation? Further probe: Are you hopeful that Sarah will be able to stop her opioid use and enter into recovery? Why or why not?
2. What do you think about the role of an ARS in a hospital? Further probes: What did you think about some of the questions she asked? Do you feel that she used any communication tools or phrases to get Sarah to agree to treatment? If so, what were they?

Step 4: Administer the post-survey with iPads. Ask if there is anything else that they saw or heard today that they would like to discuss.

Step 5: Students will be given a list of resources that are available to them if they or family member/friend is suffering from a substance use disorder

## 8. Opioid Overdose Youth Programming Simulation Script

Students begin the simulation in the learning center where they watch a pre-recorded video of the patient being found unresponsive by her parents in her home. In the video, 911 was called and EMS is bringing her into the ED (MPR-1) where it switches to a live simulation.

Scene 1- Patient in the ED- MPR 1

Actors needed in Scene 1- Sarah, ED RN, ED physician, Patient Transporter and mom

*Prior to learners entering the room, daughter received by ED. (already gowned and hooked up to monitors)*

*Once learners are situated in the room, scene opens with RN sharing handoff report to ED colleagues.*

*Actors (except SPs) can all be holding clipboards/charts with their script on it.*

ED RN: *(speaking to the rest of ED team)* “OK, patient is a 22-year-old female, opioid overdose at home. She has a fever and an increased heart rate. Some grogginess after 4mg Narcan was given, complains of a headache. Possible infection at injection sites.”

ED Physician: “Thank you for the report out.” *(turns to patient, nurse stays at bedside)* “Sarah I’m going to listen to your heart and lungs” *(Dr. has stethoscope to listen).*

“We are going to get you ready for some tests. I am going to have a respiratory therapist come in to see you because your oxygen levels are low. I have some concerns about you having fluid in your lungs which could cause some serious problems. I will also consult with a toxicologist to help with your treatment. We are going to order a chest x-ray to check your lungs, an EKG and an echo to check your heart, blood cultures to check for infection and other blood tests. I am going to put those in the computer *(glances at both Sarah and the ED RN)*. Do you have any questions about what will be happening? *(Sarah shakes her head no)*. OK then. Let me know if you need anything.”

*(ED Physician and the ED RN leaves bedside and goes to EPIC computer in the room)*

ED Physician: *(now talking to the nurse)* “I want to order a chest x-ray, EKG, echo, blood cultures, and a full panel STAT.”

ED Nurse: “Ok so you want to order chest x-ray, EKG, echo, blood cultures, and a full panel STAT.”

ED Physician: “Yes that is correct. I will put the orders in Epic. I’m going to go see a few other patients. I’ll give Toxicology a call in a few minutes to discuss this patient’s lab work.”

*(Physician leaves through the DoE hallway and walks back into sim hallway and nurse walks back to Sarah)*

ED Nurse: “Ok Sarah, the doctor spoke to you and they will be ordering some tests. I am going to contact Patient Transport to come pick you up for your tests. I will be back in when they get here.”

*(ED Nurse walks away from bedside and goes back to the Epic computer)*

Renee Mom: “Ok Sarah, I have to go check on paperwork real quick. I’ll be right back.” (Mom exits into the sim center through the double doors. She reenters with paperwork in hand, head down reading it at Sarah’s bedside). *(Patient transport enters in right after mom).*

Transporter: (To the patient) “Hi my name is XXX and I’m a transporter here to take you to your tests. Can I have your name and date of birth?”

Sarah: “Sarah Nader, 2/1/1996.”

ED RN: *(ED RN disconnects Sarah and turns to Patient Transporter)* “Hi, I’m Sarah’s nurse, I will be going along with you for her tests. I already have one of my colleague’s covering my other patients, so I am ready to go when you are.”

Transporter: *(patient transporter with phone in hand).* “Ok, I will let them know we are on our way.”

*(ED RN, PT Transport, Mom and Sarah exits to sim hallway...park litter in sim center’s burn room and Sarah along with Mom goes to the ICU...pulls the curtain and closes door. They will need to remain quiet as learners will be in hallway)*

*Sim facilitator debriefs and then walks the students over to sim hallway*

Scene 2- Health Care Communication while Patient is Getting Tests

*This scene will take place in the inpatient nurses’ station in the Sim hallway. ED RN sitting at the computer and the ED Physician walks over to ED RN and starts the discussion.*

Actors needed: ED physician, ED RN, Toxicologist

ED Physician: “So I just spoke with Dr. XXX, the toxicologist on call tonight. After reviewing Sarah Nader’s blood work and other diagnostic testing, heroin overdose is confirmed, along with traces of amphetamines.”

ED RN: *(Logged into Epic checking on the patient’s labs at the nurses’ station)* “Looks like her white blood cell count came back really high.”

ED Physician: “She might have an infection. It could have affected her heart- possibly endocarditis. She’ll likely be staying inpatient. Let’s get her a room.”

ED RN: *(Mock telephone used, phone will ring)* “Hello, this is Nurse XXX in the ED, how can I help you? Oh ok.....Actually, Dr. XXXX is here right now..... yes, I will let them know.”

*(To the physician)* “That was the radiologist. After reviewing the patient’s tests, he recommends a TEE to confirm endocarditis.”

ED Physician: “Yeah, I had a feeling. I’ll let the patient’s family know she’ll be here for a few days. If she does have endocarditis, she will need some IV antibiotics to clear up this infection. She’s fortunate to be alive.”

*(ED logs out of EPIC and nurse exits)*

ED Physician: *(sits down at the computer and picks up the phone to call critical care team...mock telephone conversation)* “Hi. This is Dr. XXXX ED physician we need the Critical Care team to assist getting patient Sarah Nader into the ICU. We need a critical care bed for Patient Sarah Nader. She came in after a suspected heroin overdose at home by her mom who is here with her today. She was given 4 mg Narcan pre-hospital. Once here in the ED, her oxygen levels were low, heart rate was high, and respiratory therapy was consulted. We ordered a chest x ray, EKG, echo, blood cultures and a full panel of labs. Preliminary results show confirmation of the heroin overdose and traces of amphetamines. White count was high, so we suspected endocarditis. Radiology recommended a TEE to confirm and she will be going for that shortly. Once that is completed, we will send her up.” *ED physician hangs up phone and exits.*

*ED Physician exits sim center to hallway between inpatient and outpatient*

*Sim facilitator debriefs the scene and asks students what they think next steps might be? Sim facilitator tells students that Critical Care will find Sarah a bed in the ICU and in the meantime, the Toxicologist will begin to plan for treatment. Let’s see what happens next.*

### Scene 3: Toxicologist Consult

Actors needed: Toxicologist and ARS

*Toxicologist enters inpatient sim hallway on the phone once they hear the facilitator done debriefing.*

Toxicologist: “Hello, I’m Dr. XXX from toxicology, I’m trying to reach the Addictions Recovery Specialist on call.... Oh, hi Paige, I wanted to let you know that we have a patient that could use your services. Are you available to stop by? I’m in the ICU.... Great, I’ll be here so we can discuss this patient.”



*Toxicologist is in EPIC at the nurses' station.*

*ARS enters inpatient sim hallway and stands next to toxicologist but facing students*

ARS: “Hi there, what’s going on?”

Toxicologist: “So this young lady is a 22-year-old who was found down at home from a heroin overdose, responded to Narcan and was brought in by EMS. The tests have shown that she has endocarditis and will need to be here for a while. I spoke with the patient and we are in agreement that she will be starting Suboxone and she is open to getting some treatment for her addiction. Currently her COWS score is 13.”

ARS: “Sure, I’ll talk to her and see if we can’t get something set up for her when she’s discharged and make sure understands all treatment options.”

Toxicologist: “Great. Thank you and let me know if you need anything else from me.”

ARS: “Will do. Thanks for the call—I will take it from here and let you know if I need any further information.” (*ARS stays in the hallway while sim facilitator debriefs and walks students to ICU*)

*Toxicologist exits out of inpatient sim hallway*

*Sim facilitator debriefs and then walks students to ICU room*

#### **Scene 4 - Medical Management and Treatment Planning-ICU Room**

Actors needed: Mom, Sarah, ICU RN and ARS

*Mom is visiting daughter at the bedside. ICU RN and ARS will come into room. Addictions Recovery Specialist (ARS) visits to discuss next steps. Nurse is setting up an IV antibiotic. ARS enters inpatient sim room (IP Sim ICU).*

*(Students will be standing in the hall observing or if comfortable in the room)*

*(RN walks into room with IV pump and supplies, begins speaking with patient and her family at the bedside).*

ICU RN: “Ok Sarah, as you know, we got the results back from the TEE, Transesophageal echocardiogram and it showed some vegetation or bacterial growth inside your heart. Your doctor wants to start IV antibiotics right away. The medicine is intravenous and will run through the tube on your left arm.”

*Continues to set-up IV fluids etc.*

“I know the case manager was here earlier and discussed speaking with the Addiction Recovery Specialist to work on maybe getting you some help. Paige, the Addiction Recovery Specialist is currently on the floor. Would you still like to meet with her?”

Sarah: (Tearful) “Yes, I still have a headache but yeah I guess.”

*(RN exits room. Sarah and her mom make small talk. ARS enters room.)*

ARS: “Hi guys, my name is Paige, I’m the addiction recovery specialist here at the hospital.

“I see patients who have Substance Use Disorders. Have you ever heard that term before? I’m here to talk to you a little bit about what happened and how you got here.”

*(To mom)* Would you mind stepping out for a few minutes so we can talk a little bit?

*(Mom leaves the room)*

“So...Sarah, are you feeling a little better than you were last night when you came in?”

Sarah: “Yeah, I still have a headache though.”

ARS: “Yeah, that seems to be common in people who’ve had been treated with Narcan. . . Well, I’m just glad you’re okay. You know, I see cases where people are found too late and there’s nothing that can be done for them. You were really lucky but you’re going to be okay.”

“So, let me just start by telling you that the reason I see patients like yourself, patients with substance use issues, is because I’m in recovery myself and many years ago I was here in the hospital, in a bed just like this. So, I know how awful it can feel...but I’m here to let you know that you don’t have to feel like this ever again. There are solutions to dealing with opioids and heroin, and with some changes you can come out the other side and be well. I see patients get better all the time.”

“So, how long have you been using heroin?”

Sarah: “About two years. I used to just drink and smoke pot but then a friend of mine at school started selling his dad’s Percs and I just used those for a while.”

ARS: “Did you crush them and snort them?”

Sarah: “Yes”

ARS: “So when you switched to heroin in the beginning, were you just snorting it?”

Sarah: “Yeah.”

ARS: “And then what?”

Sarah: “A friend of mine shot me up for the first time and that was it...”

ARS: “Yep, that’s usually what happens...so how much are you using a day?”

Sarah: “About a bundle.”

ARS: “How much is that costing you?”

Sarah: “Like \$80.”

ARS: “So what happened last night, how much did you use?”

Sarah: “Like 3 bags, but it must have had something else in it because normally I’d would have been fine.”

ARS: “Yep. . . we’re seeing more and more of that on a regular basis – you can’t be 100% sure about what you’re getting. It’s like playing Russian roulette these days.”

Sarah: “(tearful) I know, I freakin hate this.”

ARS: “So, I see you’ve been here before; have you ever tried quitting?”

Sarah: “Yeah, but I get too sick, so I just keep using.”

ARS: “So basically, you’re just using to keep from getting sick?”

Sarah: (shakes her head yes - tearful)

ARS: “So what do you consider to be some good things about using?”

Sarah: “Nothing anymore, it was fine in the beginning, but the last year, year and a half, it’s just been about not getting sick – it sucks.”

ARS: “So, do you think you’d like things to be different?”

Sarah: “Yeah – I don’t want to end up back here again.”

ARS: “So, how would you like things to be different? What would that look like?”

Sarah: “I just wish I could stop without getting sick and go back to school and finish and graduate.”

ARS: “Where do you go school?”

Sarah: “I’m in college.”

ARS: “What year are you in?”

Sarah: “I’m a junior, but I should be a senior, I just keep screwing up.”

ARS: “What’s your major?”

Sarah: “Computer Science.”

ARS: “So you’re smart. You have to be smart to major in computer science – and there’s always jobs in computer science. The people who work here for the hospital in I/S and I/T, who have degrees in computer science make a lot of money. It’s a great degree to have.”

Sarah: “(tearful) I know, I really want to finish – but I’ll have classes to make up now, I just can’t stop using...”

ARS: “Sarah, you’ll be able to finish. I’ve seen a bunch of kids just like yourself who wind up here and then go back and finish. It just takes a little time – but you’re still really young – it’s not going to be a big deal if you graduate a year later. It matters that you get better - people put down heroin every day and get their lives back – and trust me, you can too.”

“Have you ever been to treatment before?”

Sarah: “Yeah, but I didn’t stay and then my parents made me go to this counselor for a while but that didn’t help.”

ARS: “Did you ever stop using or have any clean time?”

Sarah: “No, not really.”

ARS: “Where did you go to treatment?”

Sarah: “Serenity” – it was gross, I don’t want to go back there.”

ARS: “OK, so do think you might be ready to stop?”

Sarah: “I guess, but how long will I have to go for? I don’t want to go away for months and months.”

ARS: “Well you know--it’s usually around 4 weeks. Your parents have really good insurance so I can get you to this really nice place called Retreat.” “What do think?”

Sarah: “(tearful) yeah, I guess so.”

ARS: “I’m telling you, going away to treatment was the best decision I ever made – I did not want to go – but then once I was there, I didn’t want to come home. You’ll meet lots of kids just

like you, all going through the same stuff. We're not bad people, our brains are just different – it's not your fault – it wasn't my fault - you know that...I just had to take the steps."

"So, should we get your mom back in here and tell her the plan?"

Sarah: (Nods her head yes and quietly responds) "Yes."

*\*Mom walks back into the room and Sarah begins to cry...end of scene. Sim Facilitator debriefs*

### Facilitator's Guide (Education-only)

Facilitator will introduce themselves and identify their relationship to the study. Facilitator will introduce themselves and identify their relationship to the study. This will be an additional assent process to follow-up parent/guardian/participant written assent.

*My name is Dr. Cheryl Arndt, Senior Education Consultant-Youth Programming at LVHN. You are here today because you and your parents/guardians consented to your participation in this study. In addition, your instructor(s) and your guidance counselor(s) allowed for your participation in this study.*

*If you feel you did not fully consent to participate today or have changed your mind about participating, you may choose to end your participation at any point today and alternate activities will be made available to you. Please let the guidance counselor know now or at any point today, if you do not want to participate in this study. If you've already taken a survey, it will be thrown out. Please know that this will not negatively affect your grades, your relationship with AMS, BAVTS or LVHN.*

### Pre/Post Evaluation Procedure

On the day of the simulation, learners will be given a link to a survey. This survey will collect information regarding their:

- perceptual hope levels that a patient with OUD could enter long-term recovery
- perceptual hope levels in their role as a future health care worker in treating patients with OUD
- use of hopeful language

This survey will be administered pre education and administered again immediately upon completion of the education. iPads will be made available for students to complete pre/post surveys.

Education Procedure

Introduce Center for Humanistic Change educator and the HOPE program. Upon conclusion, ask if there are any questions before administering post-survey.

## Appendix D

### Letter of Participation for the Academy for Medical Sciences Program

Dear Parents/Guardians,

LVHN's Department of Education (DoE) and The Dorothy Rider Pool Health Care Trust would like to thank you for allowing your child(ren) to participate in the Emerging Health Professionals program. By participating in this program, students will gain exposure to a wide variety of careers, fields of study and positive adult role models who demonstrate professionalism.

In order to prepare the students for their experience at LVHN, we ask that you take the time to fill out the application. Information collected in this form is a requirement of the grant supporting this programming as well as LVHN's DoE. In addition to collecting demographic information, this form will request that you read and digitally sign the acknowledgment of confidentiality, parent consent, media consent and that you review the etiquette policy with your child(ren).

We also require that students have a health certification form signed by a healthcare provider and this will be sent to you by the instructors of the program. This form will be collected and reviewed by both the instructors of the program as well as the DoE. Please make sure all information is filled out in its entirety by the specified date.

We look forward to working with your children and providing them a wonderful experience.

Sincerely,

Kerri J. Green, M.S., M.Ed.

Director of Undergraduate Medical Education

LVHN's Department of Education

## Letter of Participation for the Emerging Health Professionals Program

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We look forward to working with your children and providing them a wonderful experience.

Sincerely,

Kerri J. Green, M.S., M.Ed.

Director of Undergraduate Medical Education

LVHN's Department of Education



## Appendix E

## Permission Forms for Emerging Health Professionals Program Instructors

Kristin Applegate, MEd, BSN, RN  
Veronica DeBlois, MEd, BSN, RN

September 8, 2019

Dear Emerging Health Professional Instructors,

I am completing my doctoral dissertation entitled, *Fostering the Development of Hope and Hopeful Language in Preprofessional Health Care Students*. I am respectfully requesting permission to administer surveys to your students on October 8, 2019 as well as conduct a focus group with 6-8 students at your school during on November 7, 2019. Participation in this study is completely voluntary. I have spoken to your school counselor and she will contact you regarding the students that she has identified as appropriate for participation in this study.

The goal of this study is to examine and better understand the effects of an opioid use disorder immersive education experience on preprofessional health care students' (1) hope for patients with opioid use disorder to enter into long-term recovery, (2) hope that they could have a positive impact on the opioid use disorder epidemic, and (3) the use of hopeful language. The opioid use disorder immersive education experience will take place at LVHN's Simulation Center on October 8, 2019 and will be facilitated by the Youth Programming Senior Education Consultant.

The Institutional Review Board (IRB) at Lehigh Valley Health Network has approved the research study, but if you have any questions, please do not hesitate to contact me at the numbers or email address listed above.

Thank you in advance for any consideration that you give to my request.

Kerri J. Green, MS, MEd

Director, Undergraduate Medical Education

Department of Education, LVHN

## Permission Form for the Instructor of the Academy for Medical Sciences Program

Stanley Prodes, RN

September 8, 2019

Dear Academy for Medical Science Instructor,

I am completing my doctoral dissertation entitled, *Fostering the Development of Hope and Hopeful Language in Preprofessional Health Care Students*. I am respectfully requesting permission to administer surveys to your students on October 10, 2019 as well as conduct a focus group with 6-8 students at your school on November 8, 2019. Participation in this study is completely voluntary. I have spoken to your school counselor and she will contact you regarding the students that she has identified as appropriate for participation in this study.

The goal of this study is to examine and better understand the effects of an opioid use disorder education presentation has on preprofessional health care students' (1) hope for patients with opioid use disorder to enter into long-term recovery, (2) hope that they could have a positive impact on the opioid use disorder epidemic, and (3) the use of hopeful language. This education will be delivered on October 10, 2019 by an educator from Center from Humanistic Change at LVHN's Department of Education.

The Institutional Review Board (IRB) at Lehigh Valley Health Network has approved the research study, but if you have any questions, please do not hesitate to contact me at the numbers or email address listed above.

Thank you in advance for any consideration that you give to my request.

Kerri J. Green, MS, MEd

Director, Undergraduate Medical Education

Department of Education, LVHN

## Appendix F

## Participant Informed Consent (Emerging Health Professionals)

## Informed Consent

## For a Research Study entitled

“Fostering the Development of Hope and Hopeful Language in Preprofessional Health Care Students”

## Principal Investigator

Kerri Green, M.S., M.Ed.

You/Your child has been invited to participate in a research study to examine and better understand the impact that an opioid use disorder education presentation may have on preprofessional health care students. The study is being conducted by Kerri J. Green, MS, MEd, Director of Undergraduate Medical Education at Lehigh Valley Health Network (LVHN).

You or your child were/was selected for participation because you/they are in the LVHN affiliated program Emerging Health Professionals. If you/they decide to participate in this research study, you/they will be asked to attend an immersive education experience on the topic of Opioid Use Disorder and complete a pre/post survey. This will take place at LVHN’s Department of Education and Interdisciplinary Simulation Center on October 8, 2019 and will last approximately two hours. You/they may also be asked to participate in a follow-up focus group discussion at LCTI and that will last approximately one hour. The focus groups will be audio-recorded.

The risks associated with participating in this study are potential psychological or emotional distress due to the nature of the simulated content and discussions on the topic of opioid use disorder. As with any study, there is also the risk of the loss of privacy and confidentiality. To minimize these risks, study records will be kept on a password protected computer and only study team members will have access. We have also invited the guidance counselor of the school to facilitate a reflection/debriefing period following the immersive education experience and can offer additional support resources if you/they should need them.

If you/they participate in this study, you/they can expect an educational experience that will provide a baseline knowledge on the topic of Opioid use Disorder and the importance of appropriate language.

If you/they change your/their mind about participating, you/they can withdraw at any time during the study. Your/their participation is completely voluntary. If you/they choose to withdraw, your/their data can be withdrawn if it is identifiable. Your/their decision about whether or not to participate or to stop participating will not jeopardize your/their future relations with LVHN's Department of Education or LCTI.

Any information obtained in connection with this study will remain anonymous or confidential. Identifiers might be removed from your/your child's identifiable private information, and after such removal, the information could be used for future research studies or distributed to another investigator for future research studies without additional informed consent from the participant. Information obtained through your or your child's participation may be used to fulfill an educational requirement, published in a professional journal, or presented at a professional meeting.

If you/they have questions about this study, please contact the Principal Investigator, Kerri Green. A signed copy of this document will be given to you/them to keep.

**HAVING READ THIS INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.**

**Signature Block for Capable Adult**

---

**Printed Participant Name**

---

**Participant's Signature**

---

Date (Mo/Day/Yr.) Time

---

**Printed Name of Person Obtaining Consent**  
**(Must be Physician Investigator for drug and device trials)**

---

**Signature of Person Obtaining Consent**

---

Date (Mo/Day/Yr.)

---

**Printed Name of Research Team Member**  
**(Above line must be filled in, or write N/A)**

---

**Signature of Research Team Member**  
**(Above line must be filled in, or write N/A)**

---

Date (Mo/Day/Yr.)

---

**Printed Name of Witness #1**  
**(Above line must be filled in, or write N/A)**

---

**Signature of Witness #1**  
**(Above line must be filled in, or write N/A)**

---

Date (Mo/Day/Yr.)

---

**Printed Name of Witness #2**  
**(Above line must be filled in, or write N/A)**

---

**Signature of Witness #2**  
**(Above line must be filled in, or write N/A)**

---

Date (Mo/Day/Yr.)

**Signature Block for Children**

Your signature documents your permission for the named child to take part in this research. You will receive a signed copy of this consent form.

\_\_\_\_\_  
**Printed Name of Child**

\_\_\_\_\_  
**Printed Name of Parent or Legally Authorized Representative**

\_\_\_\_\_  
**Signature of Parent or Legally Authorized Representative**      **Date (Mo/Day/Yr.) Time**

\_\_\_\_\_  
**Printed Name of Parent or Legally Authorized Representative**

\_\_\_\_\_  
**Signature of Parent or Legally Authorized Representative**      **Date (Mo/Day/Yr.) Time**

\_\_\_\_\_  
**Printed Name of Person Obtaining Consent**  
 (Must be Physician Investigator for drug and device trials)

\_\_\_\_\_  
**Signature of Person Obtaining Consent**      **Date (Mo/Day/Yr.)**

\_\_\_\_\_  
**Research Team Member Signature**  
 (Above line must be filled in, or write N/A)

\_\_\_\_\_  
**Signature of Research Team Member**      **Date (Mo/Day/Yr.)**  
 (Above line must be filled in, or write N/A)

\_\_\_\_\_  
**Printed Name of Witness #1**  
 (Above line must be filled in, or write N/A)

\_\_\_\_\_

**Signature of Witness #1**  
**(Above line must be filled in, or write N/A)**

**Date (Mo/Day/Yr.)**

\_\_\_\_\_  
**Printed Name of Witness #2**  
**(Above line must be filled in, or write N/A)**

\_\_\_\_\_  
**Signature of Witness #2**  
**(Above line must be filled in, or write N/A)**

\_\_\_\_\_  
**Date (Mo/Day/Yr.)**

If signature of second parent not obtained, indicate why: (select one)

- The IRB determined that the permission of one parent is sufficient.
- Second parent is deceased
- Second parent is unknown
- Second parent is incompetent
- Second parent is not reasonably available
- Only one parent has legal responsibility for the care and custody of the child

**Child Assent Documentation:**

I certify that the study described above has been explained to \_\_\_\_\_ in age appropriate terms they could understand. They freely assented to participate in this study.

\_\_\_\_\_  
Printed Name of Minor Participant

\_\_\_\_\_  
Signature of Minor Participant

\_\_\_\_\_  
Printed Name of Person Explaining/Obtaining Assent

\_\_\_\_\_  
Date (Mo/Day/Yr.)

\_\_\_\_\_  
Signature of Person Explaining/Obtaining Assent

\_\_\_\_\_  
Date (Mo/Day/Yr.)

## Participant Informed Consent (Academy for Medical Sciences)

## Informed Consent

## For a Research Study entitled

“Fostering the Development of Hope and Hopeful Language in Preprofessional Health Care Students”

## Principal Investigator

Kerri Green, M.S., M.Ed.

You/Your child has been invited to participate in a research study to examine and better understand the impact that an opioid use disorder education presentation may have on preprofessional health care students. The study is being conducted by Kerri J. Green, MS, MEd, Director of Undergraduate Medical Education at Lehigh Valley Health Network (LVHN)

You or your child were/was selected for participation because you/they are in the LVHN affiliated program, Academy for Medical Sciences. If you/they decide to participate in this research study, you/they will be asked to attend an education session on the topic of Opioid Use Disorder and complete a pre/post survey. This will take place at BAVTS on October 10, 2019 and will last approximately one hour. You/they may also be asked to participate in a follow-up focus group discussion at BAVTS and that will last approximately one hour. The focus groups will be audio-recorded.

The risks associated with participating in this study are potential psychological or emotional distress due to the nature of the simulated content and discussions on the topic of opioid use disorder. As with any study, there is also the risk of the loss of privacy and confidentiality. To minimize these risks, study records will be kept on a password protected computer and only study team members will have access. We have also invited the guidance counselor of the school to facilitate a reflection/debriefing period following the education session and can offer additional support resources if you/they should need them.

If you/they participate in this study, you/they can expect an educational experience that will provide a baseline knowledge on the topic of Opioid use Disorder and the importance of appropriate language.



If you/they change your/their mind about participating, you/they can withdraw at any time during the study. Your/their participation is completely voluntary. If you/they choose to withdraw, your/their data can be withdrawn if it is identifiable. Your/their decision about whether or not to participate or to stop participating will not jeopardize your/their future relations with LVHN's Department of Education or BAVTS.

Any information obtained in connection with this study will remain anonymous or confidential.

Identifiers might be removed from your/your child's identifiable private information, and after such removal, the information could be used for future research studies or distributed to another investigator for future research studies without additional informed consent from the participant.

Information obtained through your or your child's participation may be used to fulfill an educational requirement, published in a professional journal, or presented at a professional meeting.

If you/they have questions about this study, please contact the Principal Investigator, Kerri Green. A signed copy of this document will be given to you/them to keep.

**HAVING READ THIS INFORMATION PROVIDED, YOU MUST DECIDE WHETHER  
OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR  
SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.**

### Signature Block for Capable Adult

Your signature documents your permission to take part in this research. You will receive a signed copy of this consent form.

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**Printed Participant Name**

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**Participant's Signature**

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Date (Mo/Day/Yr.) Time

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**Printed Name of Person Obtaining Consent**  
(Must be Physician Investigator for drug and device trials)

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**Signature of Person Obtaining Consent**

---

Date (Mo/Day/Yr.)

---

**Printed Name of Research Team Member**  
(Above line must be filled in, or write N/A)

---

**Signature of Research Team Member**  
(Above line must be filled in, or write N/A)

---

Date (Mo/Day/Yr.)

---

**Printed Name of Witness #1**  
(Above line must be filled in, or write N/A)

---

**Signature of Witness #1**  
(Above line must be filled in, or write N/A)

---

Date (Mo/Day/Yr.)

---

**Printed Name of Witness #2**  
(Above line must be filled in, or write N/A)

---

**Signature of Witness #2**  
(Above line must be filled in, or write N/A)

---

Date (Mo/Day/Yr.)

**Signature Block for Children**

Your signature documents your permission for the named child to take part in this research. You will receive a signed copy of this consent form.

\_\_\_\_\_  
**Printed Name of Child**

\_\_\_\_\_  
**Printed Name of Parent or Legally Authorized Representative**

\_\_\_\_\_  
**Signature of Parent or Legally Authorized Representative**      **Date (Mo/Day/Yr.) Time**

\_\_\_\_\_  
**Printed Name of Parent or Legally Authorized Representative**

\_\_\_\_\_  
**Signature of Parent or Legally Authorized Representative**      **Date (Mo/Day/Yr.) Time**

\_\_\_\_\_  
**Printed Name of Person Obtaining Consent**  
 (Must be Physician Investigator for drug and device trials)

\_\_\_\_\_  
**Signature of Person Obtaining Consent**      **Date (Mo/Day/Yr.)**

\_\_\_\_\_  
**Research Team Member Signature**  
 (Above line must be filled in, or write N/A)

\_\_\_\_\_  
**Signature of Research Team Member**      **Date (Mo/Day/Yr.)**  
 (Above line must be filled in, or write N/A)

\_\_\_\_\_  
**Printed Name of Witness #1**  
 (Above line must be filled in, or write N/A)

\_\_\_\_\_

**Signature of Witness #1**  
**(Above line must be filled in, or write N/A)**

**Date (Mo/Day/Yr.)**

\_\_\_\_\_  
**Printed Name of Witness #2**  
**(Above line must be filled in, or write N/A)**

\_\_\_\_\_  
**Signature of Witness #2**  
**(Above line must be filled in, or write N/A)**

\_\_\_\_\_  
**Date (Mo/Day/Yr.)**

If signature of second parent not obtained, indicate why: (select one)

- The IRB determined that the permission of one parent is sufficient.
- Second parent is deceased
- Second parent is unknown
- Second parent is incompetent
- Second parent is not reasonably available
- Only one parent has legal responsibility for the care and custody of the child

**Child Assent Documentation:**

I certify that the study described above has been explained to \_\_\_\_\_ in age appropriate terms they could understand. They freely assented to participate in this study.

\_\_\_\_\_  
Printed Name of Minor Participant

\_\_\_\_\_  
Signature of Minor Participant

\_\_\_\_\_  
Printed Name of Person Explaining/Obtaining Assent

\_\_\_\_\_  
Date (Mo/Day/Yr.)

\_\_\_\_\_  
Signature of Person Explaining/Obtaining Assent

\_\_\_\_\_  
Date (Mo/Day/Yr.)

## Appendix G

## Verbal Assent Scripts

This verbal assent will serve as the secondary affirmative agreement to participate in the study. This is in addition to the written consent signed by both participant and participant's parent/guardian. This will be conducted prior to the EHP group's "Immersive Education Experience/Simulation" and the AMS group's "Education-only." This will be conducted by the Simulation Facilitator and co-investigator, Dr. Cheryl Arndt and the Principal Investigator, Kerri Green.

*My name is Dr. Cheryl Arndt, Senior Education Consultant at LVHN. You are here today because you and your parents/guardians consented to your participation in this study. In addition, your instructor(s) and your guidance counselor(s) have allowed for your participation in this study.*

*If you feel you did not fully consent to participate today or have changed your mind about participating, you may choose to end your participation at any point today and alternate activities will be made available to you. Please let the guidance counselor know now or at any point today, if you do not want to participate in this study. If you've already taken a survey, it will be thrown out. Please know that this will not negatively affect your grades, your relationship with EHP (AMS), LCTI (BAVTS) or LVHN.*

This verbal assent will serve as the secondary affirmative agreement to participate in the study. This is in addition to the written consent signed by both participant and participant's parent/guardian. This will be conducted prior to the EHP participants' follow-up focus group and the AMS participants' follow-up focus group. This will be conducted by the Principal Investigator, Kerri Green.

*My name is Kerri Green, Director of Undergraduate Medical Education at LVHN. You are here today because you and your parents/guardians consented to your participation in this study. In addition, your instructor(s) and your guidance counselor(s) have allowed for your participation in this focus group. This focus group session will be audio-recorded and later transcribed which means that what you say individually and as a group will be typed into a document as a part of the larger study.*

*If you feel you did not fully consent to participate today or have changed your mind about participating, you may choose to end your participation at any point today and alternate activities will be made available to you. Please let the guidance counselor know now or at any point today, if you do not want to participate in this study. If your voice was already recorded, those words/sentences will be disregarded from the study. Please know that this will not negatively affect your grades, your relationship with EHP (AMS), LCTI (BAVTS) or LVHN.*

## Appendix H

## Debriefing Form

For the Study entitled:  
“Fostering the Development of Hope and Hopeful Language  
in Preprofessional Health Care Students”

Dear Participant;

During this study, you were asked to attend an education experience on the topic of Opioid Use Disorder. The purpose of this study is to examine and better understand the effects that an opioid use disorder education presentation may have on preprofessional health care students’ (1) hope for patients with opioid use disorder to enter into long-term recovery, (2) hope that they could have a positive impact on the opioid use disorder epidemic, and (3) the use of hopeful language.

We did not tell you everything about the purpose of the study because we were specifically interested in the participants’ hopefulness. The success of the study depended on participants’ authentic experience and related perceptions. As the researcher, I did not want participants’ experiences or perceptions influenced prior to the start of the study.

You are reminded that your original consent document included the following information: If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn if it is identifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with LVHN’s Department of Education or LCTI/BAVTS.

If your concerns are such that you would now like to have your data withdrawn, and the data is identifiable, we will do so.

If you have any questions about your participation in the study, please contact Kerri J. Green.

If you have experience distress as a result of your participation in this study, a referral list of mental health providers is attached to this document for your use. (Please remember that any cost in seeking medical assistance is at your own expense.)

Please again accept our appreciation for your participation in this study.

*Kerri J. Green*  
Name

10/8/2019  
Date

